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JAMES J. DAVIS, Secretary
BUREAU OF LABOR STATISTICS
ETHELBERT STEWART, Commissioner

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BUREAU OF LABOR STATISTICS }

WORKMEN'S INSURANCE AND COMPENSATION SERIES

PROCEEDINGS OF THE NINTH ANNUAL MEETING
OF THE
INTERNATIONAL ASSOCIATION
OF INDUSTRIAL ACCIDENT
BOARDS AND COMMISSIONS

HELD AT BALTIMORE, MARYLAND
OCTOBER 9-13, 1922



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Annual meetings.			President.	Secretary-treasurer.
No.	Date.	Place.		
1	Apr. 14, 15, 1914.....	Lansing, Mich.....	John E. Kinnane.....	Richard L. Drake.
(1)	Jan. 12, 13, 1915.....	Chicago, Ill.....	do.....	Do.
2	Sept. 30-Oct. 2, 1915.....	Seattle, Wash.....	do.....	Do.
3	Apr. 25-28, 1916.....	Columbus, Ohio.....	Floyd L. Daggett.....	L. A. Tarrell.
4	Aug. 21-25, 1917.....	Boston, Mass.....	Dudley M. Holman.....	Royal Meeker.
5	Sept. 24-27, 1918.....	Madison, Wis.....	F. M. Wilcox.....	Do.
6	Sept. 23-26, 1919.....	Toronto, Canada.....	George A. Kingston.....	Do.
7	Sept. 20-24, 1920.....	San Francisco, Calif.....	Will J. French.....	Charles H. Verrill.
8	Sept. 19-23, 1921.....	Chicago, Ill.....	Charles S. Andrus.....	Ethelbert Stewart.
9	Oct. 9-13, 1922.....	Baltimore, Md.....	Robert E. Lee.....	Do.

¹ Special meeting.

VIII

BULLETIN OF THE U. S. BUREAU OF LABOR STATISTICS.

NO. 333

WASHINGTON

MAY, 1923

PROCEEDINGS OF THE NINTH ANNUAL MEETING OF THE INTERNATIONAL ASSOCIATION OF INDUSTRIAL ACCIDENT BOARDS AND COMMISSIONS, BALTIMORE, MD., OCTOBER 9-13, 1922.

MONDAY, OCTOBER 9.—MORNING SESSION.

CHAIRMAN, F. A. DUXBURY, CHAIRMAN MINNESOTA INDUSTRIAL COMMISSION.

Mr. LEE, president of the association. The ninth annual meeting of the International Association of Industrial Accident Boards and Commissions will come to order. It is with pleasure that I present the chairman of the morning's meeting, Mr. F. A. Duxbury, chairman of the Industrial Commission of Minnesota.

The CHAIRMAN. I appreciate more than I can express the honor of presiding over the meeting this morning. We have considerable work to do before this session closes, and I shall not waste any of your time, but I ask the privilege of introducing at this time the Hon. William F. Broening, mayor of Baltimore, the city in which we have the pleasure of meeting, who will now address you.

[Addresses of welcome were delivered by Hon. William F. Broening, mayor of Baltimore, and Hon. Albert C. Ritchie, Governor of Maryland, to which response was made by Judge Baxter Taylor, chairman of the Oklahoma Industrial Commission.]

The CHAIRMAN. We will now listen to the address of the Hon. Robert E. Lee, president of this association.

LACK OF UNIFORMITY IN COMPENSATION LEGISLATION AND FUTURE RESPONSIBILITY OF COMPENSATION BOARDS.

BY ROBERT E. LEE, PRESIDENT I. A. I. A. B. C.

It is indeed gratifying that the ninth annual meeting of the International Association of Industrial Accident Boards and Commissions has come to Baltimore to hold its session. We are always pleased to know that we have strangers in our midst and it is all the more gratifying when those who come are engaged in such an important work as the administration of the compensation laws of this country and the Dominion of Canada.

It has been but a short time indeed since this method of compensating employees for injuries in industrial accidents has been in vogue, beginning in Germany in 1884, but, steadily progressing, it has found favor in practically all the civilized countries on the globe, and to-day is being administered in 43 of the States of the Union.

It is needless to go into great detail as to the causes which led up to this advanced method of treating accidents. The harsh methods of the old common law have been relegated to the rear for all time, and to-day not even the bitterest opponent of this advanced legislative stage can be heard to justify the return of the old method which placed the human being in the same category with the implements of trade used by him.

The growth of compensation legislation in the United States has been more rapid than perhaps that of any other branch of legislative activity designed for the redress of the inhuman practices so long endured by the laboring masses of our country. The principle of compensation insurance was first recognized by the State of Maryland, when provision was made for injured miners working in the coal fields of western Maryland. The first State-wide constitutional law was enacted in the State of Washington, and with rapid succession each State has applied various methods in the adjustment of industrial accidents until to-day we are paying out millions upon millions of dollars to injured workmen and their dependents which previously were dissipated in useless litigation, which, in the end, brought no relief but was the cause of countless delays and hardships both to the employer and the employee. Savings to the individual States in court costs alone have amply justified the establishment of administration boards and commissions to deal with the subject matter of industrial disputes in a fair and orderly way, to take it out of the realm of technical legal disputes, and to place it on a common-sense basis, so that the employer can charge up as part of the operating expenses of his business the cost of these industrial accidents and the employee receive a reasonable amount to help him in his great trouble and distress. The amount of money that is annually paid out for medicine, hospitals, compensation, etc., is

almost beyond comprehension. Some idea may be had as to its extent from the fact that a comparatively small State like Maryland paid out in the last year \$1,426,088.16.

Of course, it was only natural that, in the very rapid progress which was made in the adoption of laws compensating workmen for their injuries, in many instances, these laws were highly unscientific and lacked uniformity. No two laws in the United States are identical; many of them are patchwork—some provisions taken from the statute of one State and some from the statute of another, the adopting State claiming always to have taken the best from each of the laws for the framework of its own statute. This has brought into existence a situation that is difficult to defend, because it seems incredible that an eye, a leg, an arm, or a life in Maryland, for instance, would not be worth as much as in New York, in California, or in any other jurisdiction, and yet this is so according to the law.

Not only are the number of weeks for which compensation is paid different in the different jurisdictions, but the percentage of wages received varies in most of the States. There is a difference in the maximum and the minimum, and the method of computing the average weekly wage varies in most of the States of the Union. In some States 50 per cent of the average weekly wage is allowed in permanent disability cases and in other States 60 per cent, while in still other States 66 $\frac{2}{3}$ per cent is allowed. The number of weeks compensation is paid for permanent disability varies. In Massachusetts the specific periods range from 12 to 100 weeks, compensation during the period being in addition to all other compensation. In Michigan the periods range from 5 to 200 weeks. In Indiana the specific periods range from 5 to 250 weeks, the compensation paid during the period being in lieu of all other payments. In the State of New York the specific periods range from 8 to 312 weeks. In West Virginia, if the disability is permanent, the specific periods are based on four weeks' compensation for each 1 per cent of disability and range from 20 weeks for a 5 per cent disability to life for disability exceeding 85 per cent, the percentage of disability being computed in accordance with a fixed schedule. In Maryland the specific periods range from 5 to 200 weeks. The maximum in New York is \$20; in Michigan, \$14; in Massachusetts, \$16; in Ohio, \$15; in Utah, \$16; and in Maryland, \$18; the maximum amounts in the various States ranging from \$10 to \$20.

The average wages are computed on different bases. For instance, in Michigan the average annual earnings are defined to be 52 times the average weekly wages, the latter to be 6 times the daily wage or earnings. Where daily earnings can not be exactly ascertained, regard may be had to the daily earnings of another in the same locality and class of employment. Average wages in Massachusetts mean the earnings for the preceding year divided by 52, but if the employee lost more than two weeks, such loss is to be deducted from 52. Where this plan is not practicable, regard may be had to the average wages of another person in the same grade of employment and locality. In Utah weekly wages are computed by multiplying the daily wages by 300 to 332, depending on the number of working days employed in a week, and dividing by 52. If the employee was of such age and experience when injured that, under

natural conditions, his wages would be expected to increase, this fact may be considered; and this is also the case in Maryland.

In Maryland we take the average earnings for the last 12 weeks prior to injury, but in cases where the injured party has worked only a few weeks at the occupation in which he was injured, we take the average weekly wage from the earnings for that period. If the employee has worked only a day or so, his average is calculated by multiplying his daily wage by the number of days he worked at that employment, i. e., compensation is computed as though he worked full time. The amount of compensation in permanent disability cases depends upon the average weekly wage, the percentage of average weekly wage, and the number of weeks allowed for the specific injury. It is of first importance, therefore, to have some standard method of arriving at the average weekly wage.

The waiting period, after which compensation begins, varies all the way from three days to two weeks, with a graduated period in some jurisdictions. In some States if the disability continues from two to eight weeks, then no waiting period is allowed, and compensation dates from the day of disability. The minimum weekly payments run all the way from \$3 to \$8. Death benefits vary in different jurisdictions from 260 weeks to life. In many of the States compensation is compulsory, while in others it is elective. Medical service varies from \$50 in some States to unlimited service in others.

The administration of the act is, in the main, through workmen's compensation commissions, but in a few States the court administration is still maintained, though in none of the court administration jurisdictions is this method satisfactory. This is largely due to the fact that the courts, as at present constituted, have not the facilities to go into the great mass of details and the many ramifications which proper administration demands.

I am merely citing these instances and pointing out generally the variations and different classifications to be found in our compensation laws for the purpose of emphasizing the great need of uniformity, in so far as it can reasonably be expected to be obtained. Realizing that uniformity is advisable wherever it may be obtainable, the International Association at its last meeting appointed standing committees to investigate the different provisions of the many acts to see whether there can not be more uniformity in the method of claim procedure and greater harmony in the schedule in permanent partial disability cases, which committees have labored industriously and conscientiously and have made recommendations, which are to be presented to this convention for its guidance and enlightenment.

Of course we appreciate the difficulties that will be encountered in attempting to procure uniformity in legislation in the different jurisdictions throughout our country. There is always a strong tendency, and rightly so, I think, for each jurisdiction to feel it has made the best provisions for its injured workmen and to hesitate to give up what it has in order that a different method may be adopted, and because of this fact the International Association of Industrial Accident Boards and Commissions has become an agency of unusual importance and manifest help as the clearing house through which the views and opinions of experts may be disseminated, and statistical

data furnished, throughout the country. Our associates from the Dominion of Canada will have less difficulty, perhaps, in bringing about harmony in their jurisdictions because their tenure of office is for life or during good behavior; certainly, in the long run, they will become more expert in the handling of these complex problems, and their judgment as to what is the better policy will not be swayed by political considerations or an endeavor to please certain elements and groups in a given territory.

The administration of the compensation law is second in importance to none with which we have to deal. It is highly important that those charged with this responsibility possess qualifications, both through training and experience, which will make for the highest efficiency in their administration. No commissioner can be efficient unless his heart is in his work.

Now that we have passed the experimental state in compensation and demonstrated beyond question the justice and humanity in this advanced legislation, our attention is naturally focused upon some other phases of industrial wreckage which will demand equal, if not greater, attention than that which is given to the payment of compensation benefits. As the compensation rolls mount higher and higher we begin to wonder why so many accidents should occur and if there is not some method which can be adopted to prevent a great many of the accidents occurring in extrahazardous industry; therefore we have not only the question of adequate and equitable compensation but also the question as to how best to prevent injuries, and then of what is to become of those who are permanently incapacitated from following their usual line of work.

While making provision for those suffering from industrial accidents, most of the jurisdictions have overlooked provision for those afflicted with occupational disease. While at first blush it seems rather difficult adequately to provide for occupational disease, when viewed from the standpoint of common sense there is little more difficulty in its handling than in the awarding of compensation, and in my judgment it is far more important that this unfortunate class of industrial workers be cared for than many of those who suffer accidental injuries that we are called upon to compensate. Surely if a workman who enters an employment and who is there only a short time—for instance, for an hour or a day—and through his own indifference or carelessness is injured, is entitled to compensation, it is difficult to imagine a legitimate argument that would deny the claims of one whose constant activity in his work has brought on some occupational disease, from which, in many cases, he can not recover. In my judgment it will be but a short time before all the States will follow the practice of those which have already adopted provisions for compensating for occupational disease and afford a remedy to these unfortunate and distressing cases.

It seems that, in the order of their import, we should try to prevent accidents, should compensate them adequately and fairly when they occur, and should exert every effort to rehabilitate those permanently incapacitated from injury.

To-day greater emphasis is being laid upon accident prevention and scientific investigations are being carried on everywhere, and the latest improvements in machinery and the most modern safety

codes adopted, with the purpose of eliminating, as far as can practically be done, the injuries complained of. So, also, we are beginning to realize that we do not discharge our full obligations when we merely attempt to estimate in dollars and cents what we should pay to permanently maimed and injured men and women in industry, letting them go out into the world, when the period of their weekly compensation ends, with their handicap still existing. Until we shall have worked out a scientific arrangement which will make ample provision for injured and handicapped workers, the compensation commissions will be called upon to pass on many questions which are not particularly related to accidental injury but which, for the want of some better system, are passed on to them for adjudication. The commissions are bound to be swayed, to some extent at least, by human sympathy rather than by the inherent justice of each particular claim when they realize that such relief as the compensation law affords is the only relief that can be claimed by the injured party.

It is to this end, that we might aid to some extent in placing before the public the many hardships and injustices suffered by the industrial army upon whom we must all lean for permanent progress and happiness, that the International Association of Industrial Accident Boards and Commissions has come into existence, and it is rendering valuable service to society by exerting its influence for better and saner legislation in behalf of those who are compelled to earn a livelihood in industrial occupations.

[Motions were passed that the president appoint a nominating committee and a committee of five on resolutions.]

BUSINESS MEETING.

The CHAIRMAN. We will listen to the report of the secretary-treasurer at this time. His report is very important and contains matters that you are interested in. Mr. Stewart needs no introduction. He is the secretary-treasurer of this organization.

(Secretary-Treasurer Stewart here submitted the report of the secretary and the financial statement of the secretary-treasurer:)

REPORT OF THE SECRETARY.

The International Association of Industrial Accident Boards and Commissions now includes 34 active members:

- United States Bureau of Labor Statistics.
- United States Employees' Compensation Commission.
- California Industrial Accident Commission.
- Connecticut Board of Compensation Commissioners.
- Delaware Industrial Accident Board.
- Georgia Industrial Commission.
- Hawaii Industrial Accident Boards (counties of Kauai, Maui, Hawaii, and Honolulu).
- Illinois Industrial Commission.
- Iowa Workmen's Compensation Service.
- Kansas Court of Industrial Relations.
- Maine Industrial Accident Commission.
- Maryland State Industrial Accident Commission.
- Massachusetts Industrial Accident Board.
- Michigan Department of Labor and Industry.
- Minnesota Industrial Commission.
- Montana Industrial Accident Board.

Nevada Industrial Commission.
 New Jersey Department of Labor.
 New York Department of Labor.
 Ohio Industrial Commission.
 Oklahoma Industrial Commission.
 Oregon State Industrial Accident Commission.
 Pennsylvania Department of Labor and Industry.
 Utah Industrial Commission.
 Virginia Industrial Commission.
 Washington Department of Labor and Industries.
 West Virginia State Compensation Commissioner.
 Wisconsin Industrial Commission.
 Wyoming Workmen's Compensation Department.
 Department of Labor of Canada.
 Manitoba Workmen's Compensation Board.
 New Brunswick Workmen's Compensation Board.
 Nova Scotia Workmen's Compensation Board.
 Ontario Workmen's Compensation Board.

One active member, the Georgia Industrial Commission, has been added, and one active member, the Alberta Workmen's Compensation Board, has resigned, since the last annual meeting.

The United States Employees' Compensation Commission, the United States Bureau of Labor Statistics, and the Department of Labor of Canada are exempt from the payment of dues.

The following are associate members:

Idaho Industrial Accident Board.
 Industrial Accident Prevention Associations. Toronto, Ontario.
 Nebraska Department of Labor.
 North Dakota Workmen's Compensation Bureau.
 Ontario Safety League.
 Porto Rico Workmen's Relief Commission.
 Republic Iron and Steel Co., Youngstown, Ohio.

Two associate members, the Nebraska Department of Labor and the Industrial Accident Prevention Associations, joined since the last meeting.

As a result of the change in the constitution made at the Chicago convention, conferring honorary life membership upon all former presidents and secretaries of the association, the following are now honorary life members:

FORMER PRESIDENTS.

1914-15: John E. Kinnane, Detroit, Mich.
 1915-16: Floyd L. Daggett, Spokane, Wash.
 1916-17: Dudley M. Holman, Mass.
 1917-18: F. M. Wilcox, Madison, Wis.
 1918-19: George A. Kingston, Toronto, Canada.
 1919-20: Will J. French, San Francisco, Calif.
 1920-21: Charles S. Andrus, Springfield, Ill.

FORMER SECRETARIES.

1914-15: Richard L. Drake, Highland Park, Mich.
 1915-16: L. A. Tarrell, Madison, Wis.
 1916-1920: Royal Meeker, Geneva, Switzerland.
 1920: Charles H. Verrill, Washington, D. C.

An invitation to become members of the association was extended to the officials of the various States of Mexico under whose jurisdiction compensation matters would fall.

During the year just closed one meeting of the executive committee of the association was held—in New York City on November 18, 1921—for the purpose of selecting members for the various standing committees and of disposing of a number of matters which were referred to that committee by the Chicago convention. Upon the adjournment of that meeting it was the general impression that a further meeting would be held in the spring to formulate the program for this convention, but when the time came to formulate the program it was decided that the expense to the association of holding such a meeting was not justified, and after conference between the president and

secretary of the association the program for the present convention was formulated through correspondence with the members of the executive committee.

Relative to Mr. Kingston's proposal to the Chicago convention that the association issue at regular intervals a publication dealing solely with compensation matters, which was referred to the executive committee by the Chicago meeting, the executive committee at its New York meeting adopted the following resolution:

"Resolved, That the suggestion of Mr. Kingston for an official publication of the association is very gratifying and would doubtless be an important contribution to the work of the members of the association; but the executive committee deems the time inopportune to put this matter into effect."

The Chicago convention referred to the executive committee a proposal to secure experts to prepare a report on methods of payment of permanent partial disability cases, with a view of ultimately securing uniformity, so far as the organic laws of the various commissions will permit, in handling this class of cases. This subject was referred to the committee on statistics and compensation insurance cost, with instructions to investigate and report to the Baltimore convention.

The Chicago convention referred to the executive committee a proposal to study the question of procedure and point out the best methods. The action of the executive committee upon this reference was to create a special committee, to be known as the committee on forms and procedure for compensation administration, and to refer the subject to this committee with instruction to report to the Baltimore convention.

At the New York meeting of the executive committee Mr. Andrus suggested that an international convention of compensation administrators from all countries of the world having compensation laws be called some time in the future. The secretary was requested to compile a list of all countries and States having compensation laws of any character and to classify them by the general character of the administrative systems, and to have this list ready for the next meeting of the executive committee to form the basis for discussion of the general proposal. As no further meeting of the executive committee was held, such a list was prepared and forwarded to the members of the executive committee, and it was the opinion of the majority of the members from whom replies were received that the matter should be placed before the Baltimore convention. The list of countries other than the United States and Canada having workmen's compensation laws, showing the dates of enactment of their acts and the method of administration in so far as the secretary was able to secure this information, is as follows:

WORKMEN'S COMPENSATION LAWS.

Country.	Date of enactment of law.	Administered by—
Argentina.....	Sept. 27, 1915	Courts.
Austria.....	Dec. 28, 1887	Arbitration courts.
Belgium.....	Dec. 24, 1903	Courts.
Brazil.....	Jan. 15, 1919	Courts.
Bulgaria.....	Mar. 7, 1909	
Chile.....	Jan. 19, 1917	Bureau of Labor and courts.
Colombia.....	Nov. 15, 1915	Courts.
Cuba.....	June 12, 1916	Courts.
Czechoslovakia.....	Apr. 10, 1919	Arbitration courts.
Denmark.....	July 6, 1916	Insurance Council and Minister of the Interior
Ecuador.....	Sept. 30, 1921	Minister of the Interior and courts.
Finland.....	Dec. 5, 1895	Courts.
France.....	Apr. 9, 1898	Courts.
Germany.....	July 19, 1911	Superior Insurance Office (represents Government officials, employers, and employees).
Great Britain.....	Dec. 21, 1906	Courts.
Greece.....	Feb. 21, 1901	Council of the Fund.
Hungary.....	Apr. 9, 1907	Arbitration courts.
Iceland (seamen).....	June 27, 1921	Accident Insurance Fund.
Italy.....	Mar. 17, 1898	Council of Frudhommes, praetor, magistrates.
Italy (agricultural workers)...	Aug. 23, 1917	Commissions, local and central.
Japan.....	Mar. 28, 1911	Governor of prefecture.
Leichtenstein.....	Apr. 30, 1910	
Luxemburg.....	Apr. 5, 1902	Arbitrators and court

WORKMEN'S COMPENSATION LAWS—Concluded.

Country.	Date of enactment of law.	Administered by—
Mexico:		
Campeachy.....	Dec. 21, 1917	Department of Labor, Tribunal of Labor.
Chiapas.....	Dec. 25, 1918	
Hidalgo.....	Dec. 25, 1915	Courts.
Mexico.....	(¹)	
Michoacan.....	Sept. 1, 1921	Central Board of Conciliation and Arbitration, and municipal boards of conciliation.
Nueva Leon.....	Nov. 2, 1906	Courts.
Puebla.....	Nov. 14, 1921	Courts, and Secretary of Labor and Social Welfare.
Sinaloa.....	June 21, 1920	Central Board of Conciliation and Arbitration, and municipal boards of conciliation.
Sonora.....	Oct. 3, 1918	Central Board of Conciliation and Arbitration, and municipal boards of conciliation.
Tabasco.....	1917.....	Tribunals of arbitration.
Vera Cruz.....	1918.....	
Yucatan.....	Oct. 2, 1918	Board of Conciliation and Arbitration.
Zacatecas.....	1916.....	
Netherlands.....	Jan. 2, 1901	Royal Insurance Bank, arbitration councils.
New South Wales.....	Dec. 13, 1916	Courts.
New Zealand.....	Oct. 10, 1908	Arbitrators.
Norway.....	Aug. 13, 1915	Central Insurance Office, Special Insurance Commission.
Norway (fishermen).....	Dec. 10, 1920	Central Insurance Office, Special Insurance Commission.
Peru.....	Jan. 20, 1911	Courts.
Portugal.....	May 10, 1919	Arbitrators.
Queensland.....	Jan. 5, 1916	State Insurance Commissioner.
Rumania.....	Jan. 25, 1912	Arbitration courts.
San Salvador.....	May 12, 1911	Courts.
Serbia.....	June 29, 1910	Local associations and national union.
South Australia.....	Dec. 14, 1911	Arbitration committees.
Spain.....	Jan. 30, 1900	Labor tribunals.
Sweden.....	June 17, 1916	Special insurance council.
Sweden (fishermen).....	June 11, 1918	Special insurance council.
Switzerland.....	June 13, 1911	Courts.
Tasmania.....	Jan. 13, 1911	Arbitrators.
Union of South Africa.....	July 1, 1914	Courts.
Uruguay.....	Nov. 15, 1920	Courts.
Venezuela.....	Feb. 23, 1906	Committees.
Victoria.....	Sept. 6, 1915	Courts.
Western Australia.....	Dec. 21, 1912	Courts.
Yugo-Slavia.....	1922.....	National and provincial insurance institutes.

¹ The constitution of the State of Mexico requires compensation to be paid for injuries in industries having a capital in excess of 50,000 pesos, but names no administrative agency.

A letter was addressed to the Secretary of Labor inquiring as to the possibility of such a conference being called through the Department of Labor and as to the necessity of cooperation with the Department of State, to which the Secretary of Labor replied that he did not feel it advisable to call such a conference at this time, but that perhaps next year it will be more opportune.

At the request of the American Engineering Standards Committee the International Association of Industrial Accident Boards and Commissions appointed representatives upon its safety code correlating committee, which is practically a steering committee charged with the duty of determining what codes shall be compiled. The following were appointed by the association as its representatives and alternates upon that committee:

Representatives:

Martin H. Christopherson, New York Department of Labor.
 Ethelbert Stewart, United States Commissioner of Labor Statistics.
 C. H. Kunneman, Illinois Industrial Commission.
 Joseph Thorpe, Ohio Department of Industrial Relations.

Alternates:

Clifford B. Connelley, Pennsylvania Department of Labor and Industry.
 Henry McColl, Minnesota Industrial Commission.
 H. M. Wolflin, California Industrial Accident Commission.
 G. R. Yearsley, Utah Industrial Commission.

During the year the association has assisted in the formulation of a number of safety codes. The following list shows the codes on which the association assisted, the representatives of the association, and the present status of the various safety codes:

SAFETY CODE PROJECTS ON WHICH THE I. A. I. A. B. C. IS COOPERATING.

Safety code.	Representatives of I. A. I. A. B. C.	Status of code.
Abrasive wheels (sponsor, I. A. I. A. B. C.)	L. W. Chaney, J. C. Cronin, R. McA. Keown, F. G. Lange, J. P. Meade, J. Roach.	Approved as tentative American standard, Feb. 11, 1922.
Building exits.....	J. L. Gernon.....	Under preparation.
Compressed-air machinery.....	Joseph F. Scott.....	Committee being organized.
Conveyors and conveying machinery.....	Joseph F. Scott, J. C. Cronin, and Martin H. Christopherson.	Do.
Electric power control.....	L. W. Chaney.....	Scope defined.
Elevators.....	C. H. Weeks.....	Committee being organized.
Floor openings.....	C. H. Weeks, J. L. Gernon.....	Revised draft under consideration.
Gas.....	F. D. Patterson.....	Draft being prepared.
Head and eye.....	do.....	Approved as tentative American standard, Jan. 20, 1921; submitted as American standard June 13, 1922.
Ladders.....	J. C. Cronin, R. J. Cullen, J. Gernon, R. McA. Keown, J. P. Meade.	Revised draft under consideration.
Lighting.....	T. E. Eipper.....	Approved as American standard Dec. 21, 1921.
Machine tools.....	J. C. Cronin, R. H. Leveridge.....	Committee being organized.
Power transmission (sponsor, I. A. I. A. B. C.)	L. W. Chaney, C. B. Connelly, R. McA. Keown, R. J. Leveridge, J. P. Meade.	Code under preparation.
Refrigeration.....	J. F. Scott.....	Do.
Sanitation.....	L. W. Chaney, F. D. Patterson, John Roach.	Committee being organized.
Woodworking (sponsor, I. A. I. A. B. C.)	L. W. Chaney, C. B. Connelley, R. J. Cullen, R. McA. Keown, F. G. Lange, R. J. Leveridge, J. P. Meade.	Revised draft under consideration.

The association was represented at a conference on colors for traffic signals by Henry D. Sayer, of the Department of Labor of New York.

Copies of such of the above codes as are available are on file at the desk, where they can be consulted by delegates. Copies of the Abrasive Wheels Code can be obtained from the United States Bureau of Labor Statistics. By a recent ruling of the safety code correlating committee, copies of all codes passed in the future will be forwarded to the United States Bureau of Labor Statistics for distribution.

The proceedings of the Chicago convention have been issued by the Bureau of Labor Statistics as its Bulletin No. 304, and copies are available for members who desire them at the headquarters here in Baltimore.

A number of papers of the present meeting have been printed in temporary form as was done last year and are available for distribution. An endeavor was made to get all papers printed before the convention, but the secretary was unable to get some of them in advance for this purpose.

Respectfully submitted,

ETHELBERT STEWART,
Secretary-Treasurer.

OCTOBER 9, 1922.

FINANCIAL STATEMENT OF THE SECRETARY-TREASURER, SEPTEMBER 13, 1921, TO JUNE 30, 1922.

BALANCE AND RECEIPTS.

1921.	
Sept. 13. Balance (bank deposits \$2,315.79; Liberty bonds, \$700; ¹ unexpended postage and telegraph fund, \$4.86).....	\$3,020.65
15. Ontario Workmen's Compensation Board, annual dues, 1922 (Canadian exchange deducted from \$50).....	44.62
22. Washington Department of Labor and Industries, annual dues, 1922.....	50.00
28. Idaho Industrial Accident Board, associate membership dues, 1922.....	10.00

¹ The association now owns (Jan. 1, 1923) the following Liberty bonds: No. A00031671, $4\frac{1}{2}$ per cent, \$1,000; No. 1217874, $4\frac{1}{2}$ per cent, \$100; No. 1217875, $4\frac{1}{2}$ per cent, \$100; No. 236204, $4\frac{1}{2}$ per cent, \$500; total, \$1,700.

1921.		
Oct.	3. Oregon Industrial Accident Commission, annual dues, 1922	\$50.00
	5. New York Department of Labor, annual dues, 1922	50.00
	7. Hawaii Industrial Accident Boards, annual dues, 1922	50.00
	7. Georgia Industrial Commission (new member), annual dues, 1922	50.00
	11. Nebraska Department of Labor (new member), associate-membership dues, 1922	10.00
	14. Interest on Liberty bonds	14.88
	14. Industrial Accident Prevention Associations, Toronto (new member), associate-membership dues, 1922 (Canadian exchange deducted from \$10)	9.10
Nov.	5. Wyoming Workmen's Compensation Department, annual dues, 1921	50.00
Dec.	7. Ohio Industrial Commission, annual dues, 1922	50.00
	19. Oklahoma Industrial Commission, annual dues, 1922	50.00
	23. Illinois Industrial Commission, annual dues, 1922	50.00
1922.		
Jan.	1. Interest on bank account	16.81
	9. Montana Industrial Accident Board, annual dues, 1922	50.00
Apr.	20. Interest on Liberty bonds	14.87
June	30. Unexpended postage and telegraph fund	3.03
		3,643.96

DISBURSEMENTS.

1921.		
Sept.	13. Postage and telegraph fund from statement of 1921	\$4.86
	14. Gibson Bros. (Inc.), printing 1,000 programs	27.50
	22. Chas. S. Andrus, expenses at executive committee meeting, New York, Dec. 7, 1920	147.50
	23. Miss E. L. McGinnis, honorarium	25.00
	27. Glenn B. Lumpkin, adjustment made for stenographic and clerical services, 1920-21	75.00
	27. Eva M. Taylor, adjustment made for stenographic and clerical services, 1920-21	25.00
Oct.	3. Ethelbert Stewart, expenses at eighth annual meeting (authorized by executive committee)	24.60
	3. Chas. S. Andrus, incidental expenses at eighth annual meeting (authorized by executive committee)	37.50
Oct.	19. Rexford L. Holmes, reporting eighth annual meeting	253.60
	20. Postage and telegraph	5.00
	22. Postage and telegraph	10.00
Nov.	7. Gibson Brothers (Inc.), printing 500 receipts	6.50
	19. F. A. Duxbury, expenses at executive committee meeting, New York, Nov. 18, 1921 (partial payment)	100.00
	19. Baxter Taylor, expenses at executive committee meeting, New York, Nov. 18, 1921 (partial payment)	150.00
	19. Chas. S. Andrus, expenses at executive committee meeting, New York, Nov. 18, 1921 (partial payment)	100.00
	23. F. W. Armstrong, expenses at executive committee meeting, New York, Nov. 18, 1921	134.17
	25. Ethelbert Stewart, expenses at executive committee meeting, New York, Nov. 18, 1921	18.93
	28. F. A. Duxbury, balance expenses at executive committee meeting, New York, Nov. 18, 1921	72.31
	30. Robert E. Lee, expenses at executive committee meeting, New York, Nov. 18, 1921	54.98
Dec.	5. Chas. S. Andrus, balance, expenses at executive committee meeting, New York, Nov. 18, 1921	86.58
	8. Baxter Taylor, balance, expenses at executive committee meeting, New York, Nov. 18, 1921	56.13
	8. Glenn B. Lumpkin, partial payment, stenographic and clerical work, 1921-22	50.00
	8. Eva M. Taylor, partial payment, stenographic and clerical work, 1921-22	25.00
	17. Ethelbert Stewart, partial payment, honorarium	150.00

1922.		
Feb. 10.	Gibson Brothers (Inc.), printing 2,500 letterheads and 3,000 envelopes-----	\$62.75
Mar. 14.	Ethelbert Stewart, balance, honorarium-----	150.00
June 7.	Postage and telegraph-----	5.00
		1,857.91
June 30.	Balance (bank deposits \$1,083.02; Liberty bonds, \$700; unexpended postage and telegraph fund, \$3.03)-----	1,786.05
		3,643.96

NOTE.—Previous statements have been made out from one annual meeting to another, but beginning with 1922 statements will be made out for fiscal years beginning July 1 and ending June 30 of the succeeding year.

SUPPLEMENTARY FINANCIAL STATEMENT OF THE SECRETARY-TREASURER, JULY 1, 1922, TO OCTOBER 3, 1922.

RECEIPTS.

1922.		
June 30.	Balance (bank deposits, \$1,083.02; Liberty bonds, \$700; unexpended postage and telegraph fund, \$3.03)-----	\$1,786.05
July 1.	Interest on bank account-----	12.28
18.	Republic Iron and Steel Co., 1923 associate membership dues-----	10.00
24.	Maryland State Industrial Accident Commission, 1923 dues. Manitoba Workmen's Compensation Board, 1923 dues (Canadian exchange deducted)-----	50.00
26.	Georgia Industrial Commission, 1923 dues-----	49.38
27.	Ontario Safety League, 1923 associate membership dues (Canadian exchange deducted)-----	50.00
28.	Massachusetts Industrial Accident Board, 1923 dues-----	9.87
31.	Nevada Industrial Commission, 1923 dues-----	50.00
	Industrial Accident Prevention Association, 1923 associate membership dues-----	50.00
Aug. 3.	New Brunswick Workmen's Compensation Board, 1923 dues (Canadian exchange deducted)-----	10.00
4.	Nova Scotia Workmen's Compensation Board, 1923 dues. Wyoming Workmen's Compensation Department, 1923 dues-----	49.58
5.	Connecticut Workmen's Compensation Commissioner, second district (J. J. Donohue), 1923 dues-----	50.00
8.	Connecticut Workmen's Compensation Commissioner, fifth district (F. M. Williams), 1923 dues-----	50.00
	California Industrial Accident Commission, 1923 dues-----	50.00
10.	Kansas Court of Industrial Relations, 1923 dues-----	50.00
11.	Virginia Industrial Commission, 1923 dues-----	50.00
14.	Connecticut Workmen's Compensation Commissioner, first district (Geo. B. Chandler), 1923 dues-----	50.00
15.	Ohio Industrial Commission, 1923 dues-----	10.00
21.	Nebraska Department of Labor, 1923 associate membership dues-----	50.00
23.	Ontario Workmen's Compensation Board, 1923 dues (Canadian exchange deducted)-----	10.00
25.	Pennsylvania Department of Labor and Industry, 1923 dues-----	49.88
	New Jersey Department of Labor, 1923 dues-----	50.00
	Illinois Industrial Commission, 1923 dues-----	50.00
	Oklahoma Industrial Commission, 1923 dues-----	50.00
	Wisconsin Industrial Commission, 1923 dues-----	50.00
	Iowa Workmen's Compensation Service, 1923 dues-----	50.00
	Utah Industrial Commission, 1923 dues-----	50.00
	Oregon Industrial Accident Commission, 1923 dues-----	50.00
30.	Connecticut Workmen's Compensation Commissioner, third district (Geo. E. Beers), 1923 dues-----	10.00
	Idaho Industrial Accident Board, associate membership dues-----	10.00

Sept.	5.	Washington Department of Labor and Industries, 1923 dues	\$50.00
	7.	New York Department of Labor, 1923 dues	50.00
	11.	Minnesota Industrial Commission, 1923 dues	50.00
		Connecticut Workmen's Compensation Commissioner, fourth district (E. T. Buckingham), 1923 dues	10.00
	13.	Montana Industrial Accident Board, 1923 dues	50.00
	27.	West Virginia Compensation Commissioner, 1923 dues	50.00
Oct.	2.	Hawaii Industrial Accident Boards, 1923 dues	50.00
	3.	Porto Rico Workmen's Relief Commission, 1923 dues (associate membership)	10.00
Oct.	8.	Unexpended postage fund	3.61
			3,260.65

DISBURSEMENTS.

1922.			
July	1.	Unexpended postage and telegraph fund-----	\$3. 03
	24.	Postage and telegraph fund-----	10. 00
Sept.	11.	Glenn B. Lumpkin, balance stenographic and clerical work, 1921-22-----	25. 00
		Eva M. Taylor, as above-----	20. 00
			58. 03
Oct.	3.	Balance (bank deposits \$2,499.01; Liberty bonds, \$700; unexpended postage and telegraph fund, \$3.61)-----	3, 202. 62
			3, 260. 65

BILLS RECEIVABLE.

Delaware Industrial Board, 1923 dues-----	\$50. 00
Maine Industrial Accident Commission, 1922 and 1923 dues-----	100. 00
Proportionate share of Connecticut Workmen's Compensation Com- mission, 1922 dues (Mr. Buckingham)-----	10.00
Michigan Department of Labor and Industry, 1923 dues-----	50. 00
North Dakota Workmen's Compensation Bureau, 1923 associate mem- bership dues-----	10. 00
	220. 00

Respectfully submitted,

ETHELBERT STEWART,
Secretary-Treasurer.

OCTOBER 3, 1922.

[The president appointed the following auditing committee: George A. Kingston, Canada, chairman; Harry A. Mackey, Pennsylvania; and Lee Ott, West Virginia.]

[Meeting adjourned.]

MONDAY, OCTOBER 9—AFTERNOON SESSION.

CHAIRMAN, L. A. TARRELL, COMMISSIONER, WISCONSIN INDUSTRIAL COMMISSION.

FORMS AND PROCEDURE.

The CHAIRMAN. The first problem confronting a body administering the workmen's compensation law is that of forms and procedure. Discussion of this question at the last annual convention led to the creation of a committee to work out a uniform system of forms and procedure. Owing to the conflict in these matters between States having a State fund and those having competitive insurance, it was deemed advisable to divide the recommendations so as to apply to the different systems.

We have first on the program this afternoon the report of the committee by Miss R. O. Harrison, of the Maryland commission, and after that the meeting, according to my understanding, will be open for discussion of that report.

Miss HARRISON. It is indeed an honor to be called upon by the committee on forms and procedure, of which I am a member, to present the resolutions adopted by the committee to this association. I have wondered why I was selected, for at the committee meetings the gentlemen proved conclusively that they like to speak and can speak, and I am neither chairman of the general committee nor chairman of either subcommittee. But I suppose I was selected either for the reason that I was the only woman on the committee and the gentlemen felt that the honor should be bestowed upon me, or for the reason that Maryland had already in effect practically every resolution adopted by the committee.

STANDARDIZATION OF CLAIM PROCEDURE UNDER WORKMEN'S COMPENSATION.

REPORT OF COMMITTEE ON FORMS AND PROCEDURE OF THE INTERNATIONAL ASSOCIATION OF INDUSTRIAL ACCIDENT BOARDS AND COMMISSIONS.

Efficient administration of workmen's compensation laws depends to a large extent upon the use of proper methods in handling accident reports and claims. The need for systematization and improvement in their claim procedure methods has been felt by many compensation commissioners. At its annual meeting held in Chicago, Ill., September 19 to 23, 1921, therefore, the International Association of Industrial Accident Boards and Commissions authorized its executive committee to appoint a committee on forms and procedure. The purpose of this committee was to prepare standard forms and to formulate standard practical methods of claim procedure.

The committee appointed consisted of 18 members, representing as many jurisdictions. In selecting the personnel of the committee it was the aim to have all types of claim procedure represented. Although members of the committee were from States representing all sections of the Union, only those from the East or Middle West attended the meetings. This was unfortunate but could not be helped because of the heavy traveling expenses involved. The first meeting was held in New York January 24 and 25, 1922,¹ at which time a number of resolutions embodying standard methods of procedure were adopted. It soon became apparent, however, that there were two distinct types of claim procedure, which had little in common. One type, found principally among State funds, embodied the workmen's claim system; the other type was adapted to competitive insurance procedure. Moreover, State fund commissions and competitive insurance commissions had each to deal with certain problems which were entirely foreign to the experience of the other. The general committee deemed it advisable, therefore, to appoint two subcommittees, one for exclusive insurance States² and one for competitive insurance States.³ Each subcommittee was instructed to prepare standard forms and to work out the best method of procedure adapted to its respective system. The second and final meeting of the general committee was held in Chicago, June 19 and 20,⁴ at which time consideration was given to the report, hereinafter presented, of the subcommittee on competitive insurance States. The other subcommittee was not prepared to report at this meeting, but later (July 10 and 11) met with the acting chairman and secretary in Washington and made a number of recommendations, which have been incorporated in this report.

¹ Those present were: Otis, Fisher of Pennsylvania, Hookstadt, Altmeyer, Becker, Grandfield, Harrison, Slate, and Smiley.

² Stewart of Ohio (chairman), Harrison, and Smiley.

³ Grandfield (chairman), Otis, and Altmeyer.

⁴ Those present were: Altmeyer, Becker, Fisher of Pennsylvania, Grandfield, Harrison, Hookstadt, and Otis.

The work of the committee resolved itself into two distinct tasks: (1) The formulation of standard minimum requirements, and (2) the formulation of forms and methods of procedure by which the minimum standards can be attained.

Every commission or fund, in order that the compensation provisions may be administered efficiently and compensation benefits paid promptly, must do certain things. For example, accident reports must be filed promptly, follow-up work must be adequate, certain investigations and examinations must be made, etc. These the committee incorporated in a set of standard minimum requirements applicable to either or both of the two main systems of claim procedure, which have been set forth in the form of resolutions.

The second problem—the preparation of standard forms and the formulation of detailed methods for the carrying out of the resolutions—presented greater difficulties in view of the fact that no two commissions have exactly the same claim methods or follow the same procedure. Because of the variations in functions, administrative organization, and volume of work, each commission has developed procedure presumably best suited to its purpose, and consequently it will be difficult for all commissions to adopt identical forms or to follow precisely the same methods. The standard forms and methods prepared by the subcommittee on competitive insurance procedure are therefore submitted by the general committee to serve as a guide. Similar standard forms for State fund procedure have not yet been prepared because of lack of time, and also because most of the State funds are located in the West and the committee members from these States were unable to attend the committee meetings.

Below are given the resolutions adopted by the committee. Each resolution was adopted only after careful consideration and deliberation, and, unless otherwise specified, received the unanimous approval of those members of the committee who attended the meetings. A résumé of the reasons which influenced the committee, with arguments pro and con, is given in connection with each resolution.

Some of the resolutions are applicable to both State fund and competitive insurance systems of procedure, while others, as will be pointed out, are applicable to one system only. For a comparison of the statutory provisions and commission practice on claim procedure the reader is referred to the paper on this subject read by Mr. Carl Hookstadt at the last meeting of the association, which article appears in Bulletin No. 301 of the United States Bureau of Labor Statistics.

RESOLUTIONS ADOPTED BY THE COMMITTEE.

1. All tabulatable injuries or those requiring medical aid shall be reported.

"Tabulatable injuries" include all accidents, diseases, and injuries arising out of the employment and resulting in death, permanent disability, or the loss of time other than the remainder of the day, shift, or turn on which the injury occurred. "Medical aid" means medical attention other than first-aid treatment.

Some commissions require the reporting of all accidents no matter how trivial, some require only tabulatable accidents, and some limit the reporting to compensable accidents only—i. e., those in which the length of disability exceeds the waiting period.

Whether it is desirable to have all accidents reported may be a debatable question. It is maintained that a certain percentage of trivial accidents later develop into serious injuries and consequently it is necessary to have a complete record on file. Such a record, if it is further maintained, would help the injured employee to prove a bona fide claim and would also help to prevent fraudulent claims. On the other hand, the arguments against reporting every trivial accident point out that the work of reporting, recording, and filing accident reports would be practically doubled. The Massachusetts experience shows that over 50 per cent of the accidents reported to the industrial accident board are nontabulatable. In fact, during the year 1918-19, 178,084 accident reports were received by the board, of which only 67,240 were tabulatable.

Those who are in favor of reporting only compensable accidents maintain that with the limited clerical force at their disposal it is better to neglect the noncompensable accidents altogether and devote more time to the investigation, supervision, and analysis of compensable accidents. On the other hand, several reasons are advanced why all tabulatable accidents (noncompensable as well as compensable) should be reported:

(1) If employers are required to report only compensable accidents, a considerable number of such accidents will probably not be reported, either through oversight or otherwise; (2) a complete record of the cost of the medical service would not be available; (3) a record of all disability accidents is necessary in order (a) to determine the increased cost resulting from a reduction of the waiting period and (b) to compute accurate accident frequency and severity rates.

Mr. Altmeyer of Wisconsin, Mr. Becker of Illinois, and Mr. Grandfield of Massachusetts voted against the resolution, the first two because the commissions in their States required only compensable accidents to be reported, the last named because he believed that at least all time-loss accidents should be reported. The Industrial Accident Board of Massachusetts requires the reporting of all accidents, no matter how trivial.

2. All injuries shall be reported within 48 hours after their occurrence.

The commission can not take action upon a claim until a report of the accident or claim has been filed. It is important, therefore, that the accident should be reported promptly. The sooner the report is received the sooner can action be taken by the commission. It is customary in some States (Michigan) to report the accident at the expiration of the waiting period. It is contended that the commission can take no definite action until it knows whether the accident is a compensable one, and this fact is not ascertainable until the expiration of the waiting period. On the other hand, it is maintained that the best time to report an accident is immediately after its occurrence, when the incident is fresh in the mind of the employer and when the facts are easily obtainable. If the report of the accident is postponed until the expiration of the waiting period, the employer is likely to forget to report altogether. At all events not only will it be more difficult to obtain all the facts surrounding the occurrence of the accident, but there is likely to be considerable

delay also. Investigation shows that most of the delay in making compensation payments is due to the failure of the employer, physician, or workman to report the accident promptly.

Mr. Altmeyer of Wisconsin voted against this resolution, because in his State only compensable accidents are reported to the commission.

3. Accident reports shall be filed with and transmitted to the commission directly by the employer and not by the employer's insurer.⁵

* From the standpoint of efficiency in administration the agency through which the employer's report is transmitted to the commission becomes an important matter. In some States (Massachusetts, Michigan, Utah, and Wisconsin) the employer himself transmits the report direct to the commission. In the others it is the practice to have the employer's report of the accident transmitted to the commission by the insurance carriers. In some of these States practically all reports are sent in by insurance companies, while in other States some employers report direct. The practice of transmitting reports by insurance carriers is defended on the ground that (1) it relieves the employer of sending reports to two different agencies, and (2) that it insures a more complete report, since the insurance companies, because of their experience, are in a better position to answer the questions asked for on the report blank. Several objections, however, are made to this practice. It is pointed out that the commission should have a prompt, accurate, impartial, and confidential report of the accident, and this can best be furnished by the employer. Transmittal of these reports by the insurance companies not only delays their receipt by the commission, but makes possible the opportunity to alter the report as initially made out by the employer. In some States, and among some insurers, it is the practice of the carrier to transmit the original, or at least an exact copy of the employer's report, to the commission. Among others, however, it is the practice to make a new report in the insurance agent's office from the data furnished by the employer and to transmit this to the commission in lieu of the original report of the employer. This practice opens the door for fraud and collusion, instances being on record where insurance carriers have requested their assured to change the original report, particularly as regards the weekly wages of the injured workman. It is also responsible to some extent for the long delay in reporting accidents. Again, if all of the reports (first report of accident, voluntary agreement, final reports, and receipts) are furnished by the same agency, the commission will be unable to check these reports, one against the other, or to determine their accuracy.

On the other hand, if the commission receives reports from two independent sources, it will be in a better position to ascertain the facts by checking the reports from one source against those from the other. For example, if a confidential report of the accident is received from the employer, as is the case in Massachusetts and Wisconsin, the commission can compare this report with the facts as reported by the insurance carrier.

⁵ Applicable principally or exclusively to competitive insurance States.

Mr. Fisher, of Pennsylvania, and Mr. Becker, of Illinois, voted against this resolution because they contended that accident reports submitted by insurance carriers were more neat and complete. The committee decided, however, that accuracy was far more important than neatness or completeness. It further pointed out that the employer was just as able to send in a complete report as was the insurance carrier.

4. In case the employer submits incomplete reports the commission shall send to the employer a blank report form upon which the incomplete or omitted items are noted. A summary should not be sent, nor should the original report be returned for correction.

If the commission sends back to the employer the original accident report for completion, it may not be returned, while a summary may be confusing. The best results are obtained if a blank report form is sent with the incomplete or omitted items checked.

5. Every effort should be made by the commission to obtain reports of accidents from outside sources, such as clipping bureaus, coroners' records, newspapers, etc.

In spite of the publicity and educational campaigns carried on by commissions, many employers still fail to report their accidents. It is desirable, therefore, that the commissions make use of other agencies to obtain reports of accidents. Some States subscribe to clipping bureaus, which have been of some service in calling to the attention of the commission the occurrence of accidents which had never been reported to the commission by the employer.

6. All reports from employers, physicians, and workmen shall bear the written signature of the person making out the report. No printed, typewritten, or rubber-stamped signatures should be accepted.
7. A report from the attending physician shall be required in all permanent disability cases and in all temporary total disability cases of over three weeks, stating the nature of the injury, the date the injured employee is able to return to work, and in case of permanent disabilities the degree of impairment.

The requirements in this resolution are minimums and apply primarily to competitive insurance procedure. State funds require physician's report in every case needing medical attention.

The practice relative to the reporting of accidents by the attending physician differs widely among the several States. Some commissions maintain that physicians' reports are unnecessary or worthless unless made by impartial or disinterested physicians, whereas others state that an intelligent adjudication of a claim would be impossible without a report of the injury by the attending physician.

All of the State funds require a first report of the accident by the attending physician or surgeon. In West Virginia the employer is required to transmit this report, while in Maryland the employee must file the physician's report with the commission if he selects his own physician.

8. In all compensable cases the commission shall notify the injured employee of his rights under the law and request him to state his average daily or weekly wages and the nature of his injury.⁵

Can a commission or fund pass upon the merits of a compensation claim fairly and impartially without some report of the injury from the workman himself? If not, what kind of reports are necessary? These are questions about which there is no unanimity either as regards opinion or practice. Some of the States, especially those having State funds, require the workman to file a claim; others require the workman and employer or insurer to sign an agreement setting forth the essential facts as to wages and nature of injury, which is subject to the approval of the commission; in still other States all reports are made by the employer or insurance carrier, no report being required from the workman.

The committee felt that in the administration of compensation claims it was necessary or at least desirable for the commission to receive some report or statement from the injured workman and not to adjudicate claims merely upon the reports sent in by the employer or insurance carrier. The substance of the resolution embodies what the committee considered to be the essential facts upon which a report by the injured workman was desirable.⁶

This matter is further discussed in the report of the subcommittee submitted herewith. Mr. Fisher voted against the resolution because he maintained it was unnecessary in States having the agreement system.

9. Final report.—A final report shall be required from the employer or his insurance carrier stating when the injured employee actually returned to work or date the disability ended, the compensation and medical benefits paid, and in case of permanent disability his subsequent occupation and wages.⁵

Mr. Slate, of Georgia, was opposed to that part of the resolution which required the employer or insurance carrier to report the subsequent occupation and wages of injured employees in permanent disability cases. The purpose of this requirement was to enable the compensation commissions to ascertain what effect the various permanent disabilities have upon the subsequent earning capacity of those permanently disabled. At present there exists practically no data of this character; such information must be known in order that the compensation schedules for permanent disabilities may reflect the loss of earning capacity.

10. Receipts.—In States where the permission of the commission to discontinue compensation is not required by law, an agreement or initial receipt shall be filed, followed by a monthly report of payments made, and when compensation is terminated a final receipt or statement of total amount paid.⁵

In several States, including New York and Massachusetts, employers and insurers are required by law to pay compensation immediately or to notify the commission if they intend to contest

⁵ Applicable principally or exclusively to competitive insurance States.

⁶ A detailed discussion of this subject appears on pp. 39 to 42 of Bul. No. 301 of the U. S. Bureau of Labor Statistics.

the case; nor are they permitted to discontinue compensation until authorized to do so by the commission. In these States the committee believes that it would not be necessary to require periodical receipts.

11. Notice of injury.—In all cases an employee shall give notice of his injury as soon as possible after its occurrence, but compensation shall not be denied by reason of his failure to give such notice unless it is shown that his employer has been prejudiced because of such failure to give notice.

Notice of injury by the injured employee to the employer is necessary to protect the employer from fraudulent claims and to give him an opportunity to furnish immediately competent medical and surgical treatment. The committee believes, however, that a written notice is not essential, nor is a notice necessary if the employer or his agent had knowledge of the injury.

12. It is important and desirable that employers and physicians have report blanks on file and that injured workmen be furnished claim blanks at once in order that there may be no delay in compensation payments. If the employer does not keep a supply of claim forms on hand the commission, after an accident has been reported, should immediately send a claim blank to the injured workman direct and not to the employer.⁷

Examinations of State funds and private insurance carriers show that there is great delay in making compensation payments. This delay is largely due to the fact that employers, physicians, and workmen do not report promptly. It follows, therefore, that if the filing of reports can be expedited the delay in making payments will be reduced.

13. Subsequent payments.—There should be no delay in subsequent payments awaiting receipt of physicians' progress reports. Such progress reports should be requested several days before the next payment becomes due in order that payments may continue regularly.⁷
14. Payments to employee directly.—Payments should be made directly to the claimant, or as he may direct.⁷

It is the practice of some State funds and private insurance carriers to send compensation checks to the employer and not directly to the injured employee. This practice is defended on the ground that it prevents the compensation check from falling into the hands of the wrong party. Employers also make advances to their workmen when injured, and by sending the checks to them they can reimburse themselves for the money advanced. On the other hand, it is maintained that the compensation belongs to the injured workman and he alone is entitled to receive it. Furthermore, it prevents delay in delivery. The committee therefore felt that all compensation checks should be sent directly to the injured workman.

⁷ Applicable principally or exclusively to State funds.

- 15. Signing compensation checks.**—Compensation checks shall be signed only by the commission or some one designated by the commission.⁷

Most of the States having State funds require that compensation checks shall be signed by the State treasurer, State auditor, and several other State officials. This practice results in from two to seven days' delay in sending out these checks to injured workmen, who in many cases are in urgent need of the money. In order to prevent this delay the committee recommends that compensation checks be signed only by the commission or some one designated by the commission.

- 16. Acknowledgment of claims.**—Workmen's claims need not be sworn to. In lieu of an affidavit, the claim report shall contain the name of at least one witness. A penalty should also be provided for making a false statement or obtaining money under false pretenses.⁷

Requiring injured workmen to have their claims acknowledged before a notary results in unnecessary hardship and expense. Furthermore, such a requirement is of little practical benefit in preventing false statements or fraudulent claims. The same results could be accomplished by imposing a heavy penalty for such practices. An exception is made in the case of Maryland, where the commission may issue an award based upon a workman's claim alone.

- 17. Indexes.**—At least all compensable injuries shall be indexed by name of employer and by name of employee.

Three kinds of indexes are used by the commissions, viz, employee's index, employer's index, and numerical index. Most of the States index their accidents both by name of employer and name of employee, while several States have a numerical index in addition. The committee believes that both an employer's index and an employee's index are necessary. Many times only the name of the employer or the name of the employee is given in correspondence about the accident. Consequently, if only one index is kept, it will be impossible to locate a number under these conditions. An employer's index is necessary in order to determine what accidents an employer has had during any given period. In many cases foreign names are never spelled twice exactly alike, and unless both an employer's index and an employee's index are kept it will be difficult to locate such cases.

Some commissions keep their indexes in card form, whereas others list them in books prepared for the purpose. The committee took no position as to whether the book form or the card form was the better one, nor did it take a position relative to the necessity of numerical indexes, although it was the consensus of the committee that the numerical index was not necessary.

- 18. Hearings.**—The commission shall have the right to set a case for hearing on its own motion.⁸

Some of the commissions can not initiate hearings in disputed cases but must wait until one party to the dispute files a petition for

⁷ Applicable principally or exclusively to State funds.

⁸ Applicable principally or exclusively to competitive insurance States.

hearing. The committee believes that the commission should have the right to set a case for hearing on its own motion.

REPORT OF SUBCOMMITTEE ON COMPETITIVE INSURANCE PROCEDURE.

The following report on forms and methods for competitive insurance procedure was prepared by a subcommittee composed of Grandfield (chairman), Otis, and Altmeyer, and adopted by the General Committee on Forms and Procedure.

The procedure to be followed to attain the object of laws designed to afford prompt compensatory relief to injured workmen and their dependents should be simple and effective. To assist in the accomplishment of this object the following program is offered for the consideration of the International Association.

The report of the injury or accident is the basis of all compensation payments. Employers must be required to fulfill their obligations in respect to reporting all tabulatable injuries or those requiring medical aid, or, if the law so provides, all injuries whether tabulatable or otherwise. An incomplete report of injury is of little value. If it is lacking in any material particular, the employer's attention should be directed to this fact. A simple and efficient method is indicated by Form No. 1, appended hereto.

Frequently employers do not report injuries. Upon receipt of information of an alleged injury, the employer should be written to, advised of the allegations made and of his duty to make an investigation and report the facts developed by such investigation upon the official report form furnished by the board or commission. Form No. 2 may be used as a model upon which to frame a letter to the employer.

A follow-up should be provided to assure the filing of a complete report within a short time. Otherwise, the information upon which to take up each case when necessary with the insurance company, or, in the case of a self-insurer, with the employer, for the payment of full compensation will be lacking.

In every compensable case, promptly upon receipt of a report which indicates that compensation is due, the employee should be advised briefly of his rights. For that purpose, a reply postal card may be used advantageously, as it brings home to the employee knowledge of his rights and affords him a convenient means upon which to file his claim for compensation and give necessary information to the commission. (See Form No. 3.)

All reports should be followed up, at the proper time, for the purpose of obtaining a supplemental statement at the end of the period fixed by law for the filing of such a report, and in all cases to obtain a final report stating when the employee actually returned to work or the date upon which his disability ended, the compensation and medical benefits paid, and in case of permanent disability his subsequent occupation and wages.

All preliminary matters leading up to the filing by the employer of a full report of the injury or accident, advising employees of their rights, and inviting them to file claims in compensable cases should be taken care of by the report division.

Where claims or agreements are required by law, and the claim is not honored and no agreement or other paper is filed by the insurer, or employer if self-insurance is permitted, or notice is received

that compensation will not be paid, a conference, hearing, or other action becomes necessary, in which event the case should be taken care of by the claim or other office division having charge of such matter.

The claim for compensation should be made as simple as the requirements of the law will permit. A formidable looking blank form will sometimes cause an employee to hesitate to claim his rights. Form No. 4, appended, fulfills the requirements of most laws. For the convenience of States where separate forms are desired for different classes of dependents, Forms Nos. 4a and 4b have been prepared.

When the claim is received and there is no agreement or other paper in the files indicating that the insurer has paid compensation, the insurer should be notified of the employee's claim. Form No. 5 may be used for that purpose.

At the same time, the claim should be acknowledged and the employee advised as to future procedure. In this connection a form similar to Form No. 6 may be used.

In regard to notice of injury by the employee your committee has adopted the following resolution: In all cases an employee shall give notice of his injury as soon as possible after its occurrence, but compensation shall not be denied by reason of his failure to give such notice unless it is shown that his employer has been prejudiced because of such failure to give notice. Where notice of injury is deemed essential, a form similar to Form No. 7, appended, which gives the information ordinarily required by workmen's compensation statutes, may be used, with such changes as are deemed necessary. Form No. 8, to be used in States where it is considered necessary to request that claim be assigned for a hearing, is also appended.

It is the practice in some States to require insurers to advise the board, or commission, if for any reason the insurer will not pay compensation without formal hearing. Under the power which most boards have to make rules having substantially the effect of a formal statutory enactment, a rule may be adopted requiring insurers to furnish this information. Where there is no legal ground for the adoption of such a rule, little difficulty will be met with in coming to an understanding with insurers upon this point. Form No. 9 is suggested as a basis for such a statement by the insurer. Following the receipt of this statement notification should be given the employee on Form No. 10 accompanied by the duplicate copy of Form No. 9 furnished by the insurer.

In the great majority of cases under a compensation statute compensation will be paid without dispute or delay. Insurers should be encouraged to pay compensation promptly when due, and investigations made at intervals to ascertain how well insurance companies meet this requirement of law. Where agreements for compensation are required by law, insurance companies should be informed that the agreements may be made and filed with the board, and pending approval compensation should be paid. Otherwise, board action on the approval of agreements might be given hastily and without due consideration of the facts controlling the rights of the parties under the law. Form No. 11 is suggested as a form of compensation agreement.

In States where an agreement is not required, but where insurance companies notify the board, or may be required to notify the board, of the payment of compensation, Form No. 12 may be used.

No agreement should be approved unless its terms conform to the law. To assure compliance with the provisions of the act, agreements should be checked up with the report of injury filed by the employer and the statements made by the employee in his reply to the postal card (Form No. 3) containing information as to his rights and inviting him to file a claim.

In this connection medical reports become important and Forms Nos. 13 and 14 have been prepared, on the back of which appropriate charts should be printed.

These identical reports may be used to obtain the final report recommended by the Committee on Forms and Procedure in all cases of permanent disability and serious temporary disability.

Should special questions arise involving matters which can not be covered in a general form, letters seeking such specific information may be written.

In cases of sufficient importance, particularly where information can not be had satisfactorily by mail, resort should be had to the investigating or inspection staff of the board.

The monthly report of compensation payments, recommended by the general committee for use in States where the permission of the compensation commission is not required to discontinue compensation, may be made out on Form No. 15.

When compensation is ended insurance companies should be required to file either a notice of termination of compensation with the commission, with full information, in cases where the employee does not agree to such termination, or a settlement receipt in cases where the employee assents to the termination and agrees that his disability as a result of his injury is at an end. The notice of termination may be made on Form No. 16. Form No. 17 provides a blank for filing a settlement receipt, or final report.

When compensation is terminated without the consent of the employee he should be advised immediately of this fact and of his rights under the law in a notice along the lines laid down in Form No. 18.

In all cases the information given either in the notice of termination or in the settlement receipt should be checked up with the records in the office of the commission or, if such records are not complete, with information obtained through correspondence or investigation, for the purpose of ascertaining the necessary facts upon which to determine whether there has been a full compliance with the law in every case.

Every effort should be made to secure full compliance with the provisions of the compensation statute before assigning cases to formal hearing. If correspondence, telephone conversations, or personal investigations by members of the investigating staff bring no results, conferences may be arranged between the parties, insurer and employee, with a commissioner presiding, in which event Form No. 19 may be used.

If a hearing becomes necessary notice may be given upon Form No. 20.

Provision is made in many State laws for a review of claim. Form No. 21 has been prepared for that purpose.

The forms and procedure herein outlined are recommended for adoption under a reservation that each State may make such alterations as are necessary to meet the requirements of its laws. They are offered in the belief that their substantial adoption and enforcement will most certainly tend to make effective the aim of all compensation statutes—the prompt furnishing of the salutary relief afforded in all meritorious cases.

The foregoing report is submitted in the hope that it may be of some value in aiding the compensation commissions to improve their administrative procedure. The committee feels that its work is still incomplete. For example, no standard forms or claim procedure methods were formulated for State funds. The judicial procedure in connection with the holding of hearings needs standardization and simplification. In many States, the committee believes, much valuable time is wasted because of unnecessary red tape and haphazard methods in conducting hearings. The committee therefore recommends that it be continued for another year.

Respectfully submitted.

COMMITTEE ON FORMS AND PROCEDURE.

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GEORGE H. FISHER, chairman Industrial Accident Board, Idaho.

WILLIAM C. FISHER, actuary, Bureau of Workmen's Compensation, Pennsylvania.

PERCY GILBERT, Department of Labor and Industries, Washington.

ROBERT E. GRANDFIELD, secretary Industrial Accident Board, Massachusetts.

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W. P. RATLIFF, statistician Industrial Accident Commission, California.

J. W. SMILEY, actuary Compensation Commission, West Virginia.

H. M. STANLEY, chairman Industrial Commission, Georgia.

S. S. STEWART, chief Division of Workmen's Compensation, Department of Industrial Relations, Ohio.

LIST OF FORMS.

No. 1. A letter to employer in re incomplete report of injury or accident.	No. 8. Request that claim be assigned for hearing.
No. 2. A letter to employer in re failure to report injury or accident.	No. 9. Notice by insurer that compensation will not be paid.
No. 3. Reply postal card to injured employee advising him of his rights and affording means upon which to file a claim for compensation.	No. 10. Notice to employee of insurer's refusal to pay compensation.
No. 4. Claim for compensation for injury or death.	No. 11. Agreement in regard to compensation.
No. 4a. Claim for compensation in death case by widow and children.	No. 12. Notice of payment of compensation.
No. 4b. Claim for compensation in death case by dependents other than widow and children.	No. 13. Report of attending physician.
No. 5. Notice to insurer of employee's claim for compensation.	No. 14. Report of eye physician.
No. 6. Letter of acknowledgment of receipt of employee's claim for compensation.	No. 15. Monthly report of compensation payments.
No. 7. Notice of injury to be given by employee to his employer or insurer.	No. 16. Notice of termination of compensation.
	No. 17. Settlement receipt or final report.
	No. 18. Notice to employee of insurer's termination of compensation.
	No. 19. Notice of conference.
	No. 20. Notice of hearing.
	No. 21. Claim for review.
	Various form letters.

The following standard forms have been prepared by the subcommittee on competitive insurance procedure and constitute a part of the subcommittee's report:

Form No. 1.—A Letter to Employer in re Incomplete Report of Injury or Accident.

To Employer:

Your attention is directed to the questions checked on the inclosed blank form.

You have not answered these questions, as required, on the original report of injury filed here, and we ask you kindly to comply with your obligation under the law to file a complete report of the injury to the above-named employee by answering the checked questions and returning the form without delay.

Very truly yours,

(Name of board or commission.)

By -----

Form No. 2.—A Letter to Employer in re Failure to Report Injury or Accident.

To Employer:

We are advised that -----, one of your employees, received an injury on ----- while engaged in the performance of his work. No report, as required by law, has been received from you.

Your attention is directed to the requirements of the law that you make an investigation and report the facts developed by your investigation upon the attached official report form. A penalty is provided which may be imposed upon any employer who neglects to comply with the requirements of the statute.

May we not hear from you promptly with a report upon this matter?

Very truly yours,

(Name of board or commission.)

By -----

Form No. 3.—Reply Postal Card to Injured Employee Advising Him of His Rights and Affording Means upon which to File a Claim for Compensation.

To the Injured Employee:

We have received a report of an injury sustained by you. If the injury arose out of and in the course of your employment and causes disability for more than ----- days, or if you sustain a loss or loss of use of some

member, or if the injury results in loss of vision or permanent disfigurement, you are entitled to compensation at the rate of _____ per cent of your average weekly wages, but not more than \$_____ a week. Fill out and file with this commission the attached reply postal card and claim for compensation, stating particularly your weekly wages and the exact nature of your injury.

If compensation is not paid, when due, at the end of _____ days after the injury, please advise us.

The attached card properly filled out and mailed will protect your rights.⁸

The law requires that notice of your injury be given in writing to your employer as soon as practicable (or within _____ days) after its occurrence and that the claim for compensation must be filed within _____ months after the date of injury.

(Name of commission here.)

EMPLOYEE'S CLAIM FOR COMPENSATION.

On _____ day of _____, 19____, at _____ m., I was injured at _____, while in the employ of _____. My daily wage was \$_____. My weekly wage was \$_____. My injury was caused by _____. The nature of my injury is _____.

(If you have returned to work, state date of return and wages earned here: Date, _____ Daily wage, \$_____. Weekly wages, \$_____.)

I hereby make claim for all compensation due me for my injuries.

Signature: _____

Street and No. _____ City _____

Date of making claim _____

Form No. 4.—Claim for Compensation for Injury or Death.

I hereby claim compensation under the workmen's compensation act for personal injury (or accident) sustained while in the employ of _____

of _____, _____ (Name of employer.)
(Street and number.) (City or town.) The time of injury was _____

_____ The place of injury was _____
(Here state date and time of day as near as possible.) (State name)

_____ The cause of injury
or description of building, or place where injury was sustained.)
was _____ The nature of injury is as follows
(Describe cause of injury.)

(Describe injury with such exactness as possible.)

If you have returned to work, state date of return _____ and wages earned, \$_____.

(Signature of injured employee.)

(Street and number.)

(City or town.)

(Date of making this claim.)

Form No. 4a.—Claim for Compensation in Death Case by Widow and Children.

I hereby make claim for compensation arising out of the death of:

1. _____, who died on _____, 19____,
2. at _____, as a result of injury sustained on _____,
3. _____, 19____, at _____
(Location where accident happened.)

4. In the employ of _____
(Name of employer.)

5. Whose address is _____
(Street and number.) (City or town.) (County.)

⁸ Some commissions send the injured employee a card or small folder containing a synopsis of the essential provisions of the act.

6. Deceased left the following children who were under 18 years of age at the time of his death:⁹

NAMES.	DATE OF BIRTH.
-----	-----
-----	-----

These questions should be answered where the widow is claiming compensation:

7. Widow was born on ----- at -----
 (Date.) (Place.)

8. Widow was married to deceased on -----
 (Date.)
 by ----- at -----
 (Name or title of person performing ceremony.)

 (Place where married.)

9. Last physician or hospital -----
 (Name and address.)

10. Name of undertaker, ----- Address -----

11. Amount of undertaker's bill, \$----- Amount paid, if any, \$-----

12. By whom paid -----
 (Name.) (Address.)

Dated this ----- day of -----, 19-----

 (Signature of claimant.)

 (Address.)

(If affidavit required, it may be in the following form:)

AFFIDAVIT.

STATE OF -----,
 County of -----

On this ----- day of -----, A. D. 19--, personally appeared before me the above-named ----- and made oath that the answers by ----- above named and subscribed are true.

[SEAL.]

 (Notary public.)

 (Address.)

Form No. 4b.—Claim for Compensation in Death Case by Dependents Other Than Widow and Children.

I hereby make claim for compensation under the workmen's compensation act, and in support of my claim make answer to the following questions, which, unless otherwise stated, relate to the time of the injury (or death) of the deceased:

1. My claim arises out of the death of ----- at -----
 (Name.) (Place.)
2. Who died on ----- day of -----, 19--, as a result of injury sustained on ----- day of -----, 19--, in the employ of ----- of -----
 (Name.) (Address.)
3. What was your relationship to deceased? -----
4. I was born on the ----- day of -----, 19--
5. Were you wholly or partially dependent upon the deceased for your support? -----
6. If partially dependent, to what degree? -----
7. What other sources of income do you have? -----
 (Let your answer be complete,

 giving amounts derived from each source named.)

⁹ If deceased left children over 18 years of age who were physically or mentally incapacitated from earning, include names in this list and state whether physically or mentally incapacitated.

8. I own property as follows: Real estate, assessed value (\$-----), from which I receive an income of \$----- annually and on which there is an indebtedness of \$-----; notes, stocks, bonds, or mortgages; money in bank (\$-----), from which I receive \$----- annually. State other sources of income, if any. (State fully.)
9. Is deceased survived by any other dependents? ----- If so, name them and state relationship of each to deceased. (Yes or no.)

Name.	Address.	Relationship.	Date of birth.
-----	-----	-----	-----
-----	-----	-----	-----

10. Name and address of last physician or hospital, -----
 11. Name of undertaker ----- Address -----
 12. Amount of undertaker's bill, \$----- Amount paid, if any, \$-----
 13. By whom paid -----

(Name.) (Address.)
 Dated this ----- day of -----, 19-----

(Signature of claimant.)
 (Address) -----

(Street and number.) (City, town, and county.)
 (If affidavit required, it may be in the following form:)

AFFIDAVIT.

STATE OF -----,
 County of -----, ss:

On this ----- day of -----, A. D. 192-----, personally appeared before me the above-named ----- and made oath that the answers by ----- above named and subscribed are true.

[SEAL.]

(Notary public.)

(Address.)

Form No. 5.—Notice to Insurer of Employee's Claim for Compensation.

Name of insurer -----
 Address -----
 Re: Employee—To insurer.

GENTLEMEN: This employee has filed a claim for compensation, alleging the following as facts:

That the time of his injury was -----

That the place of his injury was -----

That the cause of his injury was -----

That the nature of his injury was -----

Kindly advise promptly whether this claim will be honored.

Very truly yours,

(Name of board or commission.)

By -----

Form No. 6.—Letter of Acknowledgment of Receipt of Employee's Claim for Compensation.

DEAR SIR: Acknowledging receipt of your claim for compensation, we find that your employer has not filed a report of this injury, and suggest that, if convenient, you call upon your foreman or employer and advise him personally of the facts in relation to the injury so that the report may be filed without delay. In any event notice of the injury in writing, stating the time, place, and cause of the injury, should be given as soon as practicable after the occurrence, and the form upon which this notice should be given is attached hereto. Deliver it in person or send it by registered mail to your employer.

Your failure to comply with the requirements of the law as to notice in writing may bar your right to proceed with your claim, unless you can show that your employer, or the insurance company, or an agent of either, had knowledge of the injury. If you do not receive compensation within _____ days, you should ask for a hearing, making use of the inclosed form.

Yours very truly,

(Name of board or commission.)
By -----

Form No. 7.—Notice of Injury to be Given by Employee to His Employer or Insurer.

This is to notify you -----
(Name of employer or insurance company.)
that on the ----- day of -----, 19____, at about -----
o'clock -----, I received personal injury while in your employ in {town} of
----- in the ----- and
(Name or description of building or place of employment.)
that the accident was caused to me by reason of -----
(Describe cause of injury.)

(Name of employee.)
(Address) -----
(City or town.)

(Street and number.)

Form No. 8.—Request that Claim be Assigned for Hearing.

----- Employee.
----- Employer.
----- Insurer.
To -----

I, -----, respectfully notify you that the above-named parties have failed to reach an agreement in regard to compensation, and request a hearing.

We have been unable to agree because (here follows brief statement of the cause of disagreement).

(Name of party giving notice.)

(Address, street and number, city or town.)

(Date of notice.)

(Date of injury.)

Form No. 9.¹⁰—Notice by Insurer that Compensation will not be Paid.

1. Name of employer -----
2. Office address: Street and No. ----- City or town -----
3. Name of injured person -----
4. Present address: Street and No. ----- City or town -----
5. Date of alleged injury or accident -----, 19____, at ----- m.
6. Place where alleged injury or accident occurred -----
7. Cause of alleged injury or accident -----
8. Nature of alleged accident -----
9. This case will be controverted for the following reasons:
 - (a) For weekly wage? -----
 - (b) For rate of compensation? -----
 - (c) For period of disability? -----
 - (d) If controverted for any other reason, state fully below: -----

¹⁰ To be filed in duplicate.

10. Do you believe the controversy can be settled by conferences without the necessity for sworn testimony? _____
(Yes or no.)

(Signed by) _____
(Official title) _____

Dated _____, 19__.

Form No. 10.—Notice to Employee of Insurer's Refusal to Pay Compensation.

_____ Employee.
_____ Employer.
_____ Insurer.

To the Injured Employee:

You are hereby notified that the insurance company (or employer) named above declines to pay compensation for the reasons stated in the inclosed form (Form No. 9).

If you desire a hearing to determine your rights under this law, you should sign your name to the request at the bottom of this form and return it to this office.

If you prefer to discuss the matter with a representative of this board (or commission), please call here in person as soon as possible. If you wish, you may write and receive such information as you desire by mail. Should you fail to reply no further action will be taken in your case.

(In States where hearings are assigned automatically, the employee should be advised of the time and place set for the hearing in this notice.)

_____ (Name of board or commission.)
_____ (By secretary or other official.)
_____ (Date of notice.)

To _____
(Name of board or commission.)

I respectfully request a hearing.

(Signed) _____

_____ (Employee's signature.)
_____ (Address, street and number.)
_____ (City or town.)

Form No. 11.—Agreement in Regard to Compensation.

_____ Employee.
_____ Employer.
_____ Insurer.

We, _____, residing at city or town of _____,
(Name of injured employee.)
and the _____

(Name and address of insurance company.)
have reached an agreement in regard to compensation for the injury sustained by said employee while in the employ of _____

(Here insert name and address of employer.)
(Here insert the time, including hour and date of accident, the place where it occurred, the nature and cause of injury, and other cause or ground of claim.)

The terms of the agreement follow:

That compensation shall be paid as provided by this act and that specifically the following compensation shall be paid _____

This agreement is subject to the right of the industrial accident board (or commission) to modify or alter payments to conform to the provisions of the act.

_____ (Witness.) _____ (Name of injured employee.)
_____ (Street and number, city or town.) _____ (Name of insurance association or company.)
_____ (Name of authorized agent.)
_____ (Date of agreement.)

Form No. 12.—Notice of Payment of Compensation.

1. Name of employer _____
 2. Office address: Street and No. _____ City or town _____
 3. Name of injured _____ Age _____
 4. Present address: Street and No. _____ City or town _____
 5. Place of injury or accident _____
Date of injury _____, 19__ Date disability began _____, 19__
 6. Compensation is to be paid to _____
(Name of injured or dependent.) _____
 7. Average weekly wages, \$ _____
State basis of computation _____
 8. Compensation shall be payable from the _____ day of _____, 19__, until notice is given the board (or commission) that payment has been stopped or suspended.
 9. Date of first payment _____
(Name of insurer) _____
(Signed by) _____
(Official title) _____
- Dated _____, 19__

Form No. 13.—Report of Attending Physician.¹¹

1. Name of injured person _____
 2. Present address _____
(Street and number.) _____ (City or town.) _____
 3. Name of employer _____
 4. Office address _____
(Street and number.) _____ (City or town.) _____
 5. Date of injury or accident _____, 19__, at _____ m.
 6. Was first treatment rendered by you? _____ When? _____
 7. If not, by whom? _____ Address _____
 8. Who engaged your services? _____
 9. Was injured person removed to hospital? _____ Name and address of hospital _____
 10. State in patient's own words how the injury or accident occurred: _____
 11. Give an accurate and complete description of the nature and extent of the injury _____
 12. Will the injury result in—
(a) Permanent defect? _____ If so, what? _____
(Permanent disability, such as loss of whole or parts of finger, etc., must be accurately marked on diagram.)
(b) Facial or head disfigurement _____
 13. Is employee's incapacity for work due to his injury? _____
(Let your answer be specific.) _____
 14. On what date do you think the injured person will be able to resume his usual work? _____
 15. On what date able to do any work? _____
_____, *Attending Physician.*
(Address) _____
- Dated _____, 19__

¹¹ This blank shall be signed personally by the attending physician or, in hospital cases, personally by the superintendent or other authorized person.

Form No. 14.—Report of Eye Physician.¹¹

PLEASE USE CHARTS ON BACK FOR ILLUSTRATION, ESPECIALLY FOR CHARTING FIELDS.

1. Name of injured person _____
 2. Present address _____
(Street and number.) (City or town.)
 3. Name of employer _____
 4. Office address _____
 5. Date of injury or accident _____, 19____, at ____ m.
 6. Who rendered first treatment? _____ Address _____
 7. What was nature of the injury? _____
 8. Was there any previous disease, injury, or defect of part now affected? _____
If so, what? _____
 9. Did previous injury, disease, or defect cause any permanent impairment of vision? _____
If so, to what extent? _____
 10. What, in your opinion, is the extent of disability resulting from present accident? _____
 11. What is the acuity of central vision uncorrected? O. D. _____ O. S. _____
corrected? O. D. _____ O. S. _____
(Express in usual way.)
 12. Is the difference, if any, of the corrected vision the result of present injury or accident? _____
 13. Will this percentage increase or decrease with time? _____
 14. State the condition of the field of vision; chart any loss or defect and state the proportion of the field remaining.
Express in a decimal _____
 15. Is there any defect in the field of vision due to the present accident? _____ If so, what? _____
 16. State the condition of the binocular vision, muscular balance, and any heterophoria in degree of measurement, and whether depth perception is present, absent, or defective _____
 17. Is there any defect in binocular vision due to the present accident? _____ If so, what? _____
 18. If the normal function has been disturbed, is it due to the present accident? _____ If so, in what way does it affect injured? _____
 19. Remarks (add here any other information you may think material as to eye condition) _____

_____, M. D.
- (Address) _____
- Dated _____, 19____.

Form No. 15.—Monthly Report of Compensation Payments.

- Case No. _____ Insurer's No. _____
1. Name of employer _____
 2. Business address _____ Street and No. _____
 3. City or town _____
 4. Name of injured _____
 5. Present address: Street and No. _____
 6. City or town _____
 7. Date of injury _____
 8. Date disability began _____
 9. Weekly rate of compensation _____
 10. Period covered by this report _____
 11. Amount of compensation paid during above period _____
 12. Total sum paid to date _____
(Name of insurer) _____
(Signed by) _____
(Official title) _____
- Dated _____, 19____.

¹¹ This blank shall be signed personally by the attending physician or, in hospital cases, personally by the superintendent or other authorized person.

Form No. 16.—Notice of Termination of Compensation.

[To be filed (in duplicate) immediately upon stoppage or suspension of compensation.]

1. Name of employer _____
2. Office address: Street and No. _____ City or town _____
3. Name of injured _____ Age _____
4. Present address: Street and No. _____ City or town _____
5. Place of injury or accident _____
Date of injury or accident _____, 19__ Date disability began _____, 19__
6. Date compensation began _____, 19__ Date disability ended _____, 19__ Date of return to work _____, 19__
7. Date compensation ended _____, 19__ Days worked during disability period _____
8. Period of actual disability _____ weeks _____ days.
9. Average weekly wages upon which compensation is based _____
10. Weekly compensation paid _____
11. If compensation is based on decreased earnings (temporary partial disability), show how computed _____

Basis of compensation payments.

Nonfatal.	Amount.	Fatal.	Amount.
T. total _____ weeks, _____ days _____		Paid to dependents:	
T. partial _____ weeks, _____ days _____		Name _____	
P. total _____ weeks, _____ days _____		Name _____	
P. partial _____ weeks, _____ days _____		Name _____	
Disfigurement _____		Name _____	
Specified injuries _____		Funeral expense _____	
Medical payments _____		No dependents—paid to State treasury _____	
Total _____		Total _____	

12. Description of injury, including permanent injury _____
13. Has compensation been paid in full? _____ If not, give reasons why payments have been stopped or suspended _____
(Name of insurer) _____
(Signed by) _____
(Official title) _____
- Dated _____, 19__

Form No. 17.—Settlement Receipt or Final Report.

_____ Employee.
 _____ Employer.
 _____ Insurer.

Received of _____ the sum of _____
 (Name of insurer.)

dollars and _____ cents, making in all, with weekly payments already received by me, the total sum of _____ dollars and _____ cents, in settlement of compensation under the workmen's compensation act, for all injuries received by me on or about the _____ day of _____, 19__, while in the employ of _____, subject to approval and review by the industrial accident board.
 (Name of employer, city or town, street and number.)

This settlement shall not be binding upon the parties unless its terms and the amount paid as compensation conform to the provisions of the act.

Witness my hand this _____ day of _____, 19__.

Witness:

_____ (Name.)	_____ (Name of employee.)
_____ (Street and number.)	_____ (Name of insurer.)
_____ (City or town.)	_____ (Name of authorized agent.)

Form No. 18.—Notice to Employee of Insurer's Termination of Compensation.

----- Employee.
 ----- Employer.
 ----- Insurer.

To the Injured Employee:

You are hereby notified that the insurance company (or employer) named above has terminated compensation payments in your case for the reasons stated in the inclosed (Form No. 16).

If you claim further compensation, you should sign your name to the request at the bottom of this form and return it to this office.

Should you prefer to discuss the matter with a representative of this board (or commission), please call here in person as soon as possible. You may write, if you desire, and receive information through the mails. Your failure to respond in some manner to this notice will indicate that you do not desire any further action taken in your case.

 (Name of board or commission.)

 (By secretary or other official.)

 (Date of notice.)

To -----
 (Name of board or commission.)

I respectfully request a hearing.

(Signed)

 (Employee's signature.)

 (Address, street and number.)

 (City or town.)

Form No. 19.—Notice of Conference.

----- Employee.
 ----- Employer.
 ----- Insurer.

SUBJECT OF CONFERENCE:

 (Here state questions in dispute.)

You are requested to attend a conference in the above case at (here state place of meeting, including name of building in which hearing is to be held, address, street, and number, and city or town) at ----- o'clock ----- m., on -----, 19--.

At such time it will not be necessary for you to bring any witnesses or present any testimony.

If the questions in dispute can not be adjusted as a result of this conference, a formal hearing will be arranged, due notice being given the parties.

(Signed)

 (Name of board or commission.)

 (By secretary or other official.)

 (Date of notice.)

Form No. 20.—Notice of Hearing.

----- Employee.
 ----- Employer.
 ----- Insurer.

SUBJECT OF HEARING:

 (Here state questions in dispute.)

A hearing will be held in the above case at (here state place of meeting, including name of building in which hearing is to be held, address, street, and number, and city or town), at ----- o'clock ----- m., on -----, 19--.

The parties to this hearing should arrange to have all witnesses present ready to testify promptly at the time and place above given.

The right is reserved to take such action as the law permits if either party fails to appear at the time and place set for this hearing.

(Signed) _____
(Name of board or commission.)

Form No. 21.—Claim for Review.

Employee.

Employer.

Insurer.

To the _____ Board, or Commission:

The undersigned hereby makes application for a review of the findings of the board member, commissioner, or referee in the above case.

This claim for review is based on the following grounds:

(Employee's signature.)

(Date of claim for review.)

Appended hereto are certain form letters and form postal cards which have been used successfully, with changes to meet changed conditions, solely for the purpose of indicating the routine which may be followed by the statistical division of a commission, or by any other division or group charged with this work, in following up cases to get full information and to make certain that employees know their rights and get them under compensation statutes.

Employee's Letter No. 1.

Re _____

According to our records, disability in your case has extended beyond the _____-day waiting period. Compensation under this law dates from the _____ day after the injury.

If you intend to claim compensation, the inclosed blanks should be filed promptly, one with this office and the other with the _____ Insurance Co.

Failure to do so within six months after date of injury will be reason enough to deprive you of your compensation, if due, unless you can show a mistake or other reasonable cause.

Employee's Letter No. 2.

In the case named above, in which the injury occurred on _____, we have been advised by the insurance company that you returned to work on _____, although your employer has stated that you returned to work on _____.

If you were incapacitated beyond the _____ day waiting period you may, if you wish, file claims for compensation, one with this office and the other with the _____.

At any event, kindly advise us the correct date upon which you returned to work.

Employee's Letter No. 3.

Re _____

DEAR SIR: With reference to the injury sustained by you on _____, we have been advised by the insurance company that they do not consider that your injury "arose out of and in course of employment." They are therefore disclaiming liability.

If you consider the facts to be otherwise, you may, if you wish, file claims for compensation, one with this office and the other with the _____.

If you do this, a hearing should be requested on the form "Notice of failure of parties to reach an agreement," to be filed with this office.

We call your attention to the fact that the law provides that claims for compensation must be filed within six months from the date of the injury.

Employee's Letter No. 4.

Re -----

We have been advised by the insurance company of your intention to sue a third party. Under the provisions of the act, in the case of third party injuries, an employee may elect to proceed at common law against the third party or he can accept compensation, if the injury "arose out of and in the course of his employment" under the provisions of the compensation act.

In such cases an employee can not elect both remedies; if the claim is to be made under the act, the inclosed claims should be filed, one with this board and the other with the ----- Insurance Co.

Dependent's Letter No. 1.

To (Widow or other dependent):

With reference to the fatal injury sustained by the employee named above, we note from our records that you are his widow (or dependent) and that the insurer denies liability for this injury, claiming that it did not arise out of and in the course of his employment.

No claim for compensation having been filed by you, your attention is directed to the requirements of the act which provide that unless a claim for compensation is received here within the statutory period, which will expire on -----, 19--, your claim will be barred unless it can be shown that your failure to file the claim was due to mistake or other reasonable cause.

It would be well, therefore, to file your claim immediately, and if advice is desired concerning your rights under the law, you should call here, if convenient, or write us for information, which will be given you promptly.

(Claim form inclosed.)

Dependent's Letter No. 2.

To (Widow or other dependent):

Referring to the fatal injury sustained by the above-named employee, the report filed by our inspector indicates that the insurer denies liability solely on the ground that you are not warranted in claiming dependency compensation.

Under these circumstances, if you wish to claim compensation and believe that you can show that you were dependent upon the employee's earnings for support at the time of his injury or death, you should fill out and file with the board the inclosed claim for compensation and ask for a hearing, the form for this purpose also being inclosed.

Dependent's Letter No. 3.

To the Dependents of -----:

With reference to the fatal injury sustained by the employee named above, whose employer was not insured under the provisions of the workmen's compensation act, will you kindly furnish us with the information requested below?

The facts submitted by you will be treated confidentially, since this information is to be used only for statistical purposes in an endeavor to have information to indicate the hardship oftentimes involved in cases in which insurance was not carried by the employers.

This letter has no reference to any benefits under the workmen's compensation act.

1. Was any settlement made in this case?
2. If a settlement was made, please state the amount.
3. If a settlement or suit is pending, but not adjusted, please indicate the amount of the settlement asked or the amount named in the suit.

4. What is the present financial condition of the members of the employee's family?

As stated above, in asking for this information we are not in any way connected with the payment of damages, but will appreciate receiving this information for general statistical purposes.

Employer's Form No. 1.

Kindly supply this board with the information required on the accompanying "reply postal card" at your earliest convenience—to-day, if possible.

 (Insert city or town and date here.)

To ----- Board, -----:

Date of injury, -----

In re injury to -----

Give date employee returned to work, ----- Rate of wages before injury, \$----- Afterwards, \$----- If employee has not returned, please state (yes or no) whether he is able to return to work ----- If not, state when you expect him to be able to return -----

If now employed elsewhere, state with whom such employment began, ----- When did such employment begin -----

Remarks -----
 (Signed) -----
 (Employer.)

Employer's Form No. 2.

Re -----

DEAR SIR: On ----- we sent you a reply postal card referring to the case named above, in which the injury occurred on -----, and have not received from you the information requested. We desire to know whether disability has ceased; and if so, the date the employee returned to work, or the date incapacity terminated. If after investigation it is impossible for you to furnish the information, we will appreciate receiving from you the approximate period of incapacity.

We call to your attention the fact that the law requires not only that injuries be reported in the first instance, but also that when the employee returns to work, either for you or elsewhere, that a supplemental report to that effect shall be filed with this office. We will appreciate receiving from you the information as promptly as possible in this case and in all cases in accordance with the law. Your cooperation at all times will assist greatly in decreasing the time and money cost of operating our follow-up system, thereby helping to reduce in part the expense of performing the State's necessary business.

Employer's Form No. 3.

On ----- we sent you a post card asking for the date of return to work of the above employee, who was injured on -----, but we have received no reply.

On ----- we sent you a letter calling your attention to your duties under the workmen's compensation act, but as yet have received no reply.

We desire to call your attention to section 18, Part III, of the act, which states: "Upon the termination of the disability of the injured employee the employer shall make a supplemental report. If the disability extends beyond a period of 60 days, the employer shall report to the board at the end of such period that the injured employee is still disabled."

We trust that you will comply with the law and send us the necessary information.

Employer's Form No. 4.

Re -----

DEAR SIR: In the case named above, the employee was injured on -----

The information that you have furnished us is not sufficient for the determination at this office of the period of time during which the employee was disabled.

We desire to know the date the employee returned to work after the injury, either at your place of business or elsewhere. In other words, we wish to know the date upon which disability ceased. If, after investigation, you are unable to state this information exactly, we will appreciate receiving from you the approximate date upon which disability terminated.

Will you kindly endeavor in all cases, upon the termination of disability, to furnish information on supplemental reports that will enable this office to determine the period of incapacity? This is a requirement of the law, and your cooperation in this respect will assist greatly in reducing the time and money cost of operating a follow-up system that otherwise would not be necessary.

(NOTE.—Special letters sent whenever necessary outside of these four forms.)

Insurer's Post Card No. 1.

Kindly supply this board with the information required on the accompanying "Reply postal card" at your earliest convenience—to-day if possible.

(Insert city or town and date here.)

To ----- Board, -----:

Date of injury -----

In re injury to -----, employee.

-----, employer.

Has any compensation been paid in this case? -----

If so, how much per week? -----

When did employee return to work? -----

Total amount of compensation paid -----

Total payment for medical services -----

Estimated amount due, if any, under the act -----

(Signed) -----

(Insurer.)

Insurer's Post Card No. 2.

There is an agreement in regard to compensation on file in this office, but no settlement receipt. Will you kindly supply the board with the information required on the accompanying "Reply postal card" at your earliest convenience—to-day, if possible?

(Insert city or town and date here.)

To ----- Board, -----:

In re injury to -----, employee.

-----, employer.

Date of employee's return to work or end of incapacity -----

Total amount of compensation paid -----

If incapacity for work of employee has not ceased, when, in your opinion, will this incapacity cease? -----

Estimated amount due employee on account of future incapacity for work -----

Insurer's Letter No. 1.

Re -----

GENTLEMEN: In the case named above, according to our records, the employee was disabled more than ----- days, but there is no agreement or settlement receipt on file. If you have paid compensation, will you kindly comply with the requirements of the law as indicated above?

If you have not paid compensation, will you kindly state on what grounds payments have been refused and the present status of the case on your records? Agreement, settlement receipt, or letter with reference to this case should be directed to the attention of the statistical department.

Insurer's Letter No. 2 (Supplement to Post Card No. 1).

Re -----

GENTLEMEN: Kindly refer to our post card sent you on ----- and advise the board the date upon which the above employee's incapacity ceased. The employer is unable to give us this information.

DISCUSSION.

The CHAIRMAN. Whether or not we agree with the report of the committee it is apparent that the committee has devoted considerable time and thought to the question of forms and procedure.

The program states the speakers who will discuss this subject from the standpoint of the State fund, and each speaker on the program is limited to five minutes' discussion. The first to discuss the report from the State-fund system is Mr. Ott, of West Virginia.

Mr. BEERS. I do not think that any of us who are on the program want to make long speeches, but five minutes is a mighty short time. Would it unduly protract the discussion if that time were, say, doubled?

The CHAIRMAN. As far as I am personally concerned, I would like to see the time extended. I do not know what the pleasure of the meeting is. In looking over the list I note that Mr. Ott is apparently the only one here to discuss the subject from the side of the State-fund system. Mr. Ott may take the time of Mr. Gill and Mr. Duffy.

Mr. OTT. Five minutes will be sufficient for me. The committee's report so fairly and thoroughly covered this subject that I agree with it with one exception, and that is the question of sending a check. While there may not be any difficulty in getting that check delivered to the injured employee, I think that there may be a good deal of difficulty. The names of so many workers are spelled in so many different ways that I do not think we would ever get the checks to them personally if we did not send them to the employer.

I am not going to say anything further about the report. I can adopt the report, with that exception, fully.

Mr. HOOKSTADT. Mr. Duffy is not here, but Miss Moriarty is here, and I suggest that she be given an opportunity to talk.

The CHAIRMAN. We would be glad to hear from Miss Moriarty.

MISS MORIARTY. I have nothing to say except that the industrial commission of Ohio will be very glad indeed to adopt any form suggested by the committee that will make it possible to get com-

pensation into the hands of injured employees more promptly. We feel that one thing is necessary in Ohio above all other things—to simplify our method of procedure so as to get the compensation into the hands of injured employees more promptly. To that end we are now making a survey of our department, and we expect to call as advisers some of the men who have had long years of experience in other States, possibly, in insurance tactics, so that we may have the best professional judgment of the country. We are in entire accord with the suggestions made by the committee.

The CHAIRMAN. Those being all of the representatives on the program from the State-fund States, we will now take up the competitive system. Mr. Beers, of the Connecticut board.

Mr. BEERS. Like those who have already spoken, I want to say a word for the report of the committee. It has certainly been splendidly presented to us, and it seems to be sound. I think all will agree with the essentials of the report.

If I were to venture any criticism it would be, possibly, the same criticism that was made by our distinguished governor of the report that my brother Williams and the rest of our commission got up, that it was a little bit too complicated, that it got a little too much away from the idea that he expressed—that the widow might come in and say that her husband was killed and she wanted her money—in other words, that there is possibly a little too much machinery.

It seems to me that we can best approach this subject of procedure by not forgetting entirely all of the old common-law conceptions. Every man was presumed to know the law and to look out for himself. I think that there is danger, on the one hand, of treating the employer as too much of a proven criminal, and, on the other hand, of treating the workman as too much of a baby. In other words, cutting the food up so fine that there is a chance that some of the food will not reach the mouth.

It might therefore be of interest to see just what are the rights of parties when an injury has occurred. The law says what compensation shall be paid. Now, of course, the theory is that every man knows the law, but we are trying to work this theory into fact by educating people; and trade-unions, and the press, and the commissions, and various agencies are doing what they can to educate the workmen and the employers as well—because the workman is not always downtrodden and stupid and the employer is not always shrewd—into a knowledge of the law.

Now, as to when the employer should report the accident, that is provided for everywhere. But I do not think it is provided everywhere, as suggested in this report, that the commission has no jurisdiction until the report is made. It seems to me that legislative practice and sound practice by rule, wherever it is a matter of rule, should allow the commission to go ahead whether or not a report has been made. The report is required, but the absence of the report ought not to prejudice the employee. And by the same token the employer is under a duty not only to find out what the compensation is but to take the proper steps to pay it. If a voluntary agreement is allowed, it should then become the employer's duty to make that agreement and to see that it is submitted. On the other hand, the employee has his duty. The fact of the accident should be re-

ported—that is conceded everywhere. And the employee should look out for his rights. That is not saying he ought not to receive aid, but that he ought not to be considered a baby. In other words, we ought to get away from the idea that the employer is a shrewd fellow who is trying to get the best of the employee, that the employee is a fool, and that the insurance company is necessarily the enemy of the human race. In other words, we ought to assume that everybody is playing fair and trying to help things along.

The commission should certainly be allowed to hear claims on its own motion. There can be no reasonable doubt about that.

When you come to following up to make sure that accidents are reported, clipping bureaus may help. But after all it would seem that the help that they can give is mighty little, and it is a question as to whether it is worth the bother. I will venture to say that you can search the Baltimore papers in vain for reports of more than two or three industrial accidents in a week, and yet hundreds occur. In other words, the cut fingers and broken bones and other things do not get into the public press—they are not dramatic enough to engage the public attention.

Therefore, while I think we all agree that accidents should be reported within a reasonable time (48 hours seems a little bit short), nevertheless failure to report ought not to prejudice the employee. If it is not his duty to report, he ought not to be mulcted because he does not report.

Personally I see no objection to having the insurer report the accident. He knows his business, and the employer does not. You have a good hold on the insurance company. It can be brought to book more readily than the employer. It seems to me that all the arguments are in favor of allowing a report by the insurer. So far as the employer being impartial is concerned, his interests are engaged and as a matter of fact he is little more apt to be impartial than the insurer is.

I suppose it is a good idea not to send back the original blanks. It is often done, and there is no great harm, yet theoretically it may be better to carry out the plan suggested by the committee. I think we will all agree that a report ought to be signed and not simply rubber-stamped.

The reports from the attending physician are useful. We used them in the first instance in the case of permanent partial loss of use of members, as, for instance, a stiff finger. Yet personally I rely on them very little. No matter how much confidence you may have in the physician, unless he is subjected to examination and cross-examination, and unless you can look at the accident from the compensation standpoint and not solely from the medical standpoint, you do not get very much that is of interest. But it all helps.

So far as these statements of weekly wages are concerned, if there is a voluntary agreement, it will be determined whether or not they are right if there is a hearing to determine that. And the statement of the workman, in the first instance, is worth mighty little. I find that the average workman is just about as reliable in stating his income as is the average lawyer in figuring his. He forgets the days when he was away, the days when he was drunk, and a lot of elements that go into the figuring of a wage on the scale of what a man actually earns.

Payment direct to the employee: I think we will all agree that as far as possible the money ought to go into the hands of the employee himself, possibly to his family in some cases, and that in general it is an evil example, even though not contrary to the statute, to make the payment through the employer.

The index in the name of both employer and employee is, of course, the wisest and fullest sort of index that one can have.

So far as the forms are concerned, it has occurred to me that there are too many of them, and that it might be possible to consolidate them to some extent. That is an offhand criticism of a work engaged in by a learned committee for many months, and may be a very unjust criticism.

My notion about the way a compensation case ought to be handled is something like this: The man who is hurt should give fair notice to the employer in order that he may know the situation. The employer should give immediate notice to the State in order that the State may take such steps as are required to see where the blame lies and to obtain certain data which may aid in the determination of compensation. Both parties should look out for themselves and should seek an agreement or a hearing, and generally one or the other should ask the board or commissioner for the hearing, but the board or commissioner should be allowed to proceed without any special request in case knowledge of the injury reaches its attention from some outside source.

We should do what we can to educate the people to act like American citizens, to know what their rights are, and to seek their rights. We should also do what is practicable in the way of follow-up, but we should remember that no following up will take the place of education.

I think we should require, just as you ask, form matter up to the time of hearing and that the hearing should be conducted so that it may be reviewed by the reviewing tribunal; also that there should be a provision, if the money is not paid, by which it can be collected through execution or something similar. And I think throughout we ought to assume that everybody is playing fair. We ought to remember that occasionally there is an intelligent and honest workman, and that occasionally there is an honest and intelligent employer, and that, strange as it may seem in some quarters, there is occasionally an insurance man who is rightfully out of jail. In other words, we ought to try to play fair with everybody and to remember all the time that we need not be so bountiful in giving away other people's money.

The CHAIRMAN. Mr. Withall, of Illinois, is the next man to discuss the competitive system.

Mr. WITHALL. There are one or two things I would like to call to your attention. As to whether it is better to have the State fund or the competitive system, I don't really know; I have not yet had time in my brief experience to study it out.

Talking about the report, which is a splendid proposition, I want to say that in Illinois last year we handled about 43,000 cases; the year before, a little over 50,000. It kept us busy all the time. If we adopt all this report (and I presume we will) it will necessarily cause the different States to have a good many more employees, in

order to look after all the work that will naturally result. In addition to that, the most important thing that we ought to think about in adopting the report of this committee is that each and every one of the different commissioners in the different States will have to go before their legislatures at the next session to try to have these rules adopted.

I do not know whether the members of the different commissions here to-day are in touch with that situation, but there are certain phases of this report, which will be practically a book of rules when we get through, which may be very hard to handle in Illinois. I have endeavored in my short experience to keep in touch with the legislators in my State, and I believe that we have a very friendly feeling there. I shall be glad to take this report back if adopted, and I shall vote "aye" and do the very best I can to see that these rules are strictly adhered to.

The CHAIRMAN. We are now going to have the pleasure of listening to Mrs. Roblin discuss the plan from the Oklahoma standpoint.

Mrs. ROBLIN. I want to speak in behalf of this report. We have adopted the procedure outlined here almost in its entirety and have had it in practice for over three years, and in its behalf I wish to say just a very few words. I will confine my remarks mostly to resolutions Nos. 3, 8, and 10.

We have a very small appropriation, only \$38,800, to take care of the entire expense of our department. That includes the salaries of the commissioners and employees and all expenses incident to the work. So, of course, of necessity we have been forced to get the most for our money.

Our law provides that an employer shall report an accident to the commission within 10 days. The employer also sends a report to his insurance carrier. It took us about 12 months to educate the employers to send in the two reports, but it has been worth while, and it was not so very hard when we impressed upon them the fact that sending a report to the insurance carrier would not relieve them of the penalty of \$500 for failure to make this report. This worked effectively, and for the past two years we have had little trouble.

The employer is also required to furnish his employee with a blank on which to report his injury, providing the accident is serious enough to result in medical attention.

Ten days after the filing of these reports the employer or his insurance carrier must begin the payment of compensation and report to the commission the initial payment he has made, the rate, etc., or he must make his denial of liability. After this initial payment report is filed, compensation can not be discontinued nor even suspended without the filing of a final report or a motion setting up in detail the reasons.

Our statute provides that we must take a claim from the injured employee and make an award or see that an agreement is entered into. In order to conform to the act and also to work under this new procedure, we have drawn our final sheet to show the amount of compensation and the extent of injury, and it is signed by both the employee and the employer. This we think does very nicely in lieu of the agreement and still conforms to the act. The procedure has been very satisfactory. In fact the statistics for the past six months

in our office show that at the end of 14 days following the report of the accident filed with the commission, or 24 days from the date of accident, in 71 per cent of the cases compensation had been started or paid in full. Denials have been filed in about 5 per cent of the cases. Probably 1 per cent of the five will be adjudicated; possibly 2 per cent will be adjudicated before trial. Now that leaves us 14 days from the filing of the accident, or 24 days from the date of the accident, with all of the cases disposed of with the exception of about 24 per cent. We think, considering the limitation of our funds, that is a pretty fair report.

The one thing covered by your resolution No. 8 that we are especially interested in is the notifying the claimant of his rights. We disagree with some of the States who maintain that only contested cases should receive special attention. We have found that they do receive attention and generally quite promptly in the regular way, but that the uncontested cases frequently are slipped over and many, many dollars are denied the claimants.

In every case, upon the receipt of a report from the claimant, or from the employer, or from the physician, or in any other way, we send a letter to the injured man. It goes a little farther than your letter. We have a mimeographed letter here, addressed to the injured man, which gives a very brief synopsis of that portion of the law pertaining to the amount of compensation due for the various dismemberments; also an explanation as to the waiting period. There is a blank space for the number of the case; also for the rate of compensation to which the individual may be entitled. This rate of compensation is filled in according to the report on file and the letter sent to the injured man. He knows immediately that he is to receive compensation at that rate, and, as the letter says, if he does not receive it, he is to notify the commission within 21 days. This is very effective. It puts us in immediate and direct touch with the injured man and gives him the assurance at a time when he needs it, that his affairs are being cared for and that his interests are being looked after by the State and not left entirely to the insurance carriers.

**FORM LETTER USED BY OKLAHOMA INDUSTRIAL COMMISSION TO
ADVISE INJURED EMPLOYEE OF HIS RIGHT TO COMPENSATION.**

To the injured employee:

The commission is in receipt of report of your accident, and it has been given No. _____. We have directed the employer/insurance carrier to pay compensation at \$_____ per week, or make denial of the claim. If you do not receive a draft within twenty-one (21) days, kindly notify us.

There is no compensation allowed for the first 7 days' disability following your injury unless you are disabled from work 21 or more days, in which event you would be entitled to compensation from the date you are first disabled from work. You should receive compensation weekly or every two weeks at the same rate until your disability has ceased or until you return to work at full wages.

If the injury results in the loss of a member, such as an eye, hand, finger, foot, etc., you are, in lieu of compensation during period of disability, entitled to compensation as follows:

- Loss of eye, compensation payable for 100 weeks.
- Loss of arm, compensation payable for 250 weeks.
- Loss of hand, compensation payable for 200 weeks.
- Loss of thumb, compensation payable for 60 weeks.
- Loss of first finger, compensation payable for 35 weeks.

Loss of second finger, compensation payable for 30 weeks.
Loss of third finger, compensation payable for 20 weeks.
Loss of fourth finger, compensation payable for 15 weeks.
Loss of leg, compensation payable for 175 weeks.
Loss of foot, compensation payable for 150 weeks.
Loss of great toe, compensation payable for 30 weeks.
Loss of one of other toes, compensation payable for 10 weeks.

The total permanent loss of use of a member is equivalent to the loss of such member.

The loss of the first phalange of thumb, finger, or toe is equivalent to the loss of one-half of such member, and compensation is payable for one-half the number of weeks for the loss of said member.

Amputation of thumb, finger, or toe between the base of the nail and the first joint is equivalent to the loss of the first phalange. Amputation below the first joint of thumb, finger, or toe is equivalent to the loss of the entire member.

Amputation of hand between wrist and the elbow is equivalent to loss of hand. Amputation of foot between ankle and knee is equivalent to loss of foot.

If your injury results in any serious disfigurement to your face, head, or hands, or in the loss of hearing, notify the commission by special letter, giving full description. The loss of an eye or other member is a specific injury and not a disfigurement.

If there is any further information you desire we shall be pleased to have you communicate directly with us.

STATE INDUSTRIAL COMMISSION.

Mr. HOOKSTADT. May I ask a question right now? You send that out to every case in every injury?

Mrs. ROBLIN. Yes; in every compensable injury.

Mr. HOOKSTADT. Every compensable injury?

Mrs. ROBLIN. What we mean by that is, every injury where medical attention is given, although there may not be a loss of time.

The CHAIRMAN. Mr. Clifford B. Connelley, of the Pennsylvania Department of Labor and Industry, is the next speaker for this discussion.

Mr. CONNELLEY. I do not believe that I am the proper one to give you the information you are seeking here to-day, because in Pennsylvania we control more and do a greater business in compensation, perhaps, than any other State in the Union, so far as money is concerned. When you consider that Oklahoma has something like \$38,000 as an annual appropriation, whereas Pennsylvania has \$425,000 a year and that we have taken care of as much as \$12,500,000 a year, you will see how large a problem this is to us.

I can not help but agree with the gentleman from Connecticut who spoke about the clipping bureaus.

We have 10 referees on our compensation board who are the judicial body of the department, and when disputes arise they handle the cases. Something like 4 per cent of the cases are handled by referees, about 1½ per cent or a little more than that are handled by the board, and the others are adjusted by the compensation bureau.

There is much in this report that is really worth while, and I think that Pennsylvania will be able to and will adopt those portions which it needs.

I am asking now, Mr. Chairman, as a question of privilege, to have Mr. Mackey follow me to tell you exactly what is being done in the State of Pennsylvania in the way of compensation relative to this report.

The CHAIRMAN. I think the convention will be glad to hear from Mr. Mackey at this time. We are going to throw the matter open for discussion in a few minutes, anyway.

Mr. MACKEY. I was interested to hear the gentleman from Illinois say that he was going to take this report back to the legislature of his State and use his good offices to influence that body to adopt this report. I do not know what the terms of the Illinois act are in that respect, but I would suggest to him that he ought to have the legislature of his State pass an amendment to its act giving the compensation board the power, if it has not the power now, to consider this report and to adopt it.

The Pennsylvania act laid down as one of the first duties of the compensation board that of adopting forms and methods of procedure, and we did so six years ago. I am almost tempted to say that this committee must have had the advantage of what we did six years ago, because there is very little in this report with which I could quarrel inasmuch as it is almost entirely our practice.

I do not think that we need to worry very much about accidents not being reported. In Pennsylvania we have 3,500,000 wage earners, men and women, who come under the terms of our workmen's compensation law, and among that number we have 500,000 foreign-born and unnaturalized workmen. It has been said many times throughout Pennsylvania that in our mining districts, where these foreigners very largely dwell, you might find localities where the people would not know the name of the President of the United States, but they do know who is the chairman of the workmen's compensation board, because that is along the line of their individual interests.

I do not think we need to worry very much as to whether the employer or the insurance company makes the report. We charge the employer with the responsibility for paying compensation. The law puts the responsibility upon him. There is a section in the law that substitutes in his place, if the employer pays the premium, the insurance carrier, but in the first instance we look to the employer. You can very readily see how quickly the employer will then shift the burden over on the insurance carrier.

As to reporting accidents and as to their classification, I do not exactly appreciate the two distinctions here, because our act of 1913, which antedated our compensation law, provided that all employers must report in writing accidents extending over a period of 48 hours. We have had 1,200,000 of those reports filed with us during the last six years. When these reports are received our bureau takes them and makes two cards from them. We run them through a machine which classifies them by injuries. The statistical bureau keeps one set of cards and the other is sent to the bureau of workmen's compensation. These cases are all filed and followed up. If within a period of 30 days in any one of these cases there has been neither a compensation agreement nor a compensation claim filed, our investigating department sends out a field man to visit that employee and find out why he has neither filed his claim nor received compensation as evidenced by an agreement filed with us.

Now, in our experience of 1,200,000 cases, about 700,000 of those cases have been returned to work during the waiting period and

medical service alone has been supplied. Of the balance 97 per cent have been adjusted by agreement.

As a result of the discussion in the California meeting as to imperfections in such agreements, our agreements now set out all necessary detail in order that the bureau may determine whether or not they have been drawn within the terms of the act. In computing average daily or weekly wages, we are not content merely with the signed statement of the employee, the employer, or both, but the mathematics, the real problem, must be set out in the paper. For instance, in calculating the average daily wage, under our law, we take the gross earnings of the employee with the employer or with similar employers in the same kind of work for the last six months, and divide that by the number of calendar or working days in the period, disregarding the days a man has been drunk or on a strike or anything like that. We divide by the number of days, because if a man worked only one day while he was in the employ of an employer for a week and he earned \$3 a day, it would not be fair to divide that \$3 by seven. His average daily wage was \$3. Our supreme court says that that is a matter of fact, and that as long as the board keeps within the reasonable exercise of its power in that respect its conclusion as to wage is final.

With regard to these agreements I also want to call your particular attention to the Pennsylvania agreements as interpreted by our supreme court. It was about two years ago that I shocked the various members of the bar in Pennsylvania who had been elevated to the bench by saying that in compensation matters there was no such thing as a final receipt; that it was not within the power of the employer or employee to send that receipt; that when a man is injured there is no one so invested with insight into the future as to be able to tell how long that injury is going to continue or when there is to be a relapse, or though it may seem to be temporary, that there has been a cessation of disability. So I laid down the decision which has been called the magna charta of the workingman, that when a compensation agreement has once been executed between an employer and an employee, it is in the hands of the board for the full statutory period that the disability benefits might continue (namely, 500 weeks), and that we can review that agreement at any time and can terminate it temporarily—we do not call it “terminate” in our State, we simply abate its terms temporarily, awaiting results. So that if an employee is able to go back to his work, that compensation agreement ceases or abates for the time being. He may have a recurrence of disability due to the original accident, and then we can revive the agreement. And so, while it is true that our compensation law seems to have been so well understood throughout Pennsylvania that 97 per cent of over 1,000,000 claims have been adjudicated by agreement, nevertheless there are on file to-day 475,000 compensation agreements that are under the constant supervision of the board. At every meeting of the board there are on an average about 100 agreements to review and readjust so that justice will be done both to the employer and the employee in accordance with the present facts in each particular case.

In all other particulars I think this report four-squares with our practice. As to whom compensation checks shall (in the first in-

stance) be made payable, with us that makes very little difference because the employee is sure to get it, or if he does not he wants to know the reason why. Under the terms of our act the employer must pay his compensation check at the place and the time of his regular pay roll. That matter is entirely under the supervision of the board, because the act places the interpretation of what is reasonable service from the employer to the employee in the hands of the board, and if an employer made a sick man come to his office or run around after an insurance carrier looking for his check, we would not call that reasonable service. As soon as it was called to our attention we would issue an order at once that the employer's agent should deliver that compensation check at the home of the employee.

I want to congratulate this committee on its work. I think it is thorough. It has hit the right note throughout, and we in Pennsylvania feel very much cheered that this report agrees so very uniformly with our practice.

The CHAIRMAN. The last speaker on the program to discuss this subject is George H. Fisher, the chairman of the board of Idaho, after which the meeting will be open for general discussion.

Mr. FISHER (of Idaho). My name appears on the committee on forms and procedure. However, I did not have the pleasure of attending the meetings at which the resolutions before this convention at this time were drafted.

I feel that the committee should be congratulated upon its work. On the whole, the resolutions are splendid. Very few of these suggestions are not embodied in the practice of the Idaho law.

Idaho is one of these competitive States. We are grateful for the privilege of competition. We do not want an exclusive State monopoly; neither do we want to have a system of casualty companies alone. We are working in harmony. The cooperation on the part of the employers, the employees, and the insurance carriers is marvelous. I know that it is characteristic for a representative of a State to think that the system in that State is perhaps better than the system in his neighbor State. Still, on the whole, our law is giving splendid satisfaction. Very few amendments have been made. The first legislature made none; the last legislature made but few. The most important change made by the last amendments was that compensation was raised; the injured workman having a wife was allowed an additional 5 per cent in total permanent or total temporary cases, also 5 per cent for each child, making the maximum for husband and wife \$13.12 (instead of \$12 as it was previously) and \$16 where there are children. Another change was that arbitration committees in cases of controversy were eliminated, and the first or original hearing is now being held before one of the board members. We have found this a wonderful benefit, as delays have been eliminated. From this decision there is an appeal for review to the entire membership of the board, to be made within 30 days. Appeal may then be made to the district court and afterwards to the supreme court of the State.

The first of January of this coming year the Idaho board will have been in existence five years. Up to August 31 we have had 21,439 cases of accidents. Of that number all have been closed with the exception of 1,096 cases. There were 248 fatal claims; 5 permanent

total claims; 916 permanent partial claims; 8,863 temporary uncompensated claims because of the waiting period, and 645 rejected claims. Out of all of those cases there have been required but 89 hearings on matters of controversy. In addition six cases waived hearings by stipulation and had the hearing before the entire board. Only 28 of the 89 cases required reviews. Only 9 of the 28 cases requiring reviews went to the district court. Only one out of the 21,000 cases has yet reached the supreme court of the State, and in that case there was a perfect vindication of the board's stand on both the hearing of the single member and the review. In that case, known as the MacKneill case, the supreme court of Idaho said there was no standard of health or morality established in the Idaho workmen's compensation law in which recognition was made of the weak and the strong and the wise and the foolish.

I am glad to indorse the remarks of one of the former speakers, I think from Connecticut, wherein he said that progress was being made in cooperation, and that the idea that the employer knew it all and the employees knew nothing should be overcome and eliminated. There is splendid cooperation in Idaho and we are having but little trouble along those lines.

The last paragraph of the report says: "The forms and procedure herein outlined are recommended for adoption under a reservation that each State may make such alterations as are necessary to meet the requirements of its laws." I should certainly be glad to uphold and sustain and approve of the adoption of this view. However, each State has its own law and must be guided thereby; consequently a hard and fast rule for procedure is next to an impossibility. What we do want are prompt reports, adequate follow-ups, and quick payments of compensation. These we are getting with a marked degree of success in our State.

Our law authorizes and empowers the industrial accident board to request such reports as it deems necessary. It also makes the employer primarily liable in all cases. The definition of tabulatable suggested by the committee would scarcely apply to our State, as our law says that personal injuries by accident are the ones to be compensated. We can not include disease. It is not only left out in this section of the law, but in another section it is specifically eliminated because of the wording that disease is not a personal injury except when it is the result of an accident.

The definition of compensable cases would have to be changed, too, because we do not consider the waiting period the only thing that would place a case in the category of noncompensable or compensable cases, as the case may be. We must consider the question of "arising out of and in the course of employment." We must consider the matter of jurisdiction, whether it be interstate or intrastate. We must consider the industry in which the accident happens, whether or not it is in an excluded industry, such as agricultural pursuits.

In practice Idaho requires all accidents to be reported regardless of how trivial they may be, for the simple reason that complications may arise. The law requires the employee to report to his employer in writing. But in 21,000 cases I know of only one case where an injured employee sent the industrial accident board a copy of a written notice to his employer. However, the cases in which the rights

of any employee have been prejudiced by the lack of a written report are very negligible. The information gets to the employer in some way, and that is all that is required.

We do not think it wise to let the employer be the judge as to whether or not a case is compensable. We feel that it is the right of the industrial accident board to decide that.

The matter of what is to be reported should be discretionary with the board. We have found that the best results come from letting the insurance companies make the reports. We find that the employee and the insurance carrier know more about the law than does the employer, although the employer (as I stated before) is primarily liable. We find that by letting the insurance carrier make the report to us work and time in our department is saved. When we get a report from the employer we do not know whether his carrier has been informed until we let the insurance carrier know. When the insurer makes the report to the industrial accident board we know that all has been done that needs to be done in so far as reporting is concerned.

We do not find that delay occurs from lack of reports from the employee, the employer, or the physician, except in a few cases. We do find that physicians' reports are about the hardest of any kind to get.

Idaho being a small State, we have this advantage perhaps over the larger States: We have the opportunity of coming into close and personal contact with those involved in the handling of compensation. Another feature I wish to commend at this time is the work of the statistician in our department. Very frequently she makes reports of the promptness or delay in making reports, preparing a tabulation sheet, and sending it to each one of the self-insurers and to each one of the insurance carriers. In this way a friendly rivalry is stimulated, and there seems to be an effort to-day on the part of each of those participating in the payment of compensation to excel the others.

Blanks for incomplete reports we find are not a success. When we get a report that is not complete, instead of returning a blank we simply write a personal letter to the one from whom we can best expect to get the information desired.

We have found clippings from papers and reports from vital statistical organizations very helpful in checking up on some of the accidents.

We are in favor of physicians reporting every accident they treat, whether first aid is required or further treatment be necessary.

Our practice is to send a card at once to the injured employee. The minute a report is received the name is given a number, and a printed card is sent to the employee advising him of his rights and inviting from him inquiries as to other matters upon which he may desire to be informed.

No case involving controversy has ever been closed without expression from the employee. The practice to-day is that no case shall be closed without the employee having perfect knowledge of it. If it is unsatisfactory to him, he has the privilege of calling for a hearing. If there be no controversy, the case is closed in the routine way.

We have no trouble in getting payment to the workmen. We have many self-insurers among the mines in the northern part of Idaho and the self-insurer himself sees to it that his workmen get their compensation. We have never had any serious complaints along that line. In some instances we do send the compensation check to the employee himself, and sometimes it is sent through the insurance carrier, but ordinarily the check is sent to the employer.

Mr. McSHANE. In rising to move the adoption of the committee's report I wish to apologize to that committee for not having attended its meetings. I esteem it a great honor to have been named on that committee and should certainly have enjoyed the association of its members if distance and other matters had not made it impossible for me to attend. Everything that is good in this report is either a statutory provision in the State of Utah or has been adopted by formal resolution of its board, which gives it the force of law.

There is only one matter as to which I disagree. That is resolution No. 7, which we think is inadequate. But we might stay here for any length of time and discuss this matter to no good purpose. I believe we are very close together. I therefore move you the adoption of the committee's report.

[The motion was seconded.]

Mr. STEWART. Mr. Chairman, before you put that motion I would like to call attention to the closing paragraph of the report itself in which the committee states that this is a tentative and incomplete report and asks that the committee be continued.

Mr. DUXBURY. The report of this committee and the discussion on it I thought would interest me more than any other thing that would come before this convention, because I was conscious that we were not exactly perfect in Minnesota and thought that we might learn some things to our advantage. I feel that we have. I also find that we have already adopted in principle very many of the recommendations of the committee, and that is gratifying.

There was a suggestion made by Mr. Mackey that I think ought to be considered. Now there isn't any question but what many of the recommendations of this committee can not be adopted in different States because they have some statutory provision on the subject matter which is in conflict with their ideals, and the statute of course will have to be observed. I noticed that that would be so in very many instances in Minnesota. But the desirability of having some uniformity of forms and procedure is an important matter. We have business organizations doing business in the different States and they are obliged to observe one form of blanks in one State and another form of blanks in another State, a different procedure in every State, without any real advantage in having it that way.

Now the suggestion of Mr. Mackey that appeals to me is that all of those statutes ought to provide that the industrial commission or board shall adopt rules to govern procedure and forms. It can do it much more intelligently than the legislature can, because it has the experience. The members of the commission can come here and have the privilege of listening to men who have had much experience, and they can have the benefit of the report of a committee which has given the subject very careful consideration. If the laws were all amended so that the question of reports and forms and procedure

and all the subject matter involved in this report could be taken care of by rules of the commissions and boards, then we could attain that uniform procedure which is so highly desirable. To me that is the most important suggestion that has been made during this discussion.

Mr. HATCH. Mr. Duxbury has voiced my view exactly, probably better than I can express it. Mr. Mackey started the ball rolling.

I would like to move an amendment to the report of the committee, if such a thing can be done, and that is that the committee add to its report, all of which is very applicable, resolution No. A, which resolution No. A shall be a resolution declaring that all compensation laws should provide that rules of procedure, forms, and practice should be in the hands of the administrative commission.

I think that is a good general principle to lay down, as apparently there are some States that have not as yet arrived at that stage of legislation. That is the very foundation on which to build something along the lines of this report.

The CHAIRMAN. As I understand it, this committee on forms and procedure has not recommended that its report be adopted. On the other hand, it recommends that the committee be continued in existence for another year in order that it may give further study to the question. There is no question in my mind but that every administrative body should by statute have authority to adopt its own rules and procedure and practice.

The Wisconsin law has contained such a provision since the act was passed in 1911. The commission has authority to adopt such rules and procedure and practice as it may see fit to adopt from time to time. As a matter of fact, the practice has not been changed, except slightly.

There are one or two things that I want to touch on as long as this matter is up for discussion. I have been attending the conventions of the International Association of Industrial Accident Boards and Commissions, and I attended conventions before this association was in existence, and there have been times when, because I was not a member of the commission, I sat quietly by and withheld my opinion. I feel free to express my personal opinion to-day on some of these subjects.

So far as this report by the committee is concerned, I think it is a wonderful guide for any body administering the workmen's compensation law. I do not agree exactly with every recommendation. There are two recommendations on which, because of the law in Wisconsin under which I am operating, I would vote "No," and our representative on the committee voted "No." The reason for that is that we do not require a report of every injury. Under our statute the workman does not collect any compensation unless he is disabled more than seven days. In order to save trouble and expense (we are limited by our appropriation), we do not ask employers to report accidents or injuries (our law takes in occupational diseases and awards compensation to the man who becomes disabled by an occupational disease the same as by an injury), unless the man is disabled more than seven days.

We compel the employer to make that report, and there is a reason for it. My personal experience, I think, justifies that reason and that rule. I was with the Wisconsin commission from 1911, and then for

two years I was with an insurance company. I have seen both sides of this question, and I know that the commission gets more detailed information regarding the nature of the injury and how the accident occurred where the report is made by the employer than you can possibly expect to get where the report is made by the claim adjuster of an insurance company.

In Wisconsin we have a statute which requires the employer to pay increased compensation where the accident occurs through his failure to comply with the State statute or an order issued by the industrial commission. Insurance companies are organized to serve employers (that is their principal object) and to relieve them of the duties imposed by law. I can make a report so that it will be impossible for you to tell how the accident occurred. It has been the practice of the Wisconsin commission to treat the report of the employer as a confidential report, and it does not leave the office. The information contained in that report is not disclosed to the public. Every report that is received is checked by our safety department, by our accident prevention department, to ascertain whether or not there is reason to believe that the accident occurred through failure to comply with an order with reference to safeguarding the place of employment.

If the report is received by us from an insurance company, when a man is injured on a punch press it may say, "Man injured on a punch press." Well, what information is that from which to determine whether or not the punch press was guarded? How the accident occurred is very material in our State. We want that confidential information from the employer, and we get it, I think, more often than we get it from insurance companies. It saves correspondence; it saves delay.

Newspaper clippings are a good thing, especially in a new State. We used to find them of far more value than we do to-day in Wisconsin, because the public has become educated and the workmen know that there is a compensation law. But when we started, back in 1911, we had to get these accident reports from every source possible and we resorted to the clipping bureau and still maintain it, but not with the idea that it is acquainting us with very many of the accidents as they occur. We do get knowledge of some, especially from the rural communities, from the small employer who has no experience with the law and does not know that there is a State law requiring him to report his accidents to the commission.

Mr. CHANDLER. I understand that there has been a motion made and seconded to the effect that the report of the committee be adopted.

Mr. BEERS. Received and accepted.

Mr. CHANDLER. Well, will the chair rule that that is a mere formality?

The CHAIRMAN. I did not understand that the motion was to accept the report. Was that the motion, Mr. Beers?

Mr. BEERS. I did not make it.

Mr. McSHANE. It is only out of courtesy to the committee, upon which I did not serve, that I made the motion that its report be accepted. I note the recommendation here in the last paragraph

that it be continued. The object of my motion was that we accept that report and accede to its request that it be continued. That was my motion.

Mr. CHANDLER. It seems to me that this body ought to do something. Our respective States pay our fares and our hotel bills presumably for us to come to these meetings. Here are 18 specific recommendations which seem to be received with a surprising amount of unanimity. Why isn't it practicable to adopt these 18 recommendations, possibly with the amendment which Mr. Hatch, of New York, suggests, No. A, and at the same time accede to the request of the committee that it be continued for another year for the purpose, if it so desires, of submitting an additional report applicable to the State-fund States? Of course to do this the motion now before the body would have to be withdrawn. I simply make this as a suggestion, because we will not be helped any if we do not do something. Let's accomplish something.

Mr. OTIS. As a member of the committee on forms and procedure, I have a feeling (although I have not discussed it with the other members of the committee) that our committee rather thought you would at this session consider this report as far as it has been drafted and that you would pass (that is, if you so desired) some form of approval of the committee's work up to date, and then, if you wished, you could accede to our request and continue the committee. I think this gentleman spoke on that. That is, that some action should be taken on the report and not the whole matter approved.

Mr. MACKEY. May I ask the spokesman of the committee just what is meant by the eighteenth recommendation?

Mr. OTIS. I think the reason for that was that in some of the States the commission can not initiate hearings, so that this resolution is to give the commission that right. I think that should be done. I believe the committee will agree on that suggestion as a good one. In some of the States the commissions and boards can not now make rules to carry that out. If they can not do that, I think the law should be amended so that they can.

Mr. MACKEY. The sentence that I am particularly interested in is where it says that "the committee believes the commission should have the right to set a case for hearing on its own motion." That is all right, but some of the commissions can not initiate hearings. Now, I am trying to make a practical application of that. I can not conceive how an injured employee who would decline to initiate proceedings in his own behalf, who would refuse to sign a compensation agreement or to conform to the procedure in his State in starting his case, would ever get a case before a commission. I presume that the constitutions of all our States provide that every man shall have his day in court. That is one of the cardinal principles upon which these acts have been declared constitutional.

Surely a compensation commission could not ascertain the facts surrounding an accident, summon the defendant into court, and proceed to hear the case and make an award unless there were some initiative by the employee himself, because, when such a case would be reviewed by the court, the court would say, "Why, this is an ex parte proceeding. The employee never asserted his rights here.

Therefore there is no claimant or defendant in the case." Now, there is a doubt in my mind as to what that means.

I think, as a matter of compliment to this committee, that its work ought to be indorsed by us. It asks to be continued. If we should formally adopt this report, all we could do would be to take it back and recommend it to our various commissions; and therefore I think that we ought simply to indorse the suggestions by resolution—that the suggestions meet with our approval—and take them all or in part back to our various commissions for inspection and passage.

Mr. WEEH. I have been greatly interested in the formal introduction of this report. One of our members, Mr. Spencer, was on this committee on forms and procedure. He is not now a member of the commission, and there was no one substituted, but since then I have taken his place.

In regard to the forms of procedure that are before the convention at this time, I can say that I heartily indorse most of those provisions. There are some minor things that perhaps can be amended by continuing this committee, which I am in favor of. We have got to make a start.

As to our law, it is in line with what some of these gentlemen have been talking about with regard to giving power to the committee or the compensation board to make rules and regulations and forms and procedure. That is where it should be located, because what does the legislature know about these things? The law should give the board that power as our law does. We do not ask anybody as to passing rules and forms of procedure, we just go ahead and adopt them. We have adopted practically every recommendation that you have made here, with some additions. I can heartily recommend the report as far as it goes, but perhaps it does not go far enough. I would suggest that we adopt this report as something to go by and continue this committee.

I would be pleased also to see some members representing the State fund put on this committee, members who are willing to work and who will see to it that forms and rules and procedure are adopted relating to the State-fund system.

Mr. BEERS. I believe I have a tangible motion: Moved that the report of the committee be accepted and the committee be continued, and that the principles and forms laid down in the present report be recommended for adoption by the various boards and commissions in so far as they may deem them applicable to their local conditions.

Mr. McSHANE. I second the motion

Mr. HOOKSTADT. As a member of the committee I would like to say a word as to what the committee had in mind in working out the various resolutions. As pointed out by Miss Harrison, there were two subject matters that had to be dealt with. One was to lay down general principles and the other to work out standard forms and specific methods of procedure. The committee was not unmindful of the fact that the resolutions adopted would probably require legislation in some of the States. Moreover, the committee has not quite completed its work. We apportioned the work among two subcommittees, one to work out competitive insurance procedure and

the other State-fund procedure. The report dealing with competitive procedure is complete both as to resolutions and as to forms and specific methods, which you will find in the latter part of the report. The work relative to the State-fund procedure was not complete, because the members on that committee were mostly from Western States and could not attend the meetings, and the committee did not want to take action without them. Therefore, we recommended that the committee be continued, to work out, along the lines that Mr. Wehe suggested, forms and procedure for the State-fund States. The committee also recommended that it would be desirable to have uniform procedure in regard to contested cases. The committee's work dealt with procedure only up to the time the case is contested. We did not go into the contested case procedure, i. e., hearings.

After witnessing hearings by referees and commissions in different States, I have been impressed by the great waste of time in conducting these hearings. In one State in particular the referee spent at least an hour trying to find out the history of the dependents in the case. If a direct question by the referee or by the commission had been asked this information could have been elicited in about 10 minutes. But the referee allowed the attorneys on each side to question and cross question, and it took about an hour to find out the answer to a simple question. Now matters of that sort, I think, could be simplified and standardized.

A word in answer to Mr. Mackey's question regarding the eighteenth resolution. He asks, Why put that resolution, i. e., to allow the commission to set a case for hearing on its own motion, in? Well, a number of the States can not set a case for hearing unless one of the parties makes a formal application. The commission, on its own motion, can not set a case for hearing. There have been cases in which the injured workman or his dependents, for some reason or other, refused to make a formal claim, and consequently no hearing could be held.

I want to take up two points in the recommendations which I think are the crux of the whole matter, and those two points were mentioned by Mrs. Roblin, of Oklahoma. First, shall the accident report be made by the employer or through the insurance carrier? Now, bear in mind that all these cases are uncontested cases, and put yourself in the place of the commission. The commission has to adjudicate these cases from written reports in from 75 to about 95 per cent of the cases. It has no hearings and gets no information except through these written reports. If these written reports are sent in by one party, how can the commission know whether the information contained in the reports is accurate? If you have reports sent in by two parties, one a confidential report from the employer and the other a report from the insurance carrier (if you have an insurance carrier), at least the commission can then set off one set of reports against the other, and if they do not tally the commission can investigate the matter further and if necessary set the case for a hearing, when all the facts can be elicited.

The other point is that of educating the workman, and was brought out by Mr. Beers. In my judgment the commission can not assume that the workman knows his rights under the law. I think that in a large proportion of the cases the workman does not know

his rights. I have asked various commissions, "What is the situation in your State? Does the workman receive the benefits to which he is entitled under the law? Is the law administered efficiently?" And the answer is, "Oh, certainly; we get no complaints from the workmen. They always come to us if they have complaints." I think that is an unsound principle upon which to act. The average American workman knows in a general way that there is a compensation law, but he does not know to what he is entitled. And he would sign anything; he would sign these voluntary agreements which they have in Pennsylvania and other States, although he does not know whether the terms of the agreement are correct or whether the average weekly wages there computed are correct. He accepts it, and he signs it.

That is why the committee recommended that in every compensable case, every serious case at least, the commission shall send to the workman a short statement of what his rights under the law are, requesting the workman to state, among other things, his average weekly wages and the nature of his injury, because those two points are the most important ones upon which the workman's rights are disregarded in the largest number of cases.

[The motion was carried.]

Mr. STEWART. There is a paper on the program for Friday that bears so closely upon this subject that I would like to ask the convention, if it will, to shift it to follow this discussion. That paper is "The plan for the dissemination of workmen's compensation information through the public schools in Virginia." On our program Mr. Kizer is billed to speak on that subject. He will not be here, I understand, but Mr. McHugh, of Virginia, is here; and if the convention would like to shift that address, it might be a good thing to do.

The CHAIRMAN. The convention will hear Mr. McHugh at this time.

Mr. McHUGH. I am very sorry that my friend and colleague, Mr. Kizer, is not here to present this matter for your consideration. He found that it was impossible for him to be here, and asked me to take his place, but all he gave me was the catechism.

PLAN FOR DISSEMINATION OF WORKMEN'S COMPENSATION INFORMATION THROUGH THE PUBLIC SCHOOLS OF VIRGINIA.

BY C. A. McHUGH, CHAIRMAN VIRGINIA INDUSTRIAL COMMISSION.

The catechism used by the Virginia commission for the dissemination of information of workmen's compensation information through the public schools is a series of questions and answers, put in the most simple language, explaining the working of a compensation statute. The idea was that the catechism should be placed in the hands of all of the teachers in the upper grades in the common schools of the State, together with some additional literature for their own use, and that they would use the catechism as the basis of instruction.

What brought the matter to our attention was this: After we had been in operation for very nearly four years we found that in a number of instances there were employees who were absolutely and profoundly ignorant of the very existence of a compensation statute. I appreciate that the States of the Union are very different one from the other, that in some States there exist better educational advantages, that in some of them there is more illiteracy than in others, and that some of them have a large foreign population. Fortunately, we are not classified among the latter, but we have a considerable negro population. Now I want to say that the rights of the negro employees have always received from us a more sympathetic and careful consideration than the rights of the other employees, because we regard them as wards in chancery.

Having observed the injustices that have been wrought by reason of ignorance of the law, we adopted this plan. We presented it to the superintendent of public instruction, and it met with his very cordial approval. The governor of the State also gave it his most cordial approval. There are also in the State a number of parochial schools. The matter was brought to the attention of the Catholic bishop of the diocese, and he adopted the catechism and had it used in all of the schools of that category. So that, beginning with the 1st of October, this catechism, explaining the nature of the law and the rights of the employee and of the employer under it, is being taught in every school within the State of Virginia.

We had previously exhausted every means of instructing the people. When our commission was first organized we took a little journey through some of the States which had had a wide experience. We went to Maryland, Washington, D. C., Connecticut, Pennsylvania, Massachusetts, and New York, and endeavored to find out the best things that experience had taught them. Among other things we were told of their methods of bringing the law to the attention of the people so that they might know their rights and their liabilities under it. We followed all the suggestions that they made, but they did not prove entirely satisfactory. So we adopted this method that is presented in this little formula in an effort to achieve some result. We are making this effort, we hope it will be effective, and if it can be of any service to you we would be delighted to have you try it along with us.

VIRGINIA WORKMEN'S COMPENSATION LAW: QUESTIONS AND ANSWERS FOR USE IN THE PUBLIC SCHOOLS OF VIRGINIA.¹

PURPOSE AND HISTORY OF COMPENSATION LAWS.

Under the law of master and servant, which is that part of the common law relating to employer and employee, the employee could recover damages for injury only in the event that he was injured through some negligent act of the employer. The result of this was that in only about 1 in 10 instances did an injured employee have a successful cause in court. Under the compensation laws the element of negligence does not enter into the right to recover. An employee now receives compensation whenever he suffers an injury that arises out of and in the course of his employment, provided it disables him more than the "waiting period" (10 days in Virginia), and provided the injury did not grow out of his willful misconduct or intoxication. Thus employees now receive compensation promptly after injury and in installments just as wages are paid. In addition, costs of necessary medical attention are furnished by the employer. There is no longer suffering due to delays in the action of the courts and to the fact that the injured employee or his family has no claim or standing in court. Relief comes at a time when it is most needed. In Virginia all employees of any employer who has more than 10 operatives are under the compensation law, and all employees of the State, cities, or counties regardless of the number employed.

This idea of compensating injured employees began in a European country in 1884, and in the United States in 1911. There are now 50 foreign countries and provinces and 43 States of the United States which have workmen's compensation laws. The courts of these various States are no longer burdened with damage suits under the law of master and servant but accident boards and industrial commissions are taking their place by administering this law, representing a new idea in jurisprudence and industrial relationship. Large sums are being saved to the State by relieving the courts of this burden of work and larger sums are being directed into the hands of injured workmen and families of killed workmen by relieving them of court costs and attorneys' fees.

NEED OF COOPERATION OF THE SCHOOLS.

The compensation law has been in effect in Virginia since January 1, 1919. In that time the Industrial Commission of Virginia, which administers the law, has circulated by every means at its command information concerning the law. Although the people have become educated to its purposes and advantages to a considerable extent, there yet remains much to be desired in this connection. The plan has, therefore, been effected to use a simple catechism in the schools wherever civics or government is taught. If the children now attending school can be taught to grasp the fact that there is such a law and a few of the fundamental rights bestowed by it, as well as the method of taking advantage of it, there will be few instances in which a workman will lose his rights because of ignorance of the law. The following questions are, therefore, designed to bring out the fundamentals that the working public at large should know in order to be in a position to protect its rights in the event of occurrence of injury or death. The entire catechism should be used by the teacher in the higher grades, whereas only the simpler portions of it may be used in the lower grades.

QUESTIONS AND ANSWERS.

1. Q. What is the Virginia workman's compensation law?

A. It is a law which requires employers to pay partial wages called compensation to their employees who may be injured while working. It also provides for medical and hospital care of all injured employees and provides for the families of employees who may be killed.

2. Q. How long has it been in effect?

A. Since January 1, 1919.

3. Q. Is it enforced by the courts like the other laws of the State?

A. No. It is enforced by the Industrial Commission of Virginia. The courts enforce it only when cases are appealed from the industrial commission.

4. Q. Do all employees who may be injured come under the law?

¹ Virginia Industrial Commission in cooperation with Department of Public Instruction. Virginia workmen's compensation law: Questions and answers for use in the public schools in Virginia. Bulletin No. 7. Richmond, 1922.

A. No. Some employers and employees are not under it.

5. Q. What employers and employees are not under it?

A. Railroad companies, farmers, and employers who have less than 11 persons working for them are not under the law, and people working for such employers are not under it. Domestic servants are also excluded.

6. Q. What benefits does an injured employee get from this law?

A. There are two benefits: Medical and partial wages, or compensation.

7. Q. What does the medical benefit consist of?

A. It gives all injured employees the medical and hospital attention that may be needed for a period of 60 days following the injury.

8. Q. Can the injured person get any doctor he wishes?

A. No; he must use the doctor that the employer sends. If the employer does not send a doctor when requested, then the injured employee may call in his own doctor.

9. Q. What does the compensation benefit consist of?

A. It gives an employee half of his weekly wages, but not more than \$12 a week nor less than \$5 a week, while the injury prevents him from working, but no longer than 500 weeks.

10. Q. Does the compensation begin on the day of the injury?

A. No; it does not begin until 10 days after the injury; but if the employee is disabled longer than 6 weeks then he gets compensation for the first 10 days also.

11. Q. Suppose an employee was injured so seriously that he could never work again. What would he get?

A. His compensation would extend over a long enough period to give him as much as \$4,500.

12. Q. If a person were killed, what would his family get?

A. His wife and children under 18 years would get compensation for 300 weeks after the injury that caused his death and \$100 toward his burial expenses.

13. Q. If a man who was killed left no wife or children, would his employer have to pay any compensation?

A. Yes. If the employee left anyone who depended upon him for support, the employer would have to pay compensation to such persons.

14. Q. How are claims for the benefits under this law settled?

A. They are all settled by the Industrial Commission of Virginia, Richmond, Va.

15. Q. May the employer and injured person agree on the amount of compensation?

A. Yes; but this agreement must be approved by the industrial commission. The agreement is sent to the commission, and if it is legal it will be approved.

16. Q. If they can not agree, what is done?

A. Either the employer or employee can ask the industrial commission to settle the dispute. The commission will then come to the place where the accident happened and hear the evidence of everybody who knows anything about the injury and will give a decision settling the claim.

17. Q. If a person is injured while working, what are the first things he should do?

A. He should notify his employer at once of the date, place, and how the accident happened. He should ask the employer to send a doctor at once. He should, within a few days, write to the industrial commission at Richmond, Va., and notify them of the date, place, and how the accident happened.

18. Q. If a person is injured and does not know what he is entitled to, how can he find out?

A. Write to the Industrial Commission of Virginia, Richmond, Va. He should always be careful to give his own name and address and his employer's name and address.

19. Q. Are all employers except railroad companies, steamboat companies, farmers, and those who employ less than 11 persons compelled to come under the law?

A. No; they may decide not to do so, but nearly all do come under the law, because they are then free from suits in courts.

20. Q. Are all employees of those employers compelled to come under the law?

A. No; they have the same rights that the employers have.

21. Q. Can an employee who is under this law sue his employer in court?

A. No; his claim must be settled by the industrial commission.

22. Q. What was the first country to enact this law?

A. Germany, in the year 1884. Her example was followed by England and other European countries.

23. Q. When was this law first enacted in the United States?

A. In 1911 10 States enacted it. Since that time other States rapidly followed the example set, so that all of the States now have compensation laws, except North Carolina, South Carolina, Mississippi, Arkansas, and Florida.

24. Q. Does the State derive any advantages from the law?

A. Yes. The cost of running the courts has been diminished by transferring all cases of this kind to the industrial commission. Society is the gainer by having a closer and more friendly relation established between the workman and his employer.

25. Q. Does a workman get compensation from his employer for all injuries that he suffers?

A. He gets compensation for all injuries that happen to him while doing the work he is hired to do if he is disabled more than 10 days, excepting only an injury caused by willful misconduct.

26. Q. What is "willful misconduct"?

A. "Willful misconduct" means an injury that an employee inflicts upon himself, or that is caused by his own criminal negligence.

27. Q. Suppose a man is injured when going to his work on the street, will he receive compensation?

A. No. He must have reached the place of his work before his right to compensation commences. On the street he is running the same risk of injury that everybody else runs.

28. Q. Does the State do anything to help a person whose injury prevents him from ever going back to his old trade?

A. Yes. The State has provided a rehabilitation bureau, the purpose of which is to teach a man a new trade that he can carry on under his changed condition. With the help of this bureau even the totally blind have been educated to callings that have made them able to earn their livelihood.

29. Q. How can an injured person, or his family, always find out what rights they have under this law?

A. Merely write to the Industrial Commission of Virginia, Richmond, Va., giving them the facts. The sooner this is done the better.

EXAMPLE OF CASES COMING UNDER THE COMPENSATION LAW.

Example 1.—John Jones was working for the Smith Building Company. On August 13, 1919, he cut his foot with an adz. His wages at that time were \$15 per week. As a result of this injury he was not able to return to work until September 15th. Benefits that he got because of the compensation law were: Medical attention during the entire period that he was disabled; compensation at the rate of \$7.50 per week after the first 10 days of disability.

Example 2.—John Doe was working for the Jones Woolen Company. His wages were \$25 per week. On January 1, 1920, he caught his arm in a pulley and broke it. He was not able to return to work until March 10th. The law allowed him all necessary medical attention and compensation at the rate of \$12 per week (the maximum provided by the law), from the day of accident until March 10th. In this example the compensation is paid from the day of accident because disability lasted more than six weeks.

Example 3.—When John Doe, in Example 2, returned to work on March 10th his arm was still weak and the employer gave him light work but only paid him \$15 per week. Since his wages were \$10 less than they had been before the injury he was entitled to half of this \$10, or \$5 per week, until he was able to return to his regular work and earn his regular wage.

Example 4.—Mr. A. worked for the X. Company and received an injury that made it necessary to have his foot cut off. His wages were \$9 per week. In addition to his medical attention he was given compensation at the rate of \$5 per week (the minimum provided by the law) for 125 weeks. The law provides that compensation shall be paid for 125 weeks for the loss of a foot; 175 for a leg; 200 for an arm; 150 for a hand; 100 for an eye. Valuations are placed on all the members, even including fingers and toes.

Example 5.—Mr. B. was working in the mines of a certain coal mining company. He was killed in an accident. His wages were \$30 per week. He left his wife and two children. The coal company had to pay to Mr. B.'s widow \$12 per week for a period of 300 weeks, which was for the use of herself and her two children in equal proportions.

Example 6.—Mr. C. was coming to work one morning and was hit by an automobile while crossing the street. The injury which he sustained disabled him for some time, and he claimed compensation from his employer. Compensation was not allowed to him because he had not arrived at his place of work and it could not be said that the accident arose out of and in the course of his employment. Of course, Mr. C. could go to court and sue the owner of the automobile, but that would not come under the compensation law.

DISCUSSION.

Mr. CONNELLEY. I think there are four States in the United States that now have compulsory safety-first laws. In Pennsylvania, New York, Massachusetts, and Wisconsin, and perhaps Ohio, they have a law providing that if the schools draw State funds for education they must teach safety-first. I can readily see how this plan can be carried out in the schools of any State that has this law, through what is known as supplementary reading.

I can see no better way than to have each member of this association present this catechism to the superintendent of public instruction and ask him to have it taken up in the schools just as South Dakota schools take up current topics. Every child in South Dakota, when it reaches a point where it is being taught United States history, including municipal law, is asked to take this subject up as supplementary reading.

New York is carrying on this week what will perhaps be the biggest safety-first drive that has ever been held in the United States. My home town, Pittsburgh, starts the same thing the following week, and only recently Baltimore started a similar campaign. I say god-speed to this. If safety-first is not taken up in the schools under a compulsory law, it should be taken up as supplementary reading, as in that way the children of aliens and the working people of this country would have safety-first demonstrated to them perhaps more clearly than has ever been done before. As a member of the board of education of Pittsburgh, I shall take it upon myself to present this catechism to that body, and as a member of the Pennsylvania cabinet of the government I shall also ask my colleagues to look into it. I think it is really worth while.

Mr. KENNARD. I think it would be a very unwise thing for the members of this convention to go back to the educational authorities of their several States and ask them to introduce propaganda into the schools. The public schools have to educate the children, and as Mr. Beers has said, educate them so that they can know what is going on. Because we get interested in our game, we should not forget that there are a lot of other games besides our own; and if we can put this subject into the public schools (and it ought to go into the public schools), then there is no movement that is being promoted throughout the United States that has not an equal right to go to the public schools and ask the same thing. I think it would be very unwise for us as a convention to attempt to interfere with the educational authorities of the schools by asking them to exploit or explain or otherwise advance knowledge of workmen's compensation laws.

Mr. STEWART. In answer to Mr. Kennard, it seems to me that the public schools teach the children something of the social life around them. I fail to see where it is propaganda to introduce into the

schools the knowledge that a State law exists. It may be in Massachusetts; I do not know. Every workman there may know all about the workmen's compensation law and just what he would get if he had the first joint of his little finger cut off. Maybe every street sweeper in the State knows more about the law than the commission itself; I do not know. But I know that in most of the great industrial centers the workmen do not know anything about it. The law is posted up, perhaps, around the factories, where the men rush in and rush through and rush out, but they know little or nothing about it.

It appears that in Virginia the State superintendent of schools has agreed to put this catechism into the schools, the governor has approved, and the parochial-school authorities also have approved. Now, what I see in this is more than what appears on the mere surface of the thing. When the child goes home and tells his father that if he gets hurt he is entitled to compensation, and his father asks him, "How did you find that out? How do you know about that?" and he replies, "Why, the teacher said so; we had it in school"—at once you create what we do not always have in this country, an interest on the part of the parents in the school life of the children, and that is worth, perhaps, as much as the workmen's compensation work is worth. It seems to me that that is perhaps one of the finest things that has happened.

I am not asking that Massachusetts do it. I am simply glad that we had a chance to hear what Virginia is doing. It impressed me so strongly that I am publishing the whole scheme in the *Monthly Labor Review* in order to arouse, perhaps, some interest in the schools to put that information in the school course, where it can reach the parents of the children through the school, not only informing the parents of the law, but also creating an interest in the public schools.

MISS MORIARTY. Mr. Stewart has voiced my sentiments exactly. I want to say that if I get nothing else at this convention the time that I spend here will be worth while, because of having heard the suggestion from Virginia.

Since I have been a member of the commission there has been no matter of such deep concern to us as the apparent lack of knowledge on the part not only of the workers but also of the employers of the State as to the provisions of the law. That has grown to be so serious a matter in our commission that only last Friday Mr. Duffy (who is chairman of our commission, as you know) and I discussed the advisability of separating and covering different parts of the State to explain the law at employers' meetings.

During the last few months we have been considering a safety building code for Ohio, and I have attended meetings in some sections of the State, and Mr. Duffy meetings in other sections, and it is rather astonishing to learn how many employers are not informed and, of course, if they are not informed, the employees are not informed.

Now, those of you who did war work know that the most fertile field for a message to the people of this country is the schools. It is pathetic to see the reliance and the confidence that the women and the men in the foreign districts place upon the teacher. There is no better work that a workmen's compensation board can engage in than to disseminate knowledge with reference to the law.

I must say to the gentleman from Massachusetts that that is the most unique use of the word "propaganda" that I have ever heard. I am so much impressed by it that I am going to ask the Governor of Ohio to offer a prize to the boy or girl in the eighth grade in the public schools who writes the best essay on workmen's compensation and what it means to the workmen of Ohio and as to confidence between employers and workers in that great State.

Mr. LEE. I can not subscribe entirely to the view that it is wise to place this subject in the public schools. The compensation law has done a wonderful lot of good, but sometimes we are apt to think that somehow or other it all emanates from us; it is our charity, our love of human beings, that has brought all this about, rather than a large part having come about through the process of evolution.

If there are any two classes of people we ought to show consideration for, in order that they may properly carry out the duties that devolve upon them, they are the policemen and the teachers. I believe that we ought not to overburden an institution that is so necessary to democracy as the schools with everything that every gathering of individuals thinks ought to be shoved onto it merely because that is a convenient place to unload the burden.

I believe that this is going into a field that we ought to stay out of. If Virginia wants to do it, I won't say that she was not wise, in the complex situation she has to deal with, in resorting to such a measure. But to have it go out as the voice of this convention, representing all sections of our country, that we would have the school lumbered up with propaganda—that is what I think it is, pure and simple. It is propaganda. We have entirely too much of it. We are overburdened with it. We are heading toward socialism as fast as we can because of it. We want to get back to fundamentals and let the people understand that they should do some things themselves. We want to build an American citizenship that can stand on its own feet and not always plead ignorance, and then unload the burden on some part of society that does not want to share the burden.

I have not yet found that we have ever denied the claim of a man who said he did not know the law. It seems to me that we are taking this situation farther than it deserves to be taken, and that we ought to let well enough alone and not pass any judgment, as far as this convention is concerned, upon that subject.

Mr. CONNELLEY. I am very glad indeed to hear our president speak as he has. It shows that we need to inculcate in the public school children of this country just exactly what we are trying to get through, and what Virginia is getting through, and what I trust Pennsylvania will get through before long.

He speaks about socialists. Of course, we are running right into that more and more to-day than we ever have before. But why? It is because we are not educating the public school children right. That is the reason. Because the teacher in this country to-day thinks that if we put an extra duty on her she is overburdened. It is because the teachers of this country to-day are not trained properly so that they will be able to discriminate between the things that are right and the things that are wrong. The people we are educating are not being educated right, and I hope that this propaganda that Virginia has started will be successful.

I believe, as you do, that it is not in our province to direct the educational system of the United States. But I do believe that we are trying to save human life, and children of this country are being killed on the streets to-day by automobiles because they do not understand the safety-first movement, the safety-first law. It seems to me that the only medium and the best one that we have in this country is the public school system. I do not believe that any public school teacher would think that we were interfering with him. It is the parents' duty to see what the children get in the schools, and if the children get things that will acquaint the parents with certain facts, that is their right and they should have it.

I am not in favor of having this convention pass a motion at this time to instruct the public schools of the country to disseminate this propaganda; not at all. It is propaganda, though, that should be sent out, and if supplementary reading on this subject can be put in the schools, it will be really worth while.

Mr. BEERS. I have a motion that I want to offer, and if it is seconded I want to speak for only one minute. My motion is that a committee of seven be appointed by the chair to consider the question of seeking to educate the people concerning the rights and duties of employer and employee in case of accident, by means of the schools and by means of motion pictures, and to confer with various State officials and with those in authority in the motion-picture industry, and to report to this body.

[The motion was seconded.]

Mr. BEERS. I do not believe that man is born with a knowledge of the compensation law, except in contemplation of law. It has to filter down to him. In the schools they have studies called "civil government"; they have current topics, and this subject would seem to fit in with them. The motion pictures have taken up the subject of safety, and I see that, in our State at least, they have to be curbed lest they go into too many details as to the effect of disease.

Now this is to be considered in order that the committee may report upon it. I for one have been very much interested in the experiment of Virginia, and it is just along the lines of what I tried to say a while ago, that we ought to educate the people.

Mr. McSHANE. I certainly should oppose this motion if it contemplates placing in the curriculum of the public schools this subject, for the reason that we have drifted from that period when fundamentals were taught, when boys and girls were taught to read and write and figure accurately, and now they get a smattering of understanding of everything and a thorough understanding of nothing.

There is no State that has a compensation law that does not have a good inspection department. Let your inspection department and your safety department and your welfare department take this matter up and let them go to the school and by use of motion-picture slides and otherwise teach the children the first principles of the compensation law, what their rights are. In my short service on the Utah commission my experience has been that the laboring man knows a lot more about his rights under the compensation law than he is willing to admit if he happens to get caught when he is pulling a crooked deal.

Now as to going on record here, as an association, as advising the placing of this subject in the curriculum of the public schools, I say we should be against it. If the subject is to be taken up as a side issue for the purpose of letting the safety organizations throughout the State use the public schools for a day or two or a week, all well and good, but I want it kept out as a part of the curriculum of the schools.

Mr. CHANDLER. Edmund Burke, in one of his inimitable essays on the French Revolution, uses this sentence, which is very applicable to the present day: "If I may presume to appeal to what is now so much out of date—experience." We have reached the stage in philosophy in this country that as soon as an idea is put forward, before it is digested, before it has been tried out, we immediately grab it and try to apply it. In the history of our country we have been indebted to Virginia for many wise and progressive thoughts, and I think we should to-day renew our sense of obligation to Virginia. This experiment, I understand, Mr. McHugh, went into operation on October 1?

Mr. McHUGH. It has just become operative.

Mr. CHANDLER. If we are inclined to adhere to those principles which, as Judge Taylor said, have made our English civilization the dominant civilization of the world, if we are going to trust somewhat to experience and precedent, why isn't it worth while to observe the operation of this Virginia experiment for a year and then, when we have something concrete before us, give the matter consideration? Isn't that the part of common sense?

Mr. MACKAY. I have had considerable experience in trying to educate the people of Pennsylvania up to compensation. There are 9,000,000 people to educate as to a new law. Of course, the most ignorant people as to the compensation law in Pennsylvania are the judges in the courts; then the employers are very ignorant of it.

Now I agree with Mr. Hookstadt. I agree with all the gentlemen. Perhaps they were taking issue with my remark that the law was well understood. What I meant was that it is well known among our working people that there is a compensation law. But its terms and the employee's rights in each individual case are unknown to them. That is evidenced by our experience in discovering an unlimited number of cases where the employee had signed an agreement and was not getting the proper wage, not getting the proper average wage. In our questionnaire connected with that agreement we have the employee answer every possible question, and then on the blank space on the paper the employer puts down mathematically how he arrives at the average daily wage. There are the figures he divides by, his divisor, and his result, and the number of days he multiplies by, and all that sort of thing, so that it is right before our bureau, and even with all that, quite a large proportion of those agreements are in the first instance returned for correction or rejected by our board.

Now out of this little piece of paper has grown a great debate. I see nothing harmful in it at all. In the University of Pennsylvania the compensation laws of Pennsylvania are taught to the students. In the medical department, under the division of medical jurisprudence, our compensation law is taught.

I want to call your attention to one particular advantage of this plan. If there is a compensation law on the statute books of your State it is there simply as a result of public opinion. If you want to modify your laws (every one of us has in the back of his head a vision not yet accomplished) you have to go to your legislature; you have to arouse public sentiment to enlarge these laws.

Now you have by the eighteenth amendment added a very important constituency in every political unit in this country. Every school child will take this piece of paper home and show it to the mother. She is the one who is immediately interested. She is the one, then, who is going to see that the wage earner of that family is properly dealt with if he is injured, and she is the one who is going to spread propaganda, if you please, but propaganda in favor of humanitarian legislation. So that if you want to enlarge your laws, if you want to have broader terms, if the vision that you have been nursing so long is to be translated into a real statute, then you will have behind you the sentiment of the womanhood of this country, the mothers of the children who take this paper home.

Of course, I do not think that this organization ought to put itself on record as adopting this plan, but as far as Pennsylvania is concerned, I join hands with Doctor Connelley and will call it to the attention of our school teachers.

MR. KENNARD. I haven't a word to say against the desirability of having everybody learn about the compensation law. The people in Massachusetts do not all know about it, I can assure you. But my whole point was that which was voiced so much better by our president. What you are here asking to do through the public schools, disseminating knowledge of the compensation law, ought to be done by agencies now in existence that have the power and are able to do it. That was the only point I wished to make and the only point I had in mind; I am the last one to negative the value of publicity with reference to the workmen's compensation law.

[The question was called for at this time and the motion read.]

MR. HOOKSTADT. Will it not be more desirable not to mention the number on the committee instead of specifying seven?

MR. BEERS. Leave it to the discretion of the chair; let there be such number as the chair may see fit.

[The motion was carried.]

MR. McHUGH. I would like to say just one word. I wish to disclaim any wish or aspiration on the part of myself or Virginia to foist upon anybody else something in which we have supreme confidence and with which we are serenely satisfied. We simply presented it to you, and if you wish to adopt it, very good. We will be delighted if you think it is worth while.

Our thought was that we wanted to exhaust every means of letting the people of the State who were ignorant and not well advised know of these things of which they have a right to know. We did not want any man to defer his rights because we have neglected any appeal. That was our situation. Not only are we satisfied with it, but we feel assured in advance that the experiment is going to be a very successful one.

[The meeting adjourned.]

TUESDAY, OCTOBER 10, 1922.—MORNING SESSION.

**CHAIRMAN, GEORGE A. KINGSTON, COMMISSIONER ONTARIO WORKMEN'S
COMPENSATION BOARD.**

STANDARD PERMANENT DISABILITY SCHEDULE.

The CHAIRMAN. Mr. Hatch, of New York, is the first on the program for this morning's session, on the "Presentation of report of committee on statistics concerning 'standard permanent disability schedule.'" I will ask Mr. Hatch to present his report.

Mr. HATCH. My part in the presentation of this report will be quite brief. I want to say, however, one or two things about the work of the committee and the report.

When the association at the Chicago meeting assigned to the committee on statistics the preparation of a standard permanent disability schedule, it assigned to us a pretty large piece of work, mainly because of lack of data on which to build such a schedule, but partly because, as you will see, we had to strike out on some very new lines, lines that will probably seem somewhat revolutionary to some of the commissions.

However, the committee has done as well as it could in the time it has had during the past year for such a piece of work. Like all the committees of the association, we have experienced the difficulty of getting a committee together for several meetings, as the members of the committee are widely separated geographically. We have held three meetings, which most of the eastern members of the committee were able to attend.

You will notice that the report refers to the appointment, after the first meeting of the general committee, of a subcommittee to prepare a report for discussion by the committee. The committee is very much indebted to Commissioner Stewart, of the Federal Bureau of Labor Statistics, our secretary-treasurer, for enabling the committee to make some substantial progress this year.

The committee found, after laying down a few general principles, there was a large job of detail, study, and preparation of material, that a very small subcommittee, or, better still, a single individual, would have to go over and work up. I finally secured Commissioner Stewart's consent to loan us Mr. Hookstadt's service, and the subcommittee referred to in the report was really Mr. Hookstadt, who prepared data and a draft out of which this final report was distilled for the committee. The association, I think, should recognize our obligation to the Federal Bureau of Labor Statistics for the assistance given on this particular piece of work.

The report which is in your hands states that it is a tentative report. We are really presenting simply a progress report. We believe we have made very substantial progress toward a final standard permanent disability schedule. We are presenting this report, how-

ever, only as tentative, mainly for the purpose of securing discussion, and with the clear idea that further work must be done and that the work should continue till a report can be presented with more finality, perhaps, than this report can be. We want to get the frankest possible discussion; the franker and the more of it, the better. I am not at all sure that if we could get a meeting of all the members of the committee that they would vote unanimously for everything in the report. It represents the best judgment, the majority judgment, of the members of the committee who were able to contribute their time to the work.

So we present this progress report for purposes of discussion and with a view to amendment or revision or further development, as may seem best.

I want to turn the rest of the presentation of the report over to Mr. Hookstadt, who will go over the thing in some detail with you.

STANDARD PERMANENT DISABILITY SCHEDULE.

SEVENTH REPORT OF COMMITTEE ON STATISTICS AND COMPENSATION INSURANCE COST OF THE INTERNATIONAL ASSOCIATION OF INDUSTRIAL ACCIDENT BOARDS AND COMMISSIONS.

At the eighth annual meeting of the International Association of Industrial Accident Boards and Commissions, held in Chicago, September 19 to 23, 1921, the association authorized the committee on statistics and compensation insurance cost to formulate a standard permanent disability schedule. This action was the culmination of a long series of discussions by the association on various phases of the permanent disability problem. Practically all of the American State compensation acts provide a flat schedule for permanent disabilities.¹ In these schedules no account is taken of the differences in loss of earning capacity resulting from variations in age and occupation. Then, too, the various compensations provided in the average schedule bear little relationship to the economic severity of the injuries. Minor disabilities are relatively overcompensated, while the leg and foot injuries are undervalued. For these reasons most of the compensation commissions have been dissatisfied with the flat schedules. California is the only State in which the compensation for permanent disabilities varies with the age and occupation of the injured workman. The California schedule has been described and discussed at nearly every meeting of the association, but apparently few commissioners have thus far been convinced of its superiority over the flat schedule. The Canadian permanent disability schedules differ from the California schedule in that the occupation factor is disregarded. In British Columbia, however, the disability ratings also vary with wage, while in Ontario neither wage nor age is taken into account in determining the percentage of disability for a given injury.

The committee on statistics held its first meeting January 16 and 17, 1922, in New York City.² After a thoroughgoing discussion of the whole subject the committee adopted a number of resolutions, hereinafter discussed, and directed the chairman to appoint a subcommittee to draw up a tentative permanent disability schedule embodying the principles laid down in the resolutions—the schedule to be reported for consideration by the whole committee at some future date. The resolutions following were adopted by the committee at the New York meeting.

1. The schedule of permanent partial disability compensation shall be for compensation to be paid after compensation has been paid for temporary total disability.

The permanent disability schedule is supposed to represent the probable average loss of earning capacity resulting from the effect

¹ For further discussion of this subject see "Systems of compensation for permanent partial disability in the United States and Canada," in the proceedings of the San Francisco meeting of the association. (U. S. Bureau of Labor Statistics Bul. No. 281, pp. 88-96.)

² Those present were: L. W. Hatch, chairman; W. C. Fisher, vice chairman; Ethelbert Stewart, secretary; A. J. Altmeyer, E. I. Evans, Carl Hookstadt, Wm. Leslie, representing W. P. Ratliff, R. V. Mother-sill, H. C. Meyers, Chas. H. Verrill; and by invitation: H. D. Sayer, industrial commissioner of New York; R. M. Pennock, actuary, New York State Insurance Fund; and G. F. Michelbacher, secretary National Bureau of Casualty and Surety Underwriters.

of the permanent disability and should not include the temporary incapacity during the healing period. Compensation for temporary total disability should be paid in addition to the amounts provided for in the schedule.³ The principal reasons in favor of allowing additional compensation for temporary disability are: (1) In some cases the healing period, notably in infectious cases, approaches or even exceeds the compensation period in the schedule allowed for the permanent disability; consequently, in these cases the injured workman receives no compensation whatever for his permanent disability. (2) There are great variations in the healing periods for the same type of injury, ranging in Ohio, for example, from 32 to 888 days in case of an arm.

These variations are entirely ignored in those permanent disability schedules which do not provide additional compensation during the healing period.

2. Compensation for permanent total disability shall be valued on the basis of total disability for life.

When a workman is totally and permanently injured he requires assistance for the remainder of his life, and compensation should be paid during life. But only 13 States⁴ recognize this obvious principle in their compensation acts. All of the other States either limit the period during which compensation is to be paid, ranging from 260 weeks in Vermont to 780 weeks in Wisconsin, or limit the amount which can be received, ranging from \$3,000 in South Dakota to \$10,000 in Minnesota. Some States have both limitations.

3. Compensation for permanent partial disability shall be valued as percentage of permanent total disability.

Compensation for permanent partial disabilities should be expressed, not in a specified number of weeks' compensation, as is at present done in practically every American State, but in percentages of permanent total disability. When a workman loses his arm or leg he is disabled and handicapped for life, and the compensation should be determined in accordance with this obvious fact. In the Canadian Provinces and most of the European countries permanent partial disabilities are expressed in percentages of permanent total disabilities and compensated during life. In three of the American States (California, North Dakota, and West Virginia) permanent partial disabilities are also expressed in terms of permanent total disability, but compensation is not paid during life. In California and West Virginia 4 weeks' and in North Dakota 5.2 weeks' compensation are granted for each percentage of disability, thus reaching the same result as obtains in the flat schedules of the other States.

4. The permanent disability schedule shall be one designed to measure loss of earning capacity, considering all elements.

There are two principal factors which have operated in determining the amounts in compensation schedules: (1) Loss of earning capacity,

³ At present the following 18 States allow compensation for temporary total disability during the healing period in addition to the payments in the permanent disability schedule: Connecticut, Idaho, Illinois, Maine, Maryland, Massachusetts, Minnesota, Nebraska, Nevada, New Jersey, Ohio, Oregon, Rhode Island, South Dakota, Utah, Vermont, and Washington.

⁴ California, Colorado, Illinois, Montana, Nebraska, Nevada, New York, North Dakota, Ohio, Oregon, Utah, Washington, and West Virginia.

and (2) the economic need of the disabled workman or his dependents. Three States (Oregon, Washington, and Wyoming) provide a flat monthly pension which varies according to conjugal condition and number of dependents. In these States economic need is the determining factor. Practically all of the States recognize this principle in death cases when the right to compensation is conditioned upon dependency and the amount of compensation varies with the number of dependents. In general, however, it may be said that workmen's compensation schedules are based primarily upon loss of earning capacity, and the committee believes that if other grounds be abandoned and compensation be based squarely upon this basis the greatest substantial justice would be obtained.

5. The permanent disability schedule shall be based upon the principle of variable rather than fixed factors. The variable factors to be taken into account shall be: (1) Nature of injury; (2) age of injured employee; and (3) occupation of injured employee, including degree of displacement in industry.

The ability of a permanently disabled workman to rehabilitate himself and to adapt himself to a changed environment varies with age and occupation. Obviously the loss of an arm will be a greater handicap to a man 60 years of age than it will to a man 25 years of age. Not only will it be more difficult for the older man to learn a new trade but his very age will be an effective bar to reemployment. Industry gives little encouragement to old men. Similarly, the loss of a leg will be a severer handicap to a structural-steel worker or a railroad brakeman than to a machinist because the loss of a leg to the former will necessitate a change in occupation and perhaps in industry. There are other factors which affect the rehabilitability and consequently the subsequent earning capacity of the permanently disabled. Among the more important of these factors are education, training, experience, and mentality. But these factors are practically impossible of measurement and consequently the committee was forced to leave them out of consideration. For the present, therefore, the committee decided to disregard this factor and in the formulation of the following schedule age is the only variable factor taken into account.

PERMANENT DISABILITY SCHEDULE.

The following tentative schedule has been formulated in accordance with the above resolutions except with respect to the occupation factor. At its first meeting in New York the committee resolved to take this factor into account. However, after further consideration of all the problems involved and in view of the difficulties encountered, the committee finally felt that the use of the occupation factor is open to serious question, both as a matter of principle and still more as a matter of practicability. While it is true that in many cases the occupation has a decided influence upon the loss of earning capacity resulting from certain disabilities, it is difficult, if not impossible, to measure the loss of earning capacity in advance.

In the preparation of this report it has been thought advisable to present in logical order the various steps by which the committee

arrived at the final results, in order that the association may follow the development of the schedule and see the reasons which prompted the committee. The first step was to establish a standard for a given disability and then to rate all the other disabilities in terms of the given one. The standard selected was the loss of a major arm at the shoulder by a common laborer 30 years of age.

What is the average depreciation in earning capacity which results from the loss of an arm? Frankly, the committee does not know. Had the compensation commissions kept a record of their permanent disabilities we would now be in a better position to know the relative economic handicaps resulting from such disabilities. We do know, however, that major permanent disabilities are a serious handicap and that investigations have shown that of those workmen who sustain a major permanent disability approximately one-third are unemployed.

Investigations have also brought out other facts. There is a pronounced tendency of persons permanently disabled to gravitate to unskilled occupations. In Massachusetts, for example, 60 per cent of those investigated were at work in skilled occupations before their injury and only 31 per cent after the injury. Then, too, a large proportion must not only change their occupation but must seek a new employer, and this again militates against their chance of securing employment.

In arriving at the disability percentages shown in the standard schedule hereinafter presented, the committee made use of all the permanent disability schedules available, including those adopted by the Canadian Provinces, European countries, and the several American States.

The following table is a summary of the permanent disability ratings for the main types of disability in existing schedules.⁵ The ratings are stated in percentages of permanent total disability and are supposed to represent the loss of earning capacity resulting from the respective disabilities. The average for all European schedules is given, as well as the minimum and maximum. In British Columbia the ratings vary with the wage received by the injured workman. Both the minimum and the maximum for each disability are given. The California schedule ratings vary with age and occupation. The ratings used are those given to a common laborer at ages 15, 45, and 75. Two sets of percentages are given for the American State laws. These State schedules in which the amount of compensation is uniform for each type of injury, irrespective of age or occupation, and is stated in terms of weeks, have been converted into percentages of permanent disability. In the first set the amount provided for permanent total disability in a given State is used as the base, while in the second industrial life expectancy is taken as the base. One thousand weeks were taken as the measure of this life expectancy, this being the period assumed previously by your committee in its scale of time losses. It will be seen at once how inadequately permanent disabilities are compensated under American State laws as compared with those of foreign countries.

⁵ U. S. Bureau of Labor Statistics Bul. No. 275, pp. 81-88.

SCHEDULE OF PERMANENT PARTIAL DISABILITIES IN VARIOUS JURISDICTIONS, STATED IN PERCENTAGES OF PERMANENT TOTAL DISABILITY.

Item.	Loss of—													
	Arm (at shoulder).	Hand (at wrist).	Thumb.	First finger.	Second finger.	Third finger.	Fourth finger.	Leg (at hip).	Foot (at ankle).	Great toe.	Other toe.	Sight (1 eye).	Hearing (1 ear).	Hearing (both ears).
European laws:														
Average (mode).....	75.0	70.00	30.0	15.00	10.00	10.00	10.00	75.0	50.00	10.00	5.00	33.00	20.0	50.0
Minimum.....	50.0	50.00	14.0	8.00	6.00	8.00	6.00	50.0	30.00	5.00	3.00	20.00	4.0	15.0
Maximum.....	85.0	83.00	60.0	20.00	20.00	15.00	18.00	90.0	75.00	20.00	20.00	50.00	30.0	70.0
Ontario.....	70.0	37.50	6.0	3.50	2.50	2.00	1.50	65.0	30.00	2.50	1.00	16.00	3.0	30.0
British Columbia:														
Minimum.....	47.5	33.25	5.7	2.57	1.45	.88	.72	47.5	23.75	2.85	.23	11.78	9.5	47.5
Maximum.....	55.0	38.50	6.6	2.97	1.68	1.02	.84	55.0	27.50	3.30	.28	13.75	11.0	55.0
California (laborer):														
Age, 15 years.....	53.3	32.30	7.3	6.10	4.20	4.20	4.20	43.2	34.00	6.10	.....	24.30	.....	.....
Age, 45 years.....	61.2	46.20	10.2	8.20	6.10	6.10	4.00	51.2	41.20	8.20	.....	31.10	.....	.....
Age, 75 years.....	69.1	54.20	13.2	10.30	8.10	8.10	3.10	59.3	49.00	10.30	.....	38.00	.....	.....
West Virginia.....	60.0	50.00	20.0	10.00	7.00	5.00	5.00	50.00	35.00	10.00	4.00	33.00	.....	.....
Washington.....	76.0	64.00	16.0	13.00	10.00	9.00	3.50	76.0	52.00	10.00	2.50	36.00	20.0	76.0
State laws:														
Amount provided for permanent total used as a base—														
Average (median).....	40.0	30.00	10.0	6.40	5.00	3.60	2.70	35.0	25.00	5.00	1.80	18.20	6.7	26.0
Minimum.....	20.0	10.40	3.0	1.80	1.30	.70	.90	16.0	10.40	1.50	.40	10.00	3.5	10.0
Maximum.....	100.0	78.20	19.2	14.80	9.60	8.00	5.00	93.0	65.70	12.20	6.00	41.00	19.2	100.0
State laws:														
1,000 weeks for permanent total used as a base—														
Average (median and mode).....	20.0	15.00	6.0	3.50	3.00	2.00	1.50	¹ 17.5	12.50	3.00	1.00	10.00	¹ 4.0	² 15.0
Minimum.....	15.0	10.40	3.0	1.80	1.30	.70	.90	14.0	10.00	1.50	.40	10.00	2.5	10.0
Maximum.....	41.6	32.90	10.4	6.90	3.90	3.50	2.60	38.1	27.70	6.00	3.00	17.30	15.6	41.6

¹ Mode only.² Median only.

PERCENTAGE FOR LOSS OF ARM AND AGE VARIATION FACTOR.

After a thorough examination of all available evidence, including existing permanent disability schedules in various countries and such investigations as have been made showing the economic consequences of permanent disabilities, the committee recommends that a fair rating for the loss of a major arm at the shoulder by a common laborer 30 years of age would be 50 per cent of permanent total disability.

In applying the age factor the committee first obtained a range representing the percentages of disability at the extreme ages. The lowest rating is 40 per cent at the age of 15 or under, and the highest rating is 85 per cent at the age of 70 years or over. In the light of available information the committee recommends that in no case should the loss of a major arm at the shoulder be rated less than 40 per cent. On the other hand, the maximum 85 per cent probably represents the average maximum loss of earning capacity. It is undoubtedly true that in certain cases the loss of an arm by a workman 60 years or over ends his industrial career. Even in these cases, however, the disability is hardly ever total. While it is true that the degree of disability for a given injury increases with age, the question arises whether such increase is uniform. The committee recommends that the rate of increase was not uniform but increased according to the chart on page 78.

It will be noted that there are five distinct breaks in the line representing the age variation factor. These breaks are not arbitrary but represent quite definite changes in the economic status of the average workman. Between the ages of 15 and 25 there is very little change in the industrial life of the average young man. It may be called the experimental and roving period incidental to the lives of most American boys. They have not yet learned a trade and have probably not yet married. During this period the age factor in affecting the degree of disability is not important. The loss of an arm to a young man of 23 would probably be no more severe than a similar loss to a boy of 17. The committee, however, decided to allow a small increase of 5 per cent during this 10-year period.

During the period between 25 and 30 a decided change has taken place in the industrial and social status of the average workman. He has now learned a trade and probably has a family. The loss of an arm now will affect his earning capacity more because it may be necessary for him to change his occupation and learn another trade; moreover, with a home and family his mobility is curtailed and he will not have the same opportunity to find employment. This change in his economic status is reflected in a rapid rise of the curve, the percentage increasing from 45 to 50 between these two ages.

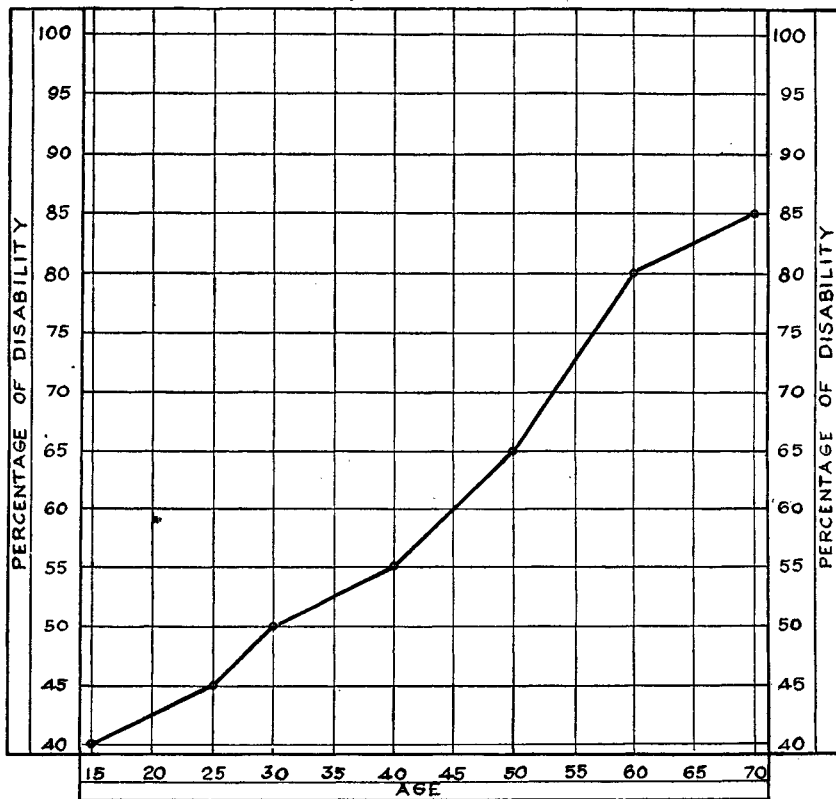
The period between 30 and 40 might be said to represent the real productive and also static period in the industrial life of the average workman. He now has a trade and the effect of age during this period is small. A man 38 would presumably not suffer a greater handicap than one at 32. The committee again, however, decided to allow a small increase during this period—i. e., from 50 to 55 per cent.

Beginning with 40 the age factor becomes an increasingly important one in the industrial life of the workman. Physically he is on the decline. An injury now would mean not only that his power of

readaptability is decreased but if thrown out of employment it would be difficult to obtain a new job not only because of his disability but also because of his age. The curve therefore shows a rapid increase—55 to 65 per cent during this period.

Beginning with 50 the factors affecting his rehabilitation are accentuated, consequently the rate of increase is even higher than during the previous period, increasing from 65 to 80 per cent during this 10-year period.

PERCENTAGE OF DISABILITY FOR LOSS OF A MAJOR ARM AT SHOULDER, AT SPECIFIED AGES.



After 60 years of age the age factor becomes less important. At this age the average workman who suffers the loss of an arm is practically through industrially, and it makes very little difference whether his age is 60, 70, or 90. The committee, however, decided to increase the percentage slightly (5 per cent) during the period from age 60 to age 70. The maximum of 85 per cent is reached at 70 years.

For the present the age variation factor for the loss of an arm has been applied to all permanent disabilities. It is questionable, however, whether it is desirable that the same rate of increase should be applied to minor disabilities. It is probably true that

for the loss of fingers and toes and parts thereof the age factor is more or less unimportant as affecting the loss of earning capacity. It may be necessary, therefore, to revise the schedule submitted herewith in accordance with this suggestion.

RELATION OF OTHER DISABILITIES TO LOSS OF AN ARM.

Having arrived at a rating for the loss of an arm at the shoulder, the committee then expressed the loss of earning capacity of all the other disabilities in terms of the loss of an arm. In the final schedule the ratings thus arrived at are converted into percentages of permanent total disability.

The following table gives a summary of the relationship of permanent partial disabilities to loss of an arm as found in the schedules of the American States, European countries, and certain Canadian Provinces.

Loss of an arm at the shoulder is taken to be 100 per cent. The table shows the average, as well as the minimum and maximum.

RELATION OF PERMANENT PARTIAL DISABILITIES TO LOSS OF A MAJOR ARM, WHICH IS 100 PER CENT.

Item.	Loss of—						
	Arm (at shoulder).	Hand (at wrist).	Thumb.	First finger.	Second finger.	Third finger.	Fourth finger.
State laws:							
Average (mode).....	100	75	30	18	15	10	8
Minimum.....	100	50	15	9	6	3	4
Maximum.....	100	84	33	23	17	12	10
European laws:							
Average (mode).....	100	100	40	23	15	13	15
Minimum.....	100	83	33	18	10	10	9
Maximum.....	100	100	40	30	27	20	26
Ontario.....	100	55	9	5	4	3	2
British Columbia.....	100	70	12	5	3	2	2
	Leg (at hip).	Foot (at ankle).	Great toe.	Other toes.	Sight (1 eye).	Hearing (1 ear).	Hearing (both ears).
State laws:							
Average (mode).....	88	63	15	5	50	25	75
Minimum.....	70	50	8	2	40	12	40
Maximum.....	100	83	24	8	67	38	100
European laws:							
Average (mode).....	100	63	13	7	39	25	67
Minimum.....	75	53	9	6	33	13	50
Maximum.....	117	88	25	8	67	40	97
Ontario.....	93-123	43	4	1	23	4	43
British Columbia.....	100-130	50	6	5	25	20	100

The following table shows the percentages for loss of members in terms of loss of an arm as determined by the committee:

Percentages for loss of members in terms of loss of an arm, which is 100 per cent.

	Per cent.
Arm at shoulder.....	100
Arm at or above elbow.....	85
Hand at or above wrist.....	66½
Thumb.....	20
Index finger.....	10
Middle finger.....	8

	Per cent.
Ring finger.....	6
Little finger.....	6
Leg at hip.....	100
Leg at or above knee.....	85
Leg at or above ankle.....	50
Great toe.....	8
Other toe.....	2
Eye.....	40
Hearing, one ear.....	10
Hearing, both ears.....	66½
One phalange equals one-half of thumb or finger.	
More than one phalange equals loss of entire thumb or finger.	

The schedule of injuries in the above table contains only the principal or key disabilities. Obviously the final schedule must provide for many more injuries and various refinements or gradations in disability.

Loss of leg and foot.—The loss of a leg at the hip is given the same rating as the loss of an arm at the shoulder, although the loss of a foot at or above the ankle is given only one-half of the loss of the leg, whereas the loss of the hand is given a rating of two-thirds of the loss of an arm. The loss of a leg is as serious and in many cases more serious than the loss of an arm because it usually not only necessitates a change in occupation but it militates against the workman in moving about and obtaining employment. This disadvantage is not so serious in the case of the loss of a foot only; in the latter event the workman is able to move about much more freely than if he had lost his entire leg.

Loss of an eye.—The rating for the loss of sight of one eye was made with the proviso that a special fund be created to take care of second injuries in those States which pay compensation only for the second injury and not for the disability resulting from the combined injuries.

Reduction in rating for minor members.—A number of the State laws and most of the foreign laws give a higher rating to the right or major members than to the left or minor members. These reductions are limited in some laws to the more serious permanent disabilities such as the loss of an arm or hand. The usual reduction approximates 10 per cent. The committee believes that the compensation for loss of minor (left) members should be reduced 5 per cent and so recommends. A reduction of 10 per cent, as is the case in most schedules making provision therefor, is considered too great. In most occupations the employee requires the use of both hands or both arms, and the loss of either, whether right or left, is practically of equal seriousness; however, it requires some time for the workman to adjust himself to the use of the other hand or arm and this fact should be taken into account in formulating the schedule.

FINAL SCHEDULE.

The following table represents the final schedule showing the ratings for the principal permanent partial disabilities at various ages, stated in percentages of permanent total disability. It may be desirable to adjust the refinements or to eliminate the fractions altogether. It may also be desirable (1) to modify the age factor for minor disabilities and (2) to extend the application of the dexterity factor to other disabilities, such as the loss of a thumb or index finger.

PERCENTAGES OF DISABILITY FOR PERMANENT PARTIAL DISABILITIES AT VARIOUS AGES.

Nature of injury.	Ages (years).											
	15 and under.	20	25	30	35	40	45	50	55	60	65	70 and over.
Major arm at shoulder.....	40	42.5	45	50	52.5	55	60	65	72.5	80	82.5	85
Minor arm at shoulder.....	38	40.375	42.75	47.5	49.875	52.25	57	61.75	68.875	76	78.375	80.75
Major arm at or above elbow..	34	36.125	38.25	42.5	44.625	46.75	51	55.25	61.625	68	70.125	72.25
Minor arm at or above elbow..	32.3	34.3	36.3	40.375	42.4	44.4	48.45	52.49	58.54	64.6	66.61	68.64
Major hand at or above wrist..	26½	28½	30	33½	35	36½	40	43½	48½	53½	55	56½
Minor hand at or above wrist..	25.3	26.9	28.5	31½	33.25	34.8	38	41.2	45.9	50½	52.25	53.8
Thumb.....	8	8.5	9	10	10.5	11	12	13	14.5	16	16.5	17
Index finger.....	4	4.25	4.5	5	5.25	5.5	6	6.5	7.25	8	8.25	8.5
Middle finger.....	3.2	3.4	3.6	4	4.2	4.4	4.8	5.2	5.8	6.4	6.6	6.8
Ring finger.....	2.4	2.55	2.7	3	3.15	3.3	3.6	3.9	4.35	4.8	4.95	5.1
Little finger.....	2.4	2.55	2.7	3	3.15	3.3	3.6	3.9	4.35	4.8	4.95	5.1
Leg at hip.....	40	42.5	45	50	52.5	55	60	65	72.5	80	82.5	85
Leg at or above knee.....	34	36.125	38.25	42.5	44.625	46.75	51	55.25	61.625	68	70.125	72.25
Leg at or above ankle.....	20	21.25	22.5	25	26.25	27.5	30	32.5	36.25	40	41.25	42.5
Great toe.....	3.2	3.4	3.6	4	4.2	4.4	4.8	5.2	5.8	6.4	6.6	6.8
Other toe.....	.8	.85	.9	1	1.05	1.1	1.2	1.3	1.45	1.6	1.65	1.7
Eye.....	16	17	18	20	21	22	24	26	29	32	33	34
Hearing, one ear.....	4	4.25	4.5	5	5.25	5.5	6	6.5	7.25	8	8.25	8.5
Hearing, both ears.....	26½	28½	30	33½	35	36½	40	43½	48½	53½	55	56½

STANDARD PERMANENT DISABILITY SCHEDULE.

Respectfully submitted.

COMMITTEE ON STATISTICS AND
COMPENSATION INSURANCE COSTS.

L. W. HATCH, *Chairman, New York.*
W. C. FISHER, *Vice Chairman, Pennsylvania.*
ETHELBERT STEWART, *Secretary, Washington, D. C.*
A. J. ALTMAYER, *Wisconsin.*
E. I. EVANS, *Ohio.*
F. W. HARRIS, *Washington.*
CARL HOOKSTADT, *Washington, D. C.*
R. V. MOTHERSILL, *Minnesota.*
H. C. MEYERS, *Oklahoma.*
W. P. RATLIFF, *California.*
CHARLES H. VERRILL, *Washington, D. C.*
H. G. WILSON, *Manitoba.*

DISCUSSION.

Mr. HOOKSTADT. I would like to emphasize what Mr. Hatch has said, which is that the committee report is only tentative. I feel less sure about the suggestions and recommendations in this report than I do about most things relating to workmen's compensation. Therefore, I wish that we might resolve ourselves into a committee of the whole to discuss the various questions raised by the committee and obtain from every commissioner present his experience and ideas to help the committee build up a scientific standard permanent disability schedule.

The work of the committee resolved itself into two parts. One was the formulation of general principles, and the other the construction of the schedule itself.

I suppose it is not necessary to present the arguments for a revision of the permanent disability schedules in the States. I think it is well recognized by most of the commissions that they need revision. In the first place, the present flat schedules are inadequate. Second, they are poorly balanced; that is, they relatively over-compensate minor injuries. Third, they give too small an amount for the lower members as compared with that for the upper members. And, fourth, they disregard the age and occupation factor.

The first resolution taken up and adopted by the committee provides that compensation shall be paid during the healing period for temporary disability. At present only 16 States pay compensation for temporary disability in addition to the amount provided in the schedule for permanent disability. All the Canadian Provinces, however, grant compensation for temporary disability.

The principal reasons in favor of allowing additional compensation for temporary disability are: (1) In many cases the healing period, especially in infectious cases, approaches or even exceeds the compensation period in the schedule allowed for the permanent disability. Consequently, in these cases the injured workman receives no compensation whatever for his permanent disability. (2) There are great variations in the healing periods for the same

type of injury, ranging in Ohio, for example, from 32 days to 888 days in case of an arm.

Mr. KENNARD. May I ask a question? Do you suggest having a committee of the whole? I do not know whether or not you welcome interruptions.

Mr. HOOKSTADT. Does the association think it would be best to discuss the points as we come to them?

The CHAIRMAN. Is it the pleasure of the committee that we take up this report resolution by resolution, each resolution as it appears in the report, and pass it tentatively as the discussion ends? Possibly this may take some time, but shall we do it that way? Agreed.

Mr. KENNARD. Have you concluded with this particular schedule?

Mr. HOOKSTADT. Yes.

Mr. KENNARD. Then what did the committee have in mind as being the beginning of permanent total disability? How was that to be marked? By what monument or by what occurrence was the end of temporary total disability to be marked?

Mr. HOOKSTADT. Whenever the commission decides that further medical attention is unnecessary. Sometime in the experience of each case the industrial commission must come to a decision as to when permanent disability begins. It is not a difficult problem, as I see it, and as shown by the experience of other commissions. I think Mr. Kingston, because he must continually pass upon those cases, might give us his experience.

The CHAIRMAN. As regards that feature it is, of course, a medical question. The case comes to the board with a report from our medical department that Mr. So-and-so's claim has reached a point of finality, that he is as well surgically as he ever will be, and that the case is ready for consideration of permanent disability. That is the simple method we adopt, and I do not see that it can be very well improved upon.

Mr. BEERS. What about Dame Nature? The doctors may have done what they can, and yet, looking ahead, you can see that nature is going to bring about improvement.

The CHAIRMAN. We recognize that as a factor and we assume that nature will take its course in each case. Some cases come back to us, and upon inquiry we find that the doctors were mistaken, and we reconsider them.

Mr. BEERS. But you consider the whole period of improvement before reaching a state of rest, whether or not medical treatment is required in the interim?

The CHAIRMAN. We consider the whole period of improvement, as you put it—the healing period—we pay for that in addition to what we allow for permanent partial disability, and if upon reconsideration it is found that the doctors were in error, the case is always open for reconsideration by the board, which allows more if the circumstances seem to warrant it.

We do not pay by lump sum in Ontario—at least not in the serious cases. In the less serious cases, what we call the under 10 per cent cases, we do pay by lump sum, but that lump sum is rarely more than \$1,000.

Mr. BEERS. May I ask the committee if it has considered the question of whether there should also be paid temporary partial disability before a state of rest or finality is reached? In our own State, as I understand, in one of our later supreme court cases the court has said that until the state of rest, the state of fixity, is reached, all the compensation, whether total or partial, is payable. That would seem to be sensible, because it may be that during the healing period there is an earning power and it may be far better for everybody concerned that the man should put forth his efforts, better for him as well as for his employer. Has that been considered?

Mr. HOOKSTADT. The committee did consider that point, but it was not embodied in a resolution. Personally I think that temporary partial should be included in the healing period as well as temporary total.

The CHAIRMAN. May I say in answer to that question, referring again to our practice, that in quite a number of our cases our doctor recommends "close T. T. [using the abbreviation for temporary total] and pay T. P. [i. e., temporary partial] for a few weeks." So he is carried on temporary partial, usually on a half basis, until he is considered to be completely restored.

Mr. HATCH. Your suggestion would be met if the first principle were amended by leaving out the word "total"; making it read "to be paid after compensation has been paid for temporary disability."

Mr. BEERS. It ought to be clear whether it is total or partial. I think it is a sensible idea.

Mr. HATCH. That would include it explicitly. Is there any objection, Mr. Hookstadt, to cutting out the word "total" in that first resolution, the first principle? It would read, then, "The schedule of permanent partial disability compensation shall be for compensation to be paid after compensation has been paid for temporary disability."

Mr. HOOKSTADT. Yes; I think that would be a good idea.

Mr. BEERS. Why don't you say, "whether total or partial," instead of cutting out "total"? Then we would know what you are talking about.

Mr. THAYER. If you do that, you will put yourself in the position of possibly never paying a man, because some of these injuries are going to result in the loss of a leg or an arm or an eye. If a man is going to be entitled to partial, if you wait for that period, then you will never have any permanent to give him.

Mr. HOOKSTADT. The commission must determine some time when that state is reached and then permanent disability begins.

Mr. THAYER. If you add permanent total, you will never reach it in most cases.

Mr. BEERS. The question of fixity, of a fixed condition, is a question of fact. It depends in part upon medical testimony and in part on the general situation. Now, as I take it, it is assumed that some time or other there will be a period of fixity and we are talking about what happens in the meantime. Therefore, the insertion of the word "partial" does not affect that question at all.

Mr. KENNARD. I think if you add the words "partial disability" you are going to find yourself in rather a paradoxical position as to this whole report. You say that you will pay for permanent partial disability, which shall be paid for after compensation has been paid for temporary total or temporary partial disability. In other words, you say we will pay this man as long as he is disabled totally or partially, and then when that period has gone and all disability has ended (because all disability will have ended) we will then give him further compensation, although he is not partial. Isn't that the condition?

Mr. HOOKSTADT. As Mr. Beers says, the word "temporary" takes care of that.

Mr. KENNARD. "Temporary partial."

Mr. BEERS. Until the medical condition has become fixed. So presumably that will not change.

Mr. KENNARD. In Massachusetts a man's disability practically always commences with his medical treatment. We very rarely have a man come to us and tell us he can not work simply because he has lost a physical member. It is because some pain goes with it, or something of that sort. In short, the man's disability is determined by the medical treatment necessary. The case may run for a period of three or four years simply because he makes a complaint and the examination takes place. So, if that is your idea, you are going to add a longer period in concrete cases.

Mr. STEWART. During the sessions of the committee that I attended it seemed to me that the idea was perfectly clear as to what we meant by this resolution. For instance, a man loses an arm in an accident. Now, there is a period of time in which he is knocked out nervously from the shock, or physically from the inflammation of the wound or from other causes. In other words, he is sick. If he had both arms, he couldn't go to work. During that period and while the arm is healing, that is a temporary total disability. When the doctor says he is well, when he is just as well as he ever will be, his arm is still gone and will continue to be gone. Now the commission must decide when that time has come; when from a medical point of view he is well. Then the temporary disability ceases. I must say that I do not see any confusion in this. The purpose of the committee was to separate the two, to pay the man during the temporary disability caused by his accident, and, then, when that period was over, to pay him for the permanent disability—to separate the two.

Mr. WEHE. As I understand the proposition that resolution is intended to mean that the schedule of permanent total or partial disability compensation shall be paid after compensation has been paid for temporary total or partial disability. That is the way I would put it. We have this plan in operation in the State of North Dakota, and have had it for the last three years. It works out well, and that part of the resolution has my hearty O. K., as we have found it a very good thing.

Now, in regard to another feature of this "emergency compensation"—out in North Dakota we call it "emergency compensation"—just as soon as we receive the employee's application for compensa-

tion and the physician's first report and the report from the employer, and the case has all the earmarks of being an honest claim, we do not wait for any further reports. We start paying at once what you would call an emergency compensation and pay it every two weeks until the claimant is permanently cured. We give him medical attention until he is permanently cured, if possible. If it is not possible, and he returns after three or four months to a partial disability state, then perhaps we cut that down to a 50 per cent compensation. Then he goes back to work and earns the other 50 per cent. We continue that for a period, and at the end of that period if he is fully cured, as far as we can cure him by medical science, and if he has a limp or any other disability which is of a permanent character, we put him on the list of permanent pensioners under the schedule provided; that is, the specific schedule of benefits which we have in our State.

The CHAIRMAN. The way this discussion is going, I think we are going to find that it will be noon before we get half way through. I would suggest, if it meets with the approval of the meeting, that if Mr. Hookstadt has more general remarks to make regarding the work of the committee, he might complete that part of the presentation of his message now. After that we will take up the printed program; then when those who have prepared discussions as announced in the program and are here, ready to talk, have concluded their presentation, we will open the meeting for general discussion. If we do not do that, I am afraid the day will be gone before we reach the printed program. Mr. Hookstadt, instead of going over the report clause by clause now, I suggest that you conclude what remarks you have to make in a general way.

Mr. HOOKSTADT. My remarks are both general and clause by clause.

The CHAIRMAN. The meeting did decide a little while ago to take this matter up clause by clause. I feel, however, that perhaps that was a mistake and that we had better deal with it generally before doing that.

Mr. HOOKSTADT. The second resolution adopted was that compensation for permanent total disability shall be valued on the basis of total disability for life. If the disability is permanent, compensation should be permanent; that is, it should be paid during life. I question whether there is very much opposition to that. If a man is permanently and totally disabled, he should receive compensation on that basis; although, in spite of that fact, only 13 States, but all of the Canadian Provinces, pay compensation for life.

The third resolution provides that compensation for permanent partial disability shall be valued as percentage of permanent total disability. That is, it shall be expressed in percentages and not in a certain number of weeks, as is done in practically every American State except California. A loss of an arm, for example, shall be 50 per cent and a loss of a thumb 10 per cent, etc. Once that percentage has been determined, then compensation shall be paid during the man's life or shall be computed on the basis of his life expectancy.

Judge TAYLOR. How would you arrive at that percentage?

Mr. HOOKSTADT. That will be taken up later.

4. "The permanent disability schedule shall be one designed to measure loss of earning capacity, considering all elements." There are two principal factors which have operated in determining the amounts in compensation schedules: (1) Loss of earning capacity, and (2) social need of the disabled workman or his dependents. Three States (Oregon, Washington, and Wyoming) provide a flat monthly pension, which varies according to conjugal condition and number of dependents. In these States social need is the determining factor. Practically all of the States recognize this principle in death cases, when the right to compensation is dependent upon dependency and the amount of compensation varies with the number of dependents. In general, however, it may be said that workmen's compensation schedules are based upon loss of earning capacity, modified both by the employee's need and the desire to limit the employer's burden.

The permanent disability schedules in American State laws seem to be based upon no discernible principle whatever. Moreover, permanent disabilities are grossly undercompensated as compared with the benefits paid in fatal and temporary disability cases. The first flat schedule to be enacted into law (New Jersey) was probably based upon a scale of values in use by personal accident insurance companies and awards for damages in personal injury suits. The New Jersey schedule seems to have served as a model for the other States. Some States increased the benefits, others made modifications here and there, but the general scheme was followed. California was the first State to break away from the flat schedule. The commission adopted a schedule (which will be discussed hereafter) in which the benefits for permanent disabilities vary with age and occupation. However, the underlying principle of the California schedule is predicated upon the assumption that it is possible for all partially disabled workers completely to rehabilitate themselves. The compensation periods in the schedule were determined, therefore, in accordance with this theory. For example, if a man has a 10 per cent disability it is considered that at the end of 40 weeks he will have accommodated himself to his injury and will have regained his old standard of earning efficiency. On the same assumption, a man suffering a 50 per cent disability will have regained his old standard of earning efficiency at the end of 200 weeks. It will require a longer time to rehabilitate oneself at 40 than it will at 20, and 60 than it will at 40; likewise the rehabilitation period will vary with different occupations and with different disabilities; but for all disabilities under 70 per cent it is assumed that sooner or later the man will rehabilitate himself and regain his former standard of earning capacity at all occupations and at all ages under 75. Common experience, together with such statistical data as are available, show that such an assumption is fallacious. The large number of cripples unemployed or living in almshouses proves that a large proportion of workmen sustaining major permanent disabilities find it impossible to regain their former earning efficiency.

It should be borne in mind that decreased earning capacity, not decreased ability to perform a particular occupation, is to be measured. A man should not receive a 100 per cent disability rating when

his injury prevents him from following his usual occupation, if other occupations are still open to him; on the other hand, it would be unjust not to compensate a man who, though able to continue in his former occupation at the same rate of wages, finds that other opportunities for employment have through the consequences of the injury been closed to him.

It is also maintained that most persons sustaining the loss of a major member suffer a serious handicap, irrespective of any wage loss. Such a person's expenses are probably greater than those of a normal person, and in addition he suffers many inconveniences and hardships and loses opportunity for advancement and enjoyment of life not experienced by a normal fellow worker. Such a loss deserves a recompense. However, the committee believed that if all other grounds were abandoned and compensation for permanent disabilities based squarely upon loss of earning capacity the greatest substantial justice would be obtained.

Judge TAYLOR. May I ask you a question? Just what do you mean, in contemplation of this proposed statute, by his "social needs"?

Mr. HOOKSTADT. You might substitute "economic" needs for "social" needs. For example, in case of the death of a young man who has no dependents—no wife, children, or dependent parents—there is no one dependent on him and, consequently, he receives no compensation under the present law except burial expenses. If a man leaves a large family the need is greater; therefore the amount of compensation should be greater. That is what we mean by "social" needs.

The committee, however, came to the conclusion that all the other factors might be disregarded, and compensation based squarely upon loss of earning capacity.

The next resolution, No. 5, provides that in determining the amount of compensation there should be taken into account certain variable factors. Compensation should vary with the nature of the injury, the age of the injured employee, and the occupation of the injured employee.

The ability of a permanently disabled workman to rehabilitate himself and to adapt himself to a changed environment varies with age and occupation. Obviously, the loss of an arm will be a greater handicap to a man 60 years than it will to a man 25 years of age. Not only will it be more difficult for the older man to learn a new trade, but his very age will be an effective bar to reemployment. Industry gives little encouragement to old men. Similarly, the loss of a leg will be a severer handicap to a structural-steel worker or a railroad brakeman than to a machinist, because the loss of a leg to the former will necessitate a change in occupation and perhaps in industry. There are, however, other factors which affect the rehabilitability and consequently the subsequent earning capacity of the permanently disabled even more than the occupational factor. Among the more important of these factors are education, training, experience, and mentality. But these factors are practically impossible of measurement and consequently the committee was forced to leave them out of consideration. In fact, it is doubtful whether even the occupation factor can be applied effectively. For the present, therefore, the com-

mittee decided to disregard this factor, and in the formulation of the schedule age is the only variable factor taken into account.

Mr. TARRELL. In that provision, Mr. Hookstadt, did you have the idea that you would pay a uniform scale through life, or would the rate be increased with increasing age?

Mr. HOOKSTADT. That matter was considered by the committee but was not embodied in the written report, although I believe it should have been. The question of the man's wage decreasing with years, in my opinion, should not be taken into account in the determination of the permanent disability schedule, which is supposed to measure loss of earning capacity. I think that the wage-variation question should be taken care of in another way, i. e., in the determination of the average weekly wages. After the disability percentages have been determined, you apply the wage factor to determine the amount of his compensation. In determining the average weekly wages upon which the compensation is based, you take into account the probability of a decreased wage with age.

Mr. TARRELL. Well, I had in mind the case of a man injured when very young. If you established his rate on his earnings at that time, it would work an injustice to him when he reached an advanced age.

Mr. HOOKSTADT. Very true. But that again can be taken care of in determining his weekly wages. In fact, I bring that matter up later in the session in my paper on computing average weekly wages.

Now we come to the schedule. What is the average depreciation in earning capacity which results from the loss of an arm? Frankly, the committee does not know. Had the compensation commissions kept a record of their permanent disabilities we would now be in a better position to know the relative economic handicaps resulting from such disabilities. We do know, however, that major permanent disabilities are a serious handicap and that, as already stated, a large proportion are either unemployed or are inmates in almshouses. For illustration: Of the nondependent persons just above the poverty line, 65 years of age and over, investigated by the Massachusetts Commission on Old Age Pensions in 1910, 40.3 per cent were found physically defective. Of the 57,049 paupers in the United States without age classification, enumerated on January 1, 1900, 44.1 were incapacitated. Of the regular inmates of county and city infirmaries studied by the Ohio Commission on Health Insurance and Old Age Pensions 24.5 per cent were sick and diseased or persons who had become disabled through loss of members. Of 3,405 almshouse inmates investigated by the Pennsylvania Commission on Old Age Pensions, 13.2 per cent were crippled, maimed, or deformed, and 9.3 per cent were defective in sight or hearing.⁶

It is true that many suffer little or no loss of earnings and some even improve their economic status. These facts, however, are likely to be misleading, because they take into account only those who remain in the industry and ignore the thousands who are unemployed and must be supported by relatives or gradually gravitate to the poorhouses and the grave. A few illustrations will suffice to show the seriousness of permanent disabilities.

⁶ Quotations taken from A. Epstein's report on Old Age Dependency, pp. 37-39.

A survey of 1,568 permanent partial disability pensioners made by the Ontario Workmen's Compensation Board in 1921 brings out the following facts: Sixty-three per cent (980) of these pensioners were employed at the time of the survey, 30 per cent (475) were unemployed, 6 per cent (95) were in business for themselves, and 1 per cent (18) were going to school or were employed at home. Of the 475 unemployed 113 (24 per cent) had done no work since they were injured. The 1,568 cases investigated included all permanent partial disabilities having a rating of over 10 per cent. It is the policy of the Ontario board to grant lump sums in cases rated under 10 per cent; consequently these cases do not receive pensions.

In 1918 the United States Bureau of Labor Statistics made an investigation of 123 permanent disability cases in Massachusetts. This survey was limited to loss of arm and leg cases. Of the 123 cases 33 per cent (40) were employed at the time of the investigation, 16 per cent (19) were unemployed, 8 per cent (10) had gone into business, and 40 per cent (50) had either returned to their native country or their whereabouts were unknown.

An investigation of permanent disabilities made by the Industrial Commission of Wisconsin in 1918 revealed the industrial status of 76 handicapped men in the city of Milwaukee. Of these, 12 cases (16 per cent) were unemployed at the time of the investigation and 6 were too ill to work.

The Red Cross Institute for Crippled and Disabled Men made an investigation in 1917 of the economic condition of cripples in the city of New York. Of 361 permanent disability cases, 132 (37 per cent) were unemployed at the time of the survey.

In 1918 the California Industrial Accident Commission made a study of the economic consequences of permanent disability accidents. It was found that of 88 loss of arm and leg cases 27 per cent (24) were unemployed.

A survey of cripples in Cleveland, Ohio, made by the Welfare Federation of Cleveland in 1916, showed that of 2,150 loss of arm and leg cases 29 per cent (627) were unemployed. The above facts prove quite conclusively that permanent disabilities, especially the major ones, are a serious economic handicap. Approximately one-third of those who suffer the loss of an arm or leg are unemployed and a large proportion of them have done no work whatever since their injury. In drawing conclusions from these facts it will be necessary, of course, to take into consideration the state of unemployment for the country as a whole. However, with the exception of the Ontario survey, all of the investigations cited were made during the war period, when employment conditions were of the best.

The investigations cited above also brought out other facts. There was a pronounced tendency with persons permanently disabled to gravitate to unskilled occupations. In Massachusetts, for example, 60 per cent of those investigated were at work in skilled occupations before their injury and only 31 per cent after the injury. Then, too, a large proportion must not only change their occupation but must seek a new employer, and this again militates against their chance of securing employment. Very little conclusive evidence was

obtainable showing the effect of the disability upon wage loss. Some received a higher wage, some the same wage, and some a lower wage. The wages received before and after injury must be studied in the light of the general wage level before and after the injury. In an increasing wage period, as was the case during the war, a man permanently disabled may receive a higher wage than he received before his injury, but as compared with the wages received by a normal person in the same occupation his present wage might show a decided decrease.

In arriving at the disability percentages shown in the standard schedule, the committee made use of all the permanent disability schedules available, including those adopted by the Canadian Provinces, European countries, and the several American States. The committee's schedule follows more closely those of California, British Columbia, and Ontario than those of European countries, because it believes that the former are the result of investigation and observation to a greater extent than the European schedules, and consequently represent more accurately the loss of earning capacity resulting from the injuries. The European schedules are probably no more scientific than the flat schedules found in American State laws. Says Mr. Ferdinand Schnitzler, formerly director of the Workmen's Accident Insurance Institute in Austria, in this connection:

In inquiring into the origin of the scales in use, as, for instance, for loss of an eye, 25 to 33½ per cent; loss of the right arm, 75 per cent, etc., one will be surprised to find that none of them is based on systematic observation of facts, i. e., of the actual earnings made by persons who have suffered such injuries. At the beginning of compulsory workmen's accident insurance the insurance institutes had merely adopted the compensation scales contained in the insurance contracts of private insurance companies, but quite generally increased the rates of compensation. Likewise, the scales of the private insurance companies were not based on observation of actual conditions, but represent merely assumptions on which the two contracting parties have agreed. One is, therefore, mistaken in assuming that the usual compensation scales represent averages deduced from actual conditions, and that by small increases or decreases of the rates of these scales full justice can be done to the individual conditions of injured persons.⁷

Most of the European schedules, as well as those of the American States, rate minor injuries too high in comparison with ratings for major disabilities. The ratings for minor disabilities in Canadian schedules and in the scale of time losses previously formulated by your committee on statistics are relatively lower and represent more nearly the actual loss of earning capacity as indicated by observation and experience.

Percentage for loss of arm and age variation factor: After a thorough examination of all available evidence, including existing permanent disability schedules in various countries and such investigations as have been made showing the economic consequences of permanent disabilities, the committee decided that a fair rating for the loss of a major arm at the shoulder by a common laborer 30 years of age would be 50 per cent of permanent total disability. This 50 per cent is in part a derived percentage obtained by the

⁷ Monthly Labor Review for December, 1916, pp. 31-67, "Determination of the consequences of industrial accidents in Austria," by Ferdinand Schnitzler.

application of the age variation factor. The committee first obtained a range representing the percentages of disability at the extreme ages. The lowest rating is 40 per cent at the age of 15 or under and the highest rating is 85 per cent at the age of 70 years or over. In the light of available information, the committee decided that in no case should the loss of a major arm at the shoulder be rated less than 40 per cent. On the other hand, the maximum, 85 per cent, probably represents the average maximum loss of earning capacity. It is undoubtedly true that in certain cases the loss of an arm by a workman 60 years or over ends his industrial career. Even in these cases, however, the disability is hardly ever total. While it is true that the degree of disability for a given injury increases with age the question arises whether such increase is uniform. The committee decided that the rate of increase was not uniform but increased according to the chart as shown in the report. The reasons for the changes in the curve are stated in the report.

Mr. BEERS. It is based on statistics in general?

Mr. HOOKSTADT. It is not. It simply represents the collective common sense of the committee.

Having determined the rating for the loss of an arm at the shoulder, the committee then measured the loss of earning capacity of all the other disabilities in terms of the loss of an arm. In the final schedule the ratings thus arrived at are converted into percentages of permanent total disability, as shown in the committee's report. For a discussion of the schedule I must refer you to the report.

I shall now take up the occupation factor. At its first meeting in New York the committee resolved to take the occupation factor into account in formulating its permanent disability schedule. After further consideration of all the problems involved and after a careful examination of the California schedule the committee decided, if not to reject the occupation factor altogether, at least to postpone its application for the present. The committee has about come to the conclusion that occupation as a factor in measuring loss of earning capacity is doubtful as to principle and still more doubtful as to practicability.

While it is true that in many cases the occupation has a decided influence upon the loss of earning capacity resulting from certain disabilities, it is difficult, if not impossible, to measure this loss of earning capacity in advance. Furthermore, there are many other factors which affect the loss of earning capacity even more than occupation. The following are some of the specific reasons why the committee has refused to take the occupation factor into account:

(1) While no exact statistical data are available, it is undoubtedly true that a large majority of major permanent disabilities occur in occupations such as common labor, mining, transportation, building construction, logging, etc., in which a major permanent disability is a serious handicap and it matters very little in what particular occupation the workman was engaged. Both arms and both legs are essential in these occupations and it is academic to attempt to determine theoretical gradations of essentiality. A workman usually sustains an injury to those members which are actively used in the

performance of his work, and this is *prima facie* evidence that these members are necessary. The committee believes that it is more important to obtain substantial justice for those men who actually sustain the injuries than to ascertain with absolute precision the loss of earning capacity resulting from the loss of an arm by a stenographer, compositor, piano player, or bookkeeper. These persons sustain such injuries only in rare and exceptional cases and then seldom in the course of their employment.

(2) Occupation disregards the worker's experience, training, education, and what may be termed his "mentality." These factors have probably a greater effect in determining his loss of earning capacity than his occupation, although the latter, as has been stated, has a decided influence in many cases. A workman's power of readaptation after an injury probably depends more upon his mentality than upon his age, occupation, or disability. A man well educated and highly trained, whether he be a bookkeeper, machinist, or engineer, is better able to adapt himself to new conditions than a stevedore or an unskilled common laborer. On the other hand, when a stevedore, say, especially at an advanced age, meets with a serious injury it makes little difference what the particular nature of the disability is, the man is practically through industrially.

(3) The application of the occupation factor in determining loss of earning capacity presupposes the existence of standardized permanent occupations. It is assumed that the particular occupation engaged in at the time of the injury is the workman's regular permanent occupation, and compensation is based on this assumption. Such assumption the committee believes to be unsound. Hundreds of thousands of workmen have no regular occupation, and this is especially true of the more hazardous occupations such as lumbering, stevedoring, and the iron and steel industry. An analysis of accident reports received by industrial commissions shows that a large proportion of the workers had engaged in a number of different occupations within a year or two prior to the injury. Manifestly, therefore, it is unjust to compute the amount of compensation on the basis of the effect of the injury upon the earning capacity of the workman in a particular occupation when this occupation is not his regular one, or when he has no regular occupation.

An examination of the California schedule brings out certain inherent faults therein in addition to the general occupational objections just cited. The committee does not wish to condemn the California schedule as a whole; on the contrary, this schedule has many excellent features such as the classification of occupations and the classification of injuries, and the California commission deserves great credit for this piece of pioneer constructive work. The committee believes, however, that some of the principles upon which the California schedule is based are unsound, and furthermore that there are obviously many errors of judgment in individual ratings. The following specific objections, therefore, are made against the California schedule:

(a) Under the California schedule there is a tendency to give a higher rating to the skilled and highly paid worker than to those lower in the economic and industrial scale. Thus the highly skilled are doubly rewarded and the poorly paid are doubly penalized, since

compensation is based upon average weekly wages. Not only do highly paid workers receive more compensation if the rating is the same, but they also receive a higher rating. The British Columbia schedule is based upon the opposite theory and decreases the ratings as the wages increase, which is the much sounder principle; the lower the wages the lower presumably is the industrial status of the workman, and consequently the greater his inability to rehabilitate himself, and the greater his loss of earning capacity.

(b) Occupation as a factor in determining loss of earning capacity may be used as an index of economic status, or it may be used, as it is in the California schedule, as an index of the physical functions required to perform the operations involved in the occupation. Its use as an index of the former is more sound than its use as an index of the latter. The California schedule attempts scientifically to correlate the physical functions of the various members of the body to the physical operations required in the occupation, and thus to base the rating upon this correlation. For example, if a certain occupation requires the constant or dexterous use of a member, the rating will be high, irrespective of the ability of the workman sustaining the loss of such member to enter another occupation. In other words, the committee believes that physical requirements are an unsound base for measuring loss of earning capacity.

(c) The California schedule also falls into the same error as other State schedules in that the ratings for certain injuries, especially in major lower extremities, bear a disproportionate relationship to the loss of the major upper extremities. The committee believes that the loss of a leg is as important as, and in some cases much more important than, the loss of an arm. The California schedule, however, except for certain occupations such as railroad brakemen and structural-steel workers, usually grants a higher rating for the loss of an arm than for the loss of a leg.

(d) As a whole, the California schedule increases the rating with age. However, in certain tables representing certain occupations the rating, instead of increasing with age, decreases with age. This the committee believes to be unsound. It is understood, however, that the California committee is dissatisfied with this feature of its schedule and intends to modify it.

(e) An examination of typical occupations shows numerous errors of judgment. For example, a freight brakeman at 75 years of age receives a rating of only 49.3 for the loss of a leg, whereas a freight conductor receives a rating of 99.3. True, there are probably no freight brakemen actively engaged at the age of 75, but the California schedule gives a lower rating to the freight brakemen at all ages. How the California commission can justify such a great disparity between two parallel occupations is beyond comprehension. If a difference in rating were to be made between these two occupations the brakeman obviously should receive the higher rating, because the loss of a leg to him would necessitate a change in occupation.

Mr. BEERS. That is a printer's error, isn't it?

Mr. HOOKSTADT. No, that is a fact.

Discretionary power of commission: The committee carefully considered the advisability of granting the commission power to deviate

from the schedule in special cases. This power has been reserved to themselves by the Canadian compensation boards in which the permanent disability schedule is used as a guide primarily. In Ontario the board considers each case on its merit and may deviate from the schedule if circumstances warrant. Such deviation may be either an increase or a decrease over the schedule. The chief merit of this practice is that it insures greater justice, particularly in cases where the occupation or age or other special conditions have a decided influence upon the earning capacity of the disabled workman.

There are, however, two main objections to such a system: First, it makes it necessary for the commission to examine into the merits of each case, thus greatly increasing the work of the commission. Under these circumstances it is hardly necessary to formulate a standard schedule. The second and more important objection is the encouragement it would give to malingering and neurosis. It has been pointed out by Dr. Schnitzler, already referred to, that in Austria as long as the workman's claim was pending in the court of arbitration the injured person did not work in his former place of employment, pretending that he could not perform his work, but reported for work as soon as a decision was rendered by the court. The same condition would be likely to prevail here. Unless the schedule is definite and to be followed in every case, there would be a tendency among the disabled workmen to exaggerate or prolong their disability in the hope of securing a higher rating. This is what has happened in Massachusetts.

Where the amount of compensation in permanent partial disability cases is dependent upon the subsequent loss of earnings, usually the employee petitions for a lump sum. He feels that acceptance of employment would terminate his compensation but would not compensate him for the reduction in earning capacity. As a result, the injured workman remains disabled and unemployed much longer than the circumstances warrant. In addition he is inclined to exaggerate the seriousness of his disability, the effect of which produces a psychosis which impairs his will power and accelerates his physical deterioration. Moreover, Dr. Schnitzler also states that it is a fact generally known that in the case of some injured persons the desire to obtain the highest possible pension even assumes the form of a disease. He further states that the so-called pension mania (*Rentenhyserie*) has for some time been the subject of serious concern. It has frequently been asserted that the form of compensation, i. e., the payment of pensions, is to blame for this evil, and lump-sum payments have been recommended as a remedy. But the expediency of this remedy must be doubted, even if it is left out of consideration that in the case of serious disabilities the permanent economic existence of the injured persons can only be assured by means of a pension. In his opinion very many, if not all, of the cases of pension mania could be avoided from the outset if the injured persons themselves could judge on the basis of the visible disabilities what compensation they might rightly expect. This would be possible if compensation rates were determined for the principal disabilities, in which rates a range could be left for the consideration of special factors such as occupation, age, sex, etc.

The committee also considered the advisability of providing a range of ratings allowing the commission to determine the rating within this range. The committee, however, came to no conclusion in regard to this problem. The objections to this practice are that it will require the commission to pass upon each individual case and that it will affect the facility with which the disabled workman is rehabilitated. In other words, instead of placing a premium upon speedy rehabilitation and restoration of earning capacity it will penalize the workman for this accomplishment.

The CHAIRMAN. The next one on the program is the chairman.

A COMPARISON OF PERMANENT PARTIAL DISABILITY RATINGS AND AWARDS.

BY GEORGE A. KINGSTON, MEMBER ONTARIO WORKMEN'S COMPENSATION BOARD.

It is now six and one-half years since, at the Columbus convention of this association, I presented a comparison of the treatment of permanent partial disability cases under the workmen's compensation laws then in force in the United States and Canada. (See Bulletin No. 210 of the United States Bureau of Labor Statistics for the report of that convention.)

There were then only our own Province of Ontario amongst the Canadian Provinces and 24 or 25 States of this Union with compensation laws in force. Now all the States except six and all but three of the Canadian Provinces have compensation laws on their statute books.

In view, therefore, of the contemplated presentation at this convention of a report of the Committee on Statistics and Compensation Insurance Cost, covering a proposed standard permanent disability schedule, it occurred to me that the time was opportune again to draw to the attention of compensation commissioners a comparison of the awards in permanent disability cases in these various jurisdictions.

For this purpose I sent out in August to all the boards in the United States and Canada a questionnaire embodying a few typical cases, the stated facts in each of which were taken from our own records in Ontario,¹ and requesting information as to what the award would be under their respective laws had these identical cases come before the various boards for consideration and action. I am much indebted for the replies I have received, and as a result I am able to present a comparison of nearly all the jurisdictions, particularly those in which the laws are administered by compensation boards.

There have been many improvements in these various laws since the first occasion above referred to, but there is still much room for improvement. A glance at these comparisons must provide food for earnest thought to anyone desiring to study this situation.

Labor prices, even in similar occupations, I know vary more or less in various localities, depending on the exigencies of the work, but I think any political economist will find difficulty in determining why a workman's arm in North Dakota, for example, is worth \$5,250 in terms of compensation cost and yet is worth only \$2,230 in Washington, or \$2,250 in Maine. Perhaps you will say these are widely separated districts and conditions vary. I do not consider there is anything in such an argument, but let us take adjoining States, and we find \$1,140 for an eye in Oregon and over twice that amount in the adjoining State of California on the south and Utah on the east. I know many jurisdictions are tied down by statutory

¹ For form of questionnaire, see p. 108.

limitations, but I doubt if legislators generally realize that there is such a wide spread between the various jurisdictions in the actual cash results under these various laws.

An examination of the various factors entering into a consideration of these cases is interesting. Take Pennsylvania, for example, reputed to be a 60 per cent compensation State, and refer to our leg case. If Pennsylvania really were a 60 per cent compensation State she would have paid this workman \$4,568, i. e., \$21.25 a week for 215 weeks, but instead of that she actually pays him only \$2,580, i. e., \$12 a week during the stated period; so the truth is, this State pays but little more than 30 per cent in such case. This net percentage, of course, becomes higher as the wages are lower. This same condition applies in a number of States where the low maximum still prevails.

It seems to me altogether wrong that a workman's disability should be measured in terms of weeks or months. I am glad to note in the report of the committee the recommendation to try to get away from that idea. You can not fairly value an arm on the assumption that a man will have recovered from the loss of it in so many weeks. It is a fixed and definite loss he must carry through life. It should be possible, it seems to me, to come to a substantial agreement that the loss of an arm, a hand, a foot, a leg, or an eye represents a certain percentage of impairment, because there is no varying factor about such losses. Speaking of terms of percentage, I doubt also the wisdom of the suggestion that in the proposed scale the percentage should vary with age. For years we in Ontario worked on the companion idea that the percentage of disability should vary with wages, the low-wage man getting the higher percentage, the thought being that the high-wage man would more readily adapt himself to his physical disability. After a thorough test of this idea we concluded that it was not sound, so we abandoned this type of scale a year or two ago. Now we use a scale of percentages that is constant for all ages and wages, but in working out the scale as applied to permanent partial disability cases the factors of age, wage, and occupation, etc., all enter into the situation. For example, take a man whose wages are \$21 a week; for convenience we have adopted as a constant $4\frac{1}{3}$ weeks to a month, so \$21 a week equals \$91 a month. We say that loss of arm at shoulder is a 70 per cent impairment—70 per cent of \$91 equals \$63.70. Ours is a $66\frac{2}{3}$ per cent law, so two-thirds of \$63.70 equals \$42.47. This would be such a workman's monthly pension for life. The age factor comes in, of course, in calculating the present value of the pension, but aside from this we always look at the man's age and occupation when considering a permanent partial disability case, and the board very frequently departs from the result which a mathematical application of the scale would produce. In other words, the scale is our servant, not our master, and it seems to me that any scale which is not elastic enough to enable the board to meet every condition according to its best judgment will not be found satisfactory.

Another feature of the committee's report in which I heartily concur is that relating to payment of compensation during the healing period. While a number of States have in recent years amended their laws to provide for payment of compensation during

the healing period in addition to, not concurrent with, the specific period allowed for specific injuries, there are still more than half the United States jurisdictions that adhere to the idea that for these specific losses the healing period must be included. One can readily conceive of many cases where by reason of the severity of conditions during the healing period, due possibly to infection delaying recovery an unusually long time as so frequently happens, there must be a tremendous inroad into the specific period. The true idea, it seems to me, should be that a man suffering the loss of an arm has suffered two distinct losses and they are really not concurrent. There is the loss caused by the shock of the accident, which is a loss as everyone knows affecting the whole system—loss of blood, loss of nerve, vitality, etc. While the workman is recovering from this initial loss, the loss of the arm is really of no consequence except as it may affect his nervous system, but as soon as he has recovered his lost vitality and is otherwise fit, then it is that he realizes the real loss of the arm as an economic factor in his future career. If the report of the committee bears no other fruit than to repair this wrong the effort will have been well worth while.

There has been much improvement in recent years in the matter of medical aid. Now practically every State and Province provides a measure of medical aid, many of them without limitation either as to time or amount. In the matter of the waiting period there seems yet much room for improvement. There are a great variety of systems in this respect, but I believe a short absolute waiting period of about three days is the ideal plan, certainly anything longer than a week is unnecessary and unreasonable, and where the waiting period is a conditional one, there is sometimes a tendency to petty malingering for a day or two in order to reach into the pay period. In Ontario we have the conditional one-week waiting period, but if I had the remaking of this section I would shorten the period to three days and make it absolute. This would in my judgment accomplish every object which the idea of a waiting period was intended to meet.

It is interesting to note in the figures I am giving a comparison of the awards as between most of the States where the insurance system still prevails and those States or Provinces which are under the exclusive collective liability system, sometimes referred to as the State fund system. In the latter jurisdictions, as you of course know, assessments are collected from the employers to pay compensation awards, and it seems to me from the figures I have collected that on the average these pay much more than do those jurisdictions whose risks are for the most part carried by insurance companies. Some one may say that you are unduly burdening industry with your higher awards, but I am satisfied such a statement can not be substantiated. I have yet to find a rate covering any industry in any of the rate sheets which I have had the opportunity of examining which is not considerably higher than the rates we collect in Ontario. The fact seems to me to be established beyond any doubt that on the average industry is taxed much heavier in those jurisdictions where liability insurance companies are still permitted to carry the compensation risk than is the case in those having exclusive

collective systems, and at the same time the injured workmen are being paid more money in the latter jurisdictions. The explanation is simple—insurance companies can not be expected to work for nothing, and everyone who has studied the situation knows that there is an overhead load on every rate, estimated at about 40 per cent. Certain statistics recently quoted from Pennsylvania amply confirm this view. (See Monthly Labor Review, April, 1922, p. 189.) Covering a 5-year period \$80,000,000 was collected in insurance premiums to pay losses amounting to \$35,000,000. I do not believe that employers generally understand this situation clearly or such an economically wasteful system would not be tolerated.

COMPARISON OF AWARDS IN PERMANENT DISABILITY CASES IN THE VARIOUS STATES AND PROVINCES.

[The figures represent gross amounts, except where otherwise specifically noted.]

CASE No. 1.—*Loss of thumb; age, 20; wages, \$21; temporary total disability, 14½ weeks.*

State or Province.	Amount.	State or Province.	Amount.
Minnesota.....	¹ \$1,015.51	Delaware.....	\$675.50
Nebraska.....	¹ 1,015.51	New Brunswick.....	¹ 665.55
North Dakota.....	¹ 1,015.51	Tennessee.....	630.00
Ohio.....	¹ 1,001.51	Alabama.....	630.00
Ontario.....	¹ 945.99	Oklahoma.....	630.00
Wisconsin.....	¹ 922.48	Virginia.....	630.00
New Jersey.....	864.00	Vermont.....	600.00
Nevada.....	846.38	Connecticut.....	549.50
New York.....	840.00	Utah.....	537.32
West Virginia.....	840.00	Idaho.....	527.10
Manitoba.....	¹ 805.00	Washington.....	524.70
Illinois.....	780.50	Iowa.....	504.00
Michigan.....	756.00	Georgia.....	465.50
South Dakota.....	743.05	California.....	409.50
Nova Scotia.....	¹ 727.57	Colorado.....	360.00
Oregon.....	742.80	Montana.....	315.00
Alberta.....	¹ 722.07	Massachusetts.....	² 297.33
Maryland.....	700.00	United States.....	³ 2,152.44
Maine.....	700.00	Wyoming.....	225.00
Indiana.....	693.00		

CASE No. 2.—*Loss of 2 fingers; age, 27; wages, \$25.47; temporary total disability, 6½ weeks.*

Ontario.....	¹ \$1,473.47	New Jersey.....	\$842.00
North Dakota.....	1,436.50	Delaware.....	828.10
California.....	1,374.08	Oklahoma.....	828.10
New York.....	1,290.48	Iowa.....	825.00
Minnesota.....	1,214.07	Alabama.....	780.00
Alberta.....	¹ 1,150.78	Virginia.....	780.00
Nevada.....	1,117.73	Tennessee.....	715.00
Nebraska.....	1,072.50	Oregon.....	689.53
Ohio.....	1,057.50	Vermont.....	643.37
South Dakota.....	1,001.71	Washington.....	619.85
Indiana.....	990.00	Utah.....	584.46
West Virginia.....	960.00	New Brunswick.....	¹ 541.46
Connecticut.....	949.13	Georgia.....	496.88
Maryland.....	933.90	Idaho.....	492.00
Nova Scotia.....	¹ 930.78	Montana.....	437.50
Wisconsin.....	914.11	Wyoming.....	350.00
Illinois.....	910.91	United States.....	³ 2,834.72
Manitoba.....	¹ 910.37	Massachusetts.....	² 327.67
Michigan.....	910.00	Colorado.....	310.00
Maine.....	880.00		

¹ Present value.

² See p. 106 for special provisions of law.

³ See p. 104 for special provisions of law.

COMPARISON OF AWARDS IN PERMANENT DISABILITY CASES IN THE VARIOUS STATES AND PROVINCES—Continued.

CASE No. 3.—*Loss of 4 fingers; age, 53; wages, \$24.40; temporary total disability, 14½ weeks.*

State or Province.	Amount.	State or Province.	Amount.
Manitoba.....	¹ \$3,664.98	Maine.....	\$1,408.00
Ontario.....	¹ 3,186.20	Michigan.....	1,400.00
California.....	2,632.76	Illinois.....	1,394.86
Alberta.....	¹ 2,598.42	Georgia.....	1,394.86
Indiana.....	2,508.00	Delaware.....	1,394.86
Utah.....	2,331.89	New Jersey.....	1,344.00
North Dakota.....	2,193.66	Iowa.....	1,317.40
Nova Scotia.....	¹ 2,171.22	Vermont.....	1,260.67
Pennsylvania.....	2,100.00	Oklahoma.....	1,220.00
New Brunswick.....	¹ 2,042.35	Alabama.....	1,200.00
New York.....	1,887.32	Virginia.....	1,200.00
Minnesota.....	1,859.69	Oregon.....	1,140.90
Nevada.....	1,770.67	Tennessee.....	1,100.00
Nebraska.....	1,715.00	Washington.....	1,012.20
Ohio.....	1,686.66	Idaho.....	921.87
Connecticut.....	1,553.47	Massachusetts.....	² 702.67
West Virginia.....	1,536.00	United States.....	² 834.72
South Dakota.....	1,534.35	Montana.....	700.00
Maryland.....	1,464.30	Colorado.....	310.00
Wisconsin.....	1,427.40		

CASE No. 4.—*Enucleation of eye; age, 48; wages, \$29.34; temporary total disability, 6½ weeks.*

Ontario.....	¹ \$2,639.20	Ohio.....	\$1,580.00
Manitoba.....	¹ 2,613.44	Illinois.....	1,559.91
North Dakota.....	¹ 2,603.00	Georgia.....	1,559.91
California.....	¹ 2,531.00	Vermont.....	1,545.24
Wisconsin.....	¹ 2,502.00	Iowa.....	1,500.00
New York.....	¹ 2,352.00	Montana.....	1,500.00
Utah.....	2,021.33	Pennsylvania.....	1,500.00
Indiana.....	1,980.00	Wyoming.....	1,500.00
Nebraska.....	1,970.00	Oklahoma.....	1,467.00
Nova Scotia.....	¹ 1,935.93	Michigan.....	1,400.00
Alberta.....	¹ 1,935.19	Colorado.....	1,390.00
Minnesota.....	1,914.00	New Brunswick.....	¹ 1,350.51
Nevada.....	1,887.70	New Jersey.....	1,260.00
Maryland.....	1,800.00	Washington.....	1,255.10
Delaware.....	1,750.62	Alabama.....	1,200.00
Idaho.....	1,650.60	Virginia.....	1,200.00
Connecticut.....	1,618.59	Tennessee.....	1,100.00
Maine.....	1,600.00	Oregon.....	1,086.85
South Dakota.....	1,595.00	Massachusetts.....	² 574.67
West Virginia.....	1,584.00	United States.....	² 813.63

CASE No. 5.—*Loss of arm; age, 25; wages, \$22.50; temporary total disability, 38 weeks.*

Manitoba.....	¹ \$10,072.22	New Jersey.....	\$2,840.00
Ontario.....	¹ 9,073.23	Oklahoma.....	2,812.50
Nova Scotia.....	¹ 8,092.46	Connecticut.....	2,767.50
Alberta.....	¹ 5,296.91	West Virginia.....	2,700.00
North Dakota.....	5,250.00	Michigan.....	2,700.00
Wisconsin.....	4,681.60	Illinois.....	2,677.50
New York.....	4,680.00	Georgia.....	2,677.50
Nebraska.....	3,945.00	Delaware.....	2,610.00
Ohio.....	3,555.00	Pennsylvania.....	2,580.00
Minnesota.....	3,375.00	Vermont.....	2,328.75
Nevada.....	3,308.00	Montana.....	2,250.00
California.....	3,290.63	Alabama.....	2,250.00
Indiana.....	3,095.00	Maine.....	2,250.00
Utah.....	3,089.24	Virginia.....	2,250.00
Iowa.....	3,037.50	Washington.....	2,230.60
Maryland.....	3,000.00	Tennessee.....	2,200.00
New Brunswick.....	¹ 2,970.55	Colorado.....	2,080.00
Idaho.....	2,972.80	Wyoming.....	1,500.00
Oregon.....	2,951.06	Massachusetts.....	² 1,045.00
South Dakota.....	2,944.00	United States.....	² 7,357.30

¹ Present value.² See p. 104 for special provisions of law.³ See p. 106 for special provisions of law.

COMPARISON OF AWARDS IN PERMANENT DISABILITY CASES IN THE VARIOUS STATES AND PROVINCES—Concluded.

CASE No. 6.—*Loss of foot; age, 33; wages, \$14.06; temporary total disability, 17½ weeks.*

State or Province.	Amount.	State or Province.	Amount.
Manitoba.....	¹ \$4,105.59	Oklahoma.....	\$1,200.00
Ontario.....	¹ 3,423.43	Wyoming.....	1,200.00
Nova Scotia.....	¹ 2,169.12	Indiana.....	1,159.50
New Brunswick.....	¹ 2,133.99	Utah.....	1,158.17
North Dakota.....	2,102.36	Idaho.....	1,112.84
New York.....	1,920.85	South Dakota.....	1,100.23
Oregon.....	1,758.46	Delaware.....	1,070.90
Alberta.....	¹ 1,744.78	Iowa.....	1,055.00
Wisconsin.....	1,645.20	Michigan.....	1,055.00
Minnesota.....	1,567.88	Connecticut.....	1,035.75
Nebraska.....	1,512.69	Georgia.....	1,000.61
Washington.....	1,450.80	West Virginia.....	984.00
Illinois.....	1,442.50	Vermont.....	958.42
California.....	1,407.41	Alabama.....	878.75
Maine.....	1,407.00	Tennessee.....	878.75
Maryland.....	1,405.50	Virginia.....	878.75
Nevada.....	1,389.63	Montana.....	878.00
Ohio.....	1,324.97	Colorado.....	731.12
New Jersey.....	1,321.17	Massachusetts.....	² 614.64
Pennsylvania.....	1,265.40	United States.....	³ 4,169.71

CASE No. 7.—*Loss of leg; age, 21; wages, \$35.42; temporary total disability, 36 weeks.*

Manitoba.....	¹ \$15,045.85	Utah.....	\$2,976.00
Ontario.....	¹ 14,933.07	Illinois.....	2,954.00
Alberta.....	¹ 7,711.96	South Dakota.....	2,940.00
Nova Scotia.....	¹ 7,331.10	Oregon.....	2,737.50
North Dakota.....	6,440.00	Indiana.....	2,640.00
New York.....	5,760.00	Pennsylvania.....	2,590.00
Wisconsin.....	4,070.00	New Jersey.....	2,516.00
California.....	3,978.53	Michigan.....	2,450.00
Connecticut.....	3,860.78	Idaho.....	2,438.00
Nevada.....	3,738.00	Maine.....	2,400.00
Nebraska.....	3,765.00	West Virginia.....	2,400.00
Minnesota.....	3,600.00	Washington.....	2,213.00
Delaware.....	3,450.00	Virginia.....	2,150.00
Georgia.....	3,165.00	Alabama.....	2,100.00
Ohio.....	3,150.00	Tennessee.....	1,925.00
Maryland.....	3,150.00	Montana.....	1,875.00
Oklahoma.....	3,099.28	Wyoming.....	1,500.00
New Brunswick.....	¹ 3,071.32	Colorado.....	1,390.00
Vermont.....	3,075.00	Massachusetts.....	² 1,049.53
Iowa.....	3,000.00	United States.....	³ 7,647.00

¹ Present value. ² See p. 104 for special provisions of law. ³ See p. 106 for special provisions of the law.

PROVISIONS OF COMPENSATION LAWS AS TO PERMANENT DISABILITY AWARDS.

The following is a short description of the law as regards disability awards in the jurisdictions included in the comparison which I am presenting. In examining the figures in the comparison of awards of the various cases (see pp. 100-102) a reference to this digest of the law will in most instances provide an explanation as to why the amount in a given case is more or less, as the case may be, than the amount payable for a similar claim in another jurisdiction.

CANADA.

Alberta.—Rate of compensation, 55 per cent; temporary total payable in addition to permanent partial disability awards; maximum weekly compensation, \$21.16, i. e., 55 per cent of \$38.46 per week, or \$2,000 per year; waiting period 3 days, not applicable if disability continues 10 days or longer; provision for medical aid, but it is payable from a fund to which the workmen contribute. Permanent total disability, regular weekly compensation for life.

In all permanent partial disability cases satisfactory evidence must be produced that there is a reduction of wages due to the disability. Permanent par-

tial disability ratings are in accordance with a scale adopted by the board, stated in terms of percentages of total disability, and awards are in the shape of monthly pensions. Workmen may apply for a commutation of such pensions, which commutation would be taken as the present value of the life of a workman aged 40.

British Columbia.—Rate of compensation, 55 per cent; temporary total payable in addition to permanent partial disability awards; maximum weekly compensation, \$21.16, i. e., 55 per cent maximum salary of \$38.46 a week, or \$2,000 a year; 3-day absolute waiting period; full medical aid, and provision for artificial limbs. Permanent total disability, regular weekly or monthly compensation for life.

Permanent partial disability ratings are in accordance with a scale adopted by the board, stated in terms of percentages of total disability. Original percentages are varied by age and wage factors.

Manitoba.—Rate of compensation, 66 $\frac{2}{3}$ per cent; temporary total payable in addition to permanent partial disability; maximum weekly compensation, \$25.64, i. e., 66 $\frac{2}{3}$ per cent of maximum wage basis, \$38.46 a week, or \$2,000 a year; minimum weekly compensation, \$15; 3-day absolute waiting period; full medical aid, and provision for artificial limbs. Permanent total disability, regular weekly compensation for life.

Cases where the disability is 10 per cent or less are settled by payment of a lump sum. Permanent partial disability ratings are in accordance with a scale adopted by the board, stated in terms of percentages of total disability.

New Brunswick.—Rate of compensation, 55 per cent; temporary total payable in addition to permanent partial disability awards; maximum weekly compensation, \$15.87, i. e., 55 per cent of \$125 per month, or \$23.85 a week; one-week conditional waiting period, not applicable if disability lasts more than seven days; full medical aid, but no provision for artificial limbs. Permanent total disability, regular monthly pension for life, i. e., 55 per cent of wages, \$63.75 a month maximum, present values figured on a 4 per cent basis.

Permanent partial disability ratings are made by the board on a scale proportionate to the diminution of earning capacity and the degree of disfigurement—maximum, \$2,500. In working out these permanent partial disability ratings the board has adopted a system as follows: Maximum, 120 per cent; standard plus, 110 per cent; standard, 100 per cent; and substandard, 90 per cent of the ordinary rating after the regular variances due to age and wage are calculated.

Nova Scotia.—Rate of compensation, 55 per cent; temporary total payable in addition to permanent partial disability awards; maximum weekly compensation, \$12.69, i. e., 55 per cent of maximum wage basis of \$23.08; one week conditional waiting period, not applicable if disability continues seven days or longer; 30 days medical aid, no provision for artificial limbs. Permanent total disability, regular rate of compensation payable in the form of a monthly pension.

Ontario.—Rate of compensation, 66 $\frac{2}{3}$ per cent; temporary total payable in addition to permanent partial disability awards; maximum weekly compensation, \$25.64, or two-thirds of maximum yearly wage of \$2,000, or \$38.46 per week; full medical aid, and provision for artificial limbs; one-week conditional waiting period, not applicable if disability lasts seven days or longer. Permanent total disability, regular monthly compensation for life.

Permanent partial disability ratings are made by the board and are quoted in terms of percentage of total disability according to an established rating scale, ranging from a minimum of 0.005 per cent for loss of distal phalange of little finger to 85 per cent for loss of leg at hip joint, difference of approximately 10 per cent between rating for major and minor hand, arm, or fingers. Permanent partial disability cases with under 10 per cent disability are disposed of by lump-sum awards; more serious cases by life pensions. The figures relating to Ontario in the comparative disability awards (see pp. 100-102) represent in each case the present value of the pension award calculated on a 5 per cent basis and including mortality on the basis of the American Experience Table of Mortality.

UNITED STATES.

Alabama.—Rate of compensation, 50 per cent; weekly maximum, \$12; 5 per cent of weekly wages extra where there are dependent children, not to exceed in all 60 per cent nor a weekly maximum of \$15; temporary total in-

cluded in permanent partial disability; medical aid, limit \$100 for first 60 days; artificial limbs furnished; substantial State appropriation to provide for vocational rehabilitation. In Case No. 4, if it is the loss of second eye, case is considered three-fourths of permanent total disability.

California.—Rate of compensation, 65 per cent, but the actual rate is determined by taking 65 per cent of 95 per cent of the actual weekly wage, this being considered the average wage; waiting period, one week; temporary total is included in permanent partial disability, i. e., claimant does not receive both, but whichever is the greater of the two; full medical aid.

Permanent disability ratings are determined by a schedule which considers age, occupation, and nature of injury. For disabilities amounting to 70 per cent or more, regular weekly compensation is payable for 240 weeks and thereafter a life pension, ascertained by taking the difference between the rating given and 60 per cent, then taking that percentage of the average weekly wage.

Colorado.—Rate of compensation, 50 per cent; weekly maximum \$10; 10-day waiting period; temporary total included in permanent partial disability, except where amputation is done at a date subsequent to accident, then temporary total to date of amputation is payable (less the 10 days waiting period) in addition to specific provision; medical aid, limit \$200 for first 60 days. Permanent total disability, regular weekly compensation for life.

Connecticut.—Rate of compensation, 50 per cent; temporary total payable in addition to specific number of weeks; maximum weekly compensation, \$18; 7-day conditional waiting period, but this is not applicable if disability lasts 4 weeks or more; full medical aid, and provisions for artificial limbs. Permanent total disability, regular weekly compensation for 10 years.

Idaho.—Rate of compensation, 55 per cent; temporary total payable in addition to the specific number of weeks; weekly maximum, \$13.10 if the workman is married and has dependent minor children, 5 per cent additional added to the weekly wage percentage, but \$16 per week would be the maximum in any such case, this special provision being applicable only to temporary total, not to permanent partial, disability rating; seven-day waiting period, but this is gradually absorbed after four weeks at the rate of one day per week, so that after seven weeks there is no waiting period; full medical aid, but no provision for artificial limbs. Permanent total disability, 55 per cent or \$12 a week maximum for 400 weeks, thereafter \$6 a week for life.

Illinois.—Rate of compensation, 50 per cent; increased 5 per cent for each child under 16; temporary total payable in addition to specific number of weeks; no waiting period; minimum compensation, \$7.50 per week, maximum, \$14, but these figures are increased \$1, \$2, or \$3, respectively, should the injured workman have 1, 2, or 3 children under 16 at time of injury; full medical aid, but artificial limbs not provided for. Permanent total disability, regular weekly compensation till \$3,750 has been paid, small pension thereafter.

Indiana.—Rate of compensation, 55 per cent; temporary total included in permanent partial disability; maximum compensation, \$13.20 per week; medical aid for first 30 days after injury. In the eye case, No. 4, in addition to the 150 weeks there may be added an allowance for disfigurement resulting from enucleation, not exceeding in all 200 weeks. Permanent total disability, 500 weeks, limit \$5,000.

Iowa.—Rate of compensation, 60 per cent; temporary total included in permanent partial disability; maximum compensation, \$15 per week; medical aid, limit \$200; no provision for artificial limbs. Permanent total disability, regular compensation allowance for 400 weeks.

Maine.—Rate of compensation, 66 $\frac{2}{3}$ per cent; temporary total included in permanent partial disability; maximum weekly compensation, \$16; after expiration of the specific statutory period partial compensation is paid in accordance with the ability of claimant to work, two-thirds of the difference between what he was earning at time of accident and what he is able to earn at expiration of specified period; full medical aid, including artificial limbs. Permanent total disability, regular compensation for 500 weeks; limit, \$6,000.

Maryland.—Rate of compensation, 66 $\frac{2}{3}$ per cent; temporary total included in permanent partial disability; maximum compensation, \$18; waiting period, 3 days; medical aid, limit \$300; this would include artificial limbs if necessary. Permanent total disability, regular weekly compensation till total aggregate of \$5,000 is paid.

Massachusetts.—Rate of compensation, 66 $\frac{2}{3}$ per cent; temporary total in addition to specific number of weeks; maximum compensation for temporary

total, \$16, but only \$10 for permanent partial disability; 10-day waiting period; full medical aid, and provision for artificial limbs. In the comparison of disability awards (see pp. 100-102) this State appears low in the lists, but these figures do not tell the whole story. In all cases the injured workman is entitled to a maximum compensation of \$4,000, and in any of the cases used in the illustration should the workman be incapacitated at any future time after his return to work by reason of a condition due to his original injury he would be entitled to further compensation within this limit, based upon the wages he was receiving at the time he was hurt. If on his return to work he is not able to earn as much wages as at the time of his injury, because of a condition due to the injury, he becomes entitled to partial compensation, two-thirds of the deficiency. Permanent total disability, regular weekly compensation up to an amount of \$4,000, thereafter \$10 a week for 100 weeks.

Michigan.—Rate of compensation, 60 per cent; temporary total included in permanent partial disability except where amputation is done at a date subsequent to accident, then temporary total to date of amputation, less the 7-day waiting period. It is held under the Michigan law that an injured workman is entitled to compensation until he can return to the same employment in which he was injured. Maximum compensation, \$14; 7-day waiting period; medical aid, first 90 days. Permanent total disability, regular compensation for 500 weeks.

Minnesota.—Rate of compensation, 66½ per cent; temporary total payable in addition to specific number of weeks; maximum weekly compensation, \$18; 7-day waiting period; full medical aid, also provision for artificial limbs. Provision in cases such as Nos. 3, 4, 5, 6, and 7 for reeducation under direction of the reeducation division of State department of education for a period of 25 weeks in each case at the regular compensation rate. Permanent total disability, regular weekly compensation during disability, maximum limit, \$10,000.

Montana.—Rate of compensation, 50 per cent; temporary total included in permanent partial disability, except where amputation is done at date subsequent to accident, then temporary total to date of amputation in addition to schedule; maximum weekly compensation, \$12.50; 2-week conditional waiting period—this is not applicable if disability lasts 6 weeks or over; medical aid, limit 2 weeks, cash limit \$100, except in case of hernia, where there is an extra allowance of \$50 for operation. Permanent total disability, regular weekly compensation for 400 weeks and \$5 per week thereafter.

Nebraska.—Rate of compensation, 66½ per cent; temporary total payable in addition to specific number of weeks; maximum weekly compensation, \$15; 7-day conditional waiting period, not applicable if disability lasts 6 weeks or over; full medical aid. Permanent total disability, regular weekly compensation for 300 weeks, thereafter a life pension equal to 45 per cent of wages, with a maximum of \$12 per week.

New Jersey.—Rate of compensation, 66½ per cent; temporary total payable in addition to specific number of weeks; maximum weekly compensation, \$12; 10-day waiting period; practically full medical aid. Permanent total disability, regular weekly compensation for 400 weeks.

New Hampshire.—Rate of compensation, 50 per cent; waiting period, 2 weeks; maximum weekly compensation, \$10; compensation is paid during disability from end of second week, limited to 300 weeks; no medical aid provision; court administration.

Nevada.—Rate of compensation, 50 per cent, but where an injured workman has total dependents an additional allowance of \$10 a month is made during temporary total disability; maximum weekly compensation for temporary total disability, \$20.50, and for permanent partial disability, \$15; temporary total payable in addition to specific number of weeks; waiting period, 7 days—not applicable if disability lasts 2 weeks or longer; medical aid, one-year limit, and provision for artificial limbs. Permanent total disability, regular weekly compensation for life and if the services of a constant attendant are needed a sum up to \$7.50 per week additional will be allowed.

New York.—Rate of compensation, 66½ per cent; temporary total included in permanent partial disability; maximum weekly compensation, \$20; 2-week conditional waiting period, not applicable if disability lasts 7 weeks or over; full medical aid since July 1 last, but no provision for artificial limbs. A recent amendment (July 1, 1922) to the New York law might affect the rating in cases Nos. 2 and 3. This provides that multiple dismemberments of fingers or

toes may be made proportionate to the loss of hand or foot. No definite schedule of proportion under this provision has yet been adopted by the board. Permanent total disability, regular weekly compensation for life.

North Dakota.—Rate of compensation, 66 $\frac{2}{3}$ per cent; temporary total payable in addition to the specific number of weeks; maximum weekly compensation, \$20; 7-day conditional waiting period, not applicable if disability lasts over 7 days. The schedule of specific permanent partial disability allowances in this State is fixed and filed by the board. This must not be changed more than once a year. Under this schedule 5.2 weeks are allowed for each 1 per cent of disability. Limited medical aid provision; no provision for artificial limbs. Permanent total disability, regular weekly compensation for life.

Ohio.—Rate of compensation, 66 $\frac{2}{3}$ per cent; temporary total payable in addition to specific number of weeks; maximum weekly compensation, \$15; 1-week waiting period; full medical aid. Permanent total disability, regular weekly compensation for life.

Oregon.—Rate of compensation for temporary total disability, 40 to 66 $\frac{2}{3}$ per cent according to family conditions; temporary total payable in addition to specific permanent partial disability provision; maximum monthly compensation varies also according to the family conditions, and ranges from a maximum of \$55, in the case of an unmarried workman, to a maximum of \$97 a month when he has a wife and four or more children under 16; full medical aid, and provision for artificial limbs.

In addition to above, vocational rehabilitation is furnished. This includes expert vocational advice and such financial assistance in addition to permanent partial disability allowance as will provide for living expenses during training, the combined payments ranging from \$62.50 per month for single men to \$110 per month for married men with four children. Where during training it is necessary for a married worker to live away from his family these amounts are increased. He is also allowed traveling expenses, books, tuition fees, etc. It is reported that the first 11 vocational rehabilitation cases involving loss of hand, arm, leg, or foot who finished training cost the compensation board an average of \$609.12 each in addition to permanent partial disability benefits, the cost in individual cases ranging from \$173 to \$1,396, not including in this any administrative cost.

Permanent total disability, regular monthly compensation during healing period, then a monthly pension for life ranging according to family conditions—\$30 for an unmarried man, \$35 for married man with wife only, and an additional amount of \$8 per child in case workman has wife and child or children.

Pennsylvania.—Rate of compensation, 60 per cent; temporary total included in permanent partial disability; maximum weekly compensation, \$12; 30 days medical aid, limit \$100; 10-day waiting period. Permanent total disability, regular weekly compensation for 500 weeks, limit \$5,000.

Rhode Island.—Rate of compensation, 50 per cent; temporary total included in permanent partial disability; maximum weekly compensation, \$10 during partial disability, \$16 during total; 1-week conditional waiting period, not applicable if disability lasts four weeks or longer; medical aid, time limit 8 weeks, cash limit \$200. Permanent total disability, regular weekly compensation 500 weeks, maximum \$5,000.

South Dakota.—Rate of compensation, 55 per cent; temporary total payable in addition to specific number of weeks; maximum weekly compensation, \$15; medical aid, time limit 12 weeks, cash limit \$150; no provision for artificial limbs; waiting period, 10 days, but this is not applicable if disability continues 6 weeks or longer. Permanent total disability, regular weekly compensation till amount paid equals maximum death benefit, viz, \$3,000.

Tennessee.—Rate of compensation, 50 per cent; temporary total included in permanent partial disability; maximum, weekly compensation \$11; medical aid, limit 30 days, cash limit \$100. Permanent total disability, regular weekly compensation for 400 weeks, then \$5 per week for 150 weeks, total maximum \$5,000.

United States.—Rate of compensation, 66 $\frac{2}{3}$ per cent; temporary total payable in addition to permanent partial disability allowances; maximum monthly compensation \$66.67 or two-thirds of maximum monthly salary of \$100; full medical aid, and provision for artificial limbs and repairing and replacing same; 3-day waiting period. Permanent total disability, regular compensation

of \$66.67 a month for life. The board fixes a rating for each injury or disability, but payment of the award based on such rating depends on claimant's actual earning ability. If he goes back in the service at former wages after expiration of the healing period, he is not entitled to any permanent partial disability payment so long as this condition continues, even though he may have suffered loss of arm. If, however, at any later time the workman should lose his employment and find it necessary to secure other employment he would be entitled again to claim compensation. (In my schedule of comparisons, I have put this law next to Massachusetts because while there is quite a marked contrast in method there is substantial similarity in result, except of course in permanent total disability cases where the Massachusetts maximum \$4,000 puts this State out of comparison with the Federal law.)

Utah.—Rate of compensation, 60 per cent; temporary total payable in addition to specific number of weeks; maximum weekly compensation, \$16; full medical aid, but no provision for artificial limbs. Permanent total disability, regular weekly compensation 60 per cent of wages for 5 years, thereafter 45 per cent for life. Special provision creating a fund to take care of second accidents by requiring a payment of \$750 in each death case where there are no dependents.

Vermont.—Rate of compensation, 50 per cent; temporary total payable in addition to specific number of weeks; maximum weekly compensation, \$15; medical aid, time limit 14 days, cash limit \$100; one-week waiting period. Permanent total disability, regular weekly compensation, limit 260 weeks.

Virginia.—Rate of compensation, 50 per cent; temporary total included in permanent partial disability; maximum weekly compensation, \$12; medical aid for 60 days, no provision for artificial limbs; 10-day waiting period, not applicable if the disability lasts 6 weeks or longer. Permanent total disability, regular weekly compensation for 500 weeks, cash limit \$4,500.

Washington.—Rate of compensation \$30 to \$50 a month, depending on family conditions, ranging from \$30 for an unmarried man to \$50 for a married man with four or more children; proportionately smaller sum where disability is only partial; temporary total payable in addition to permanent partial disability allowances; one-week conditional waiting period, not applicable if disability lasts four weeks or longer; practically full medical aid, and provision for artificial limbs.

West Virginia.—Rate of compensation, 50 per cent; temporary total included in permanent partial disability; maximum weekly compensation, \$12; full medical aid, but no provision for artificial limbs; one-week waiting period. Permanent total disability, regular weekly compensation for life.

In permanent partial disability ratings the law provides a schedule of weeks, but instead of relating these periods to definite injuries as most of the States do, it speaks in terms of percentages of total disability, and it is left to the board to determine the percentage of total disability in each particular case. Each one per cent of total disability so found entitles the workman to four weeks' compensation.

Wisconsin.—Rate of compensation, 65 per cent; temporary total included in permanent partial disability except where amputation or enucleation is had subsequent to date of accident. In such cases temporary total is paid to date of amputation or enucleation in addition to specific allowance for permanent partial disability. Maximum weekly compensation, \$16.90; i. e., 65 per cent of maximum wages, \$26; one-week conditional waiting period, not applicable if disability lasts four weeks or over; full medical aid, and provision for artificial limbs. Permanent total disability, regular weekly compensation 15 years.

Special provision in this State for second accidents. In each case of the loss or of the total impairment of a hand, an arm, a foot, a leg, or an eye, the employer is required to pay the additional sum of \$150 to provide a fund out of which special additional compensation is paid on account of accidents involving the loss of second such member, the direct liability of the employer in respect to the second accident being the same as the first. This fund takes care of the excess.

Special provision in this State also for rehabilitation instruction under the State board of vocational education; up to \$10 per week allowed for this in addition to compensation for a period not exceeding 20 weeks.

QUESTIONNAIRE ON SERIES OF STATED WORKMEN'S COMPENSATION CASES.

STATE OF -----
 REPORT BY -----

Case 1.—Workman, age 20, married, employed in a wood yard. Permanent injury—left thumb, thumb off at proximal joint. Weekly wages \$21. Totally disabled 14½ weeks. Medical expenses were \$63.95.

Case 2.—Workman, age 27, unmarried, employed in a machine shop. Permanent injury—right index and second fingers off at proximal joints. Weekly wages \$25.47. Totally disabled 6½ weeks. Medical expenses were \$48.

Case 3.—Workman, age 53, married, employed as laborer in a beaver-board factory. Weekly wages \$24.40. Permanent injury—all four fingers right hand cut off at proximal joints. Totally disabled 14½ weeks. Medical expenses were \$93.

Case 4.—Workman, age 48, married, sawmill hand. Weekly wages \$29.34. Permanent injury—eye enucleated. Totally disabled 6½ weeks. Medical expenses \$146.

Case 5.—Workman, age 25, married, employed as assistant sawyer in a sawmill. Weekly wages \$22.50. Permanent injury—right arm amputated, leaving only a short stump from shoulder. Totally disabled 38 weeks. Medical expenses were \$283.77. Artificial arm cost \$142.46.

Case 6.—Workman, age 33, married, employed as laborer in a pulp and paper mill. Injury—foot amputated at ankle. Weekly wages \$14.06. Totally disabled 17½ weeks. His medical expenses were \$189.90, including traveling expenses and board, totaling \$51.90, incident to being fitted for artificial limb. Artificial limb cost \$77.12.

Case 7.—Workman, age 21, married. Employed as painter for the board of education in a certain city. Permanent injury—femur amputated at junction of middle and upper third. Weekly wages \$35.42. Totally disabled 36 weeks.

DISCUSSION.

Mr. CHANDLER. In giving the total for any particular State (Connecticut, from which I come, for instance) or Canadian Province, is there included in that total the specific indemnity for the loss of an arm plus the sums which the man may have received as temporary partial compensation before permanent disability compensation starts?

The CHAIRMAN. Yes; that is included. I have the figures which produce these results. In the questionnaire I sent out, the particular cases I included did not embody any temporary partial disabilities.

I realize that there are a lot of cases that do; but it would confuse the comparison a bit to include that. I simply put a clear-cut case involving a definite limit of so many weeks of temporary total disability, and assumed for the purpose of my comparison that at the end of the period stated in these cases the man was ready to be considered as a permanent partial disability case. With us, if there were a six weeks' temporary partial that would be added, and on top of all that there would be the permanent disability award. I have not included in the figures the amount paid for medical aid, because it is a little difficult to work out the situation as to that. Practically full medical aid is paid in all of the minor cases here. In some of the larger cases there are some limitations.

Mr. CHANDLER. I do not see how that can be arrived at. For instance, you take eye case No. 4. That gets \$1,618. Now, it is quite conceivable that that man was disabled so long that he received compensation for as much as that, and that the total amounted to about \$3,000. I do not see how that can be arrived at, because the total varies in each particular case.

The CHAIRMAN. Your own figures indicate to me the medical, surgical, and hospital expenses as long as necessary, including the cost of the glass eye. Disability payments, six and one-third weeks, at \$14.67 per week, \$92.91; 104 weeks, at \$14.67 a week, \$1,525.68; making a total of \$1,618.59.

Mr. CHANDLER. You just estimated an arbitrary number of weeks for the total?

The CHAIRMAN. My specific case predicated a specific number of weeks' total disability; otherwise I could not make a uniform comparison. I had to assume a certain man disabled six or seven weeks, as the case may be, of a certain age and making a certain wage, injured in each one of these jurisdictions, so that I might have an absolutely uniform comparison. And here is the result. This is the result that would be produced in each of these jurisdictions by putting that particular case on trial in each place.

Mr. THAYER. May I ask, Mr. Kingston, how you got the figures from Maine?

The CHAIRMAN. Mr. Eddy was good enough to give me the figures. What he says is this—

Mr. THAYER (interposing). May I ask, first, when was this questionnaire sent out?

The CHAIRMAN. It was sent out in August, and I have Mr. Eddy's reply under date of September 19th this year. Mr. Eddy says in his reply:

The injured employee would receive compensation at the rate of \$16 a week for a specified period of 100 weeks; and in this, as in all other cases, necessary and reasonable medical bills during both the period of total disability and during the period, if there is any, of partial.

Mr. THAYER. So that in addition to the \$1,600 there is a period of 200 weeks when he might get total or partial?

The CHAIRMAN. Well, do you pay a temporary total in Maine in addition to the specific period?

Mr. THAYER. Our law provides that if, after the expiration of the specific period in any of what we call specific cases, the man is per-

manently or partially incapacitated, he shall have compensation for a period of not exceeding 300 weeks.

The CHAIRMAN. I realize that there are qualifications in many of these laws which do not tie this situation down to an absolute finality. But in general terms, this is an expression of a fairly exact comparison.

Mr. CHANDLER. Mr. Kingston, if you leave out the factor of partial incapacity—there are really three factors entering into the total: First, the period of total incapacity; second, an intervening period of partial incapacity measured by lost earning power; and third, the factor of specific indemnity. Now in my State that is not counted. You have not counted the period of partial disablement.

The CHAIRMAN. For the purposes of this comparison, these cases are predicated on the supposition that there is no intervening period of partial incapacity. There is a sharply drawn line at the end of temporary total disability when we say the man is able to go to work and the condition is as fixed and final as it ever will be. So we simply shift that case from the temporary total category to the permanent partial category, without any intervening period. I know there are a number of cases, as I said before, where there is an intervening period, but for the purposes of this comparison, there isn't any.

Mr. THAYER. Why should that case be predicated on the supposition that there is no subsequent period of incapacity or temporary total subsequent to the period? I do not see why that case should be predicated on that supposition. That is not the fact.

The CHAIRMAN. I have assumed for the purpose of this comparison that the man is as fit as he ever will be at the end of the period stated in respect to each of these cases.

Mr. THAYER. That is very true, and therefore for a period of 200 weeks in the eye case he may be drawing partial or total compensation under our law. Therefore your \$1,600 does not represent at all what an eye case costs.

The CHAIRMAN. That may be true in another case, but it is not supposed to be the fact in respect to the case in my questionnaire.

Mr. HATCH. I think that some of this discussion is way beside the point. Now what Mr. Kingston tried to do was to set up a case of a certain kind—that is, a man at a certain age, with a certain wage and a certain temporary total disability. Then he said, What do the laws of the different States give that man? And he worked it out this way. Now there may be scores of cases in any of your States that will give different results, but they won't be that kind of a case, they will be another kind of a case. All Mr. Kingston wants to show is that a case with certain defined factors produces one result in one State and another result in another. I notice that there is a certain sensitiveness here on the part of the various State representatives when they see these figures and they want to know why their States are so far down. That is a very laudable wish. But please bear in mind what Mr. Kingston is driving at, that he is talking about a certain case with certain arbitrarily stated factors in it. Now that kind of a case does not produce the same results in all the States. That is the outstanding and important thing about

it, that there is a tremendous variety of results in the different States. The facts in those figures are the reason why in Chicago you instructed your committee on statistics to try to work out some kind of a standard permanent disability schedule, so that a workman in Massachusetts would get the same kind of treatment that he would in Connecticut, for example. There is no earthly reason why there should be a difference between the two States for the same kind of a case. That is what we are talking about.

Mr. KENNARD. I should like to ask what is the value of figures such as you have there? What is the value of figures that are so substantially unsound, as has been brought out here with reference to Maine and Connecticut?

Mr. CHANDLER. I say that the points brought out in the inquiries are on the question, because in discussing statistics it is proper to discuss the basis from which the statistics start.

The CHAIRMAN. Absolutely. This isn't anything more than what it pretends to be—a comparison of these special cases with these special facts.

Mr. MCSHANE. I would ask that the chairman, who has prepared the paper, read this specific case in No. 4 of the problems that he sent to the various jurisdictions, and then ask these jurisdictions as to whether or not his figures are correct.

The CHAIRMAN. I may say that so far as these figures are concerned, they are not my figures. I would not have ventured to make these comparisons without first asking each jurisdiction what it does in these particular cases.

Mr. MCSHANE. May I interrupt you again for the sake of time? You stated a very specific problem, as Mr. Hatch has related here, and sent it to all the jurisdictions. We all replied. If we made a mistake, that is our fault, not Mr. Kingston's.

Mr. THAYER. Well, if he made a mistake in interpreting the reply, it is not our fault. We would like to have our State's provisions put on there, because we are discussing whether or not the provisions of that State are as good for the laboring man as the provisions he is advocating here in this report.

Mr. MCSHANE. I doubt if there will ever arise a case in Utah which will give the same result that is given here, but the case that he submitted will give it.

Mr. MACKAY. It might be reassuring to you, Mr. Kingston, to state that your figures are absolutely correct as far as Pennsylvania is concerned. I think we are approaching a discussion of this question from the wrong angle. Every commissioner here who has attacked these figures seems to feel that he must defend his State. As far as I am concerned, I have never felt that I am called upon to defend the Pennsylvania law, because I did not make it and I think it is bad in many particulars. We are only interpreting the law that a bad legislature gives us. We didn't make it, and it is very insufficient in a great many details. I am indebted to Mr. Kingston for this comparative table, because I should like to have it published before the legislature of Pennsylvania.

Mr. HOOKSTADT. I want to say just a word, that I think that Mr. Thayer, of Maine, is correct in his criticism. You should have

made the same explanation for Maine as you did for Massachusetts. Maine pays for temporary disability after the period in the schedule, the same as Massachusetts does. I think his criticism is justified—but his only.

The CHAIRMAN. Well, I haven't got through with all I intended to say. I have here the returns from Maine, and I have a few notes that I want to speak on regarding a few of the other cases which Mr. Eddy commented upon in reporting the matter to me.

This is what Maine says:

In case No. 1 you state that the weekly wages were \$21. The assumption is that this injured man was a six-day worker, and that his day rate was \$3.50. For a day rate the Maine law allows \$13.46 weekly compensation, and is arrived at, as above mentioned, by multiplying \$3.50 by 300 days, dividing by 52 weeks, which gives the average weekly rate, according to the workmen's compensation formula, and then take two-thirds of the result, which in this case is \$13.46. In the event that the man was a seven-day worker, the amount should be increased one-sixth. In addition to this, the injured is allowed all necessary and reasonable medical and hospital bills during the whole life of the case.

Then in answer to question No. 1—"Compensation would be allowed under the Maine act at the rate of \$13.46 for a specific period of 50 weeks, after which partial compensation would be paid in accordance with the ability of the injured to work." That is the point which you wish to have expressed.

Now there are just two or three other matters which I wish to touch on. I wish especially to mention the effort that has been made (and it is included in the returns which have been made to me) by Oregon, Minnesota, and Alabama as regards their rehabilitation work. I am not quite sure that that is all, but it is all that was especially mentioned to me. There may be other States that are devoting a considerable amount of attention to vocational rehabilitation, taking advantage of the Federal law in that respect.

There is a peculiar feature of the Michigan law which is worthy of note and perhaps worthy of considerable criticism. They say in Michigan that a man is totally disabled until he is able to go back to work in the same employment in which he is injured. The effect of that, I suppose, would be that if a piano player were injured (lost his fingers) under the law he would be totally disabled for life.

There is a new law in New York, which is going into effect presently, on the question of multiple dismemberments. That would deal with questions Nos. 2 and 4. In Ontario we have adopted this practice with regard to multiple dismemberments: For two fingers we take the scale of the individual fingers, added together, and add 50 per cent; for three fingers we take the scale of the three individual fingers and add one hundred per cent; and for four multiple injuries we do not use the scale at all; we deal with that injury in terms of a percentage of the hand.

Two rather unique methods of dealing with this permanent partial disability are found in the North Dakota law and the West Virginia law. These States have adopted the suggestion of Mr. Hookstadt as to speaking of permanent partial disability losses in terms of percentage of total disability. They have worked it out to this effect: That for every per cent of disability North Dakota pays 5.2 weeks, while West Virginia pays 4 weeks. The law in North Dakota gives

the commission the authority to make the scale, and having once made the scale it can not be changed for a year.

Utah has a unique feature which I feel like commending to the consideration of this body. I think there are some of the other States that do somewhat the same thing. They collect in every death case where there are no dependents the sum of \$750, and a sum is thereby created out of which compensation for second accidents is paid—that is, accidents involving the second arm, the second leg, the second eye, and thus creating total disability.

Wisconsin, for the purpose of providing the same type of fund, charges an additional \$150 in each eye case, leg case, arm case, foot case, and hand case, which is set aside to provide for a second accident to the eye, leg, arm, foot, or hand.

Now Oregon and Washington (I think Wyoming does the same) pay special regard to the family conditions of the injured worker. If he has a wife, or two or three children, the compensation payable in his particular case is considerably more than in the case of the man who has no dependents.

I think that is all I can usefully say at the moment. My whole idea in making this comparison was to try and visualize to this meeting, if I could, the enormous disparity there is between the various States in the matter of compensation to injured workmen for these permanent partial disabilities, and I say that this report which the committee is presenting this morning is long overdue. It seems to me that it is nothing but an outrage that a man in one State is given \$1,000 or \$1,500 for the loss of a member, while in an adjoining State he may be given twice or three times that amount. This cannot appeal to reasonable men as right. Of course, I realize how the State commissions in all of these jurisdictions are tied up by their legislatures, but I hope that the result of this discussion may lead to the legislatures being advised as to what the true condition is, because I can not believe they realize that there exists such a disparity as is shown here.

Mr. WILLIAMS. In making up this rating (take, for instance, Ontario), who comes under the terms of your act—everybody?

The CHAIRMAN. Everybody except merchants, school teachers, and farmers.

Mr. WILLIAMS. What is the proportion of your farmer population?

The CHAIRMAN. I do not believe I can tell you. It is a large percentage.

Mr. WILLIAMS. So a very small percentage of the people come under the act after all?

The CHAIRMAN. No, not at all, in Ontario. I should say over half the population. That is a guess. I would not venture to say that I am right in that. There is a very large industrial population in Ontario.

Mr. WILLIAMS. In the other States, like North Dakota, does agricultural labor come under the law?

The CHAIRMAN. There is no State except New Jersey where agricultural laborers come under the law, I understand.

Mr. DUXBURY. I understand that if a case containing different factors and conditions than the case that is stated here could be sent out, it might rearrange the order of these States.

The CHAIRMAN. It might, with some States.

Mr. DUXBURY. Then the point to bring out is that a particular individual case settled in the different States would produce the different results shown here?

The CHAIRMAN. Substantially.

Mr. DUXBURY. If you take another State's individual case, you change the arrangement?

The CHAIRMAN. Well, take this for example, where the wages of that man are \$35 a week. You can easily see that if the man's wages were \$17 a week, the maximum figure would not cover that at all.

Mr. DUXBURY. The point is that settling the different wages in the different States makes a different result.

Mr. CHANDLER. I think these inquiries have been misinterpreted by some present. There is no particular sensitiveness on the part of the different States. Now in States like my own, where there is unlimited medical service, that may sometimes add a very material factor to the cost and be of very great value to industry. That is not taken into consideration in these figures. There is no criticism as to the valuable work done by this committee. The point is that we are simply bringing out all of the basic factors which should enter in.

The CHAIRMAN. Well, it is the business of a man like Mr. Hookstadt to set out with a comprehensive comparison which will involve every possible feature. I can not do that. I have not the time, and I do not know that I have the ability, to convert every feature of the various laws into a common factor. To do that requires a man like Miles Dawson. I did not pretend to do it in this case. The comparison is intended merely for these particular cases with these particular factors. There are a lot of others that might enter into it. Perhaps somebody else, attempting to make a comparison, would go at it from an altogether different angle. This is nothing more than what it pretends to be.

Mr. HATCH. May I say just a word at this point? The committee is very anxious to have a discussion and, if possible, some kind of action in the way of approval or disapproval of the work which it has been able to do thus far, and more especially of these five general principles that are in the beginning of the report.

I believe it would be most helpful to the committee, and therefore more helpful to the association, if in the rest of the discussion you would discuss these five general principles before going into the details of the schedule or going farther into these differences between States. These differences are the reasons for trying to do something along the line of the work of the committee.

We laid down these five general principles, and then tried to work out a schedule, but it is exceedingly tentative. We do not know whether or not that schedule is the right one. It is very important that if this association approves of those five general principles, we should find it out at this meeting. If you do not approve it and we are on the wrong track on some of our basic principles, we

want to know that just the same. I am saying this with the idea that we want to make progress along this line, because this sort of thing shows that progress is needed. Now if you could tell us whether you think these five principles are right or wrong, whether you think there is something good in them or they are all rot, that would be a great help to the committee; and we would be better able if the committee goes on with this work (and we have indicated that it will continue) to make progress along the right lines.

The CHAIRMAN. I think we had better get on, however, with the program. Mr. Kennard will now discuss the matter in any form he wishes to.

Mr. KENNARD. To begin with, I want to read from this report, because of what I am going to say. I am reading from page 4:

What is the average depreciation in earning capacity which results from the loss of an arm? Frankly, the committee does not know. Had the compensation commissions kept a record of their permanent disabilities we would now be in a better position to know the relative economic handicaps resulting from such disabilities. We do know, however, that major permanent disabilities are a serious handicap and that investigations have shown that of those workmen who sustain a major permanent disability approximately one-third are unemployed.

And then a little further down—

In arriving at the disability percentages shown in the standard schedule hereinafter presented, the committee made use of all the permanent disability schedules available, including those adopted by the Canadian Provinces, European countries, and the several American States.

I take it that that puts this report out of court to start with. The committee has proceeded to give us a schedule of standard permanent disability and has prefaced it with the statement that it does not know anything about the subject practically. I may be wrong about it, but that is the way it impressed me.

But back of all that, it impresses me that this committee is approaching this thing from a different angle from what I had supposed was the proper angle. We have in Massachusetts a workmen's compensation act. Underlying it is the proposition (and the only proposition, so far as I know) that it was intended to compensate a working man for his loss of wages. It is not a damage statute in Massachusetts, and I had not supposed that that was the theory behind workmen's compensation in any jurisdiction. I submit that this report and these schedules are nothing but an attempt to assess damages, and are unscientific and entirely erroneous, because the committee attempts to put everybody in practically the same class, and say in advance of the event how much it is going to cost a man, and how much he ought to be paid because he has been so unfortunate as to lose a hand, a finger, a leg, or whatever it may be.

If this convention and the industrial accident boards of this country want to change this act into a damage act, if they want to pay a man because he has lost something, just as the jury gives it to him when he loses a leg on the railroad or elsewhere, well and good; but do not let us fool ourselves into thinking that we are dispensing just compensation. If you want to pay a man compensation for loss of wages, then I submit the way to do it is to pay him for what he loses in his wages and to have it governed by the wages in that particular man's case. If I understood Mr. Kingston, I understood

him to say that the committee did not regard the question of occupation in the schedules.

Mr. THAYER. Yes.

Mr. KENNARD. Now, think of it, gentlemen. Here is a compensation law to pay a man, not the damages that he suffered by disfigurement, but the damages that he suffered in his loss of wages, namely, in his occupation. The committee has proceeded to make up a schedule, and one of the factors which it thought might perhaps be pertinent was occupation, but upon further consideration it proceeds to disregard it.

It seems to me that the schedule is fundamentally unsound from beginning to end. When I came here I was not prepared to say that I was favorable to this proposition of compensation awarded beforehand for a permanent partial disability. The one thing which made me look upon the schedule favorably was this, that we could say to a man, "We will pay you over a period of so many weeks for this particular injury that you have sustained. You are going to get that money no matter what you do." It seems to me that with that before the man, he is going to get back into industry and become an economic factor in the community.

We are losing sight of that in this convention. We are turning this into an eleemosynary gathering instead of an economic gathering—which it ought to be, in my humble opinion. I looked upon this schedule favorably, because I believed that it would give the man the incentive to go back to work at the earliest possible moment. There would be no reason for his waiting around (as he may do in Massachusetts) to get his disability compensation.

I do not want to comment upon these figures further than to say that they are absolutely erroneous as a basis for any kind of conclusions.

We do not have any provision in Massachusetts for the loss of a leg. The only one we have is that if a person loses his leg he loses his foot. Still the example which Mr. Kingston gives is that for the loss of a foot a man got \$614 and for the loss of a leg \$1,049, which is the same thing. So it was not a question of specific cases; it was simply a question of a fundamental disregard of our laws. The figures for Massachusetts are clearly and plainly erroneous. The insurance company in Massachusetts which closes such a case for less than \$3,500 thinks it is mighty lucky, whereas that schedule shows \$1,049.

The CHAIRMAN. Will you pardon me for interrupting you for a moment? The answer which one of your officials gave me in dealing with the leg case was that "disability compensation would be paid from the eleventh day after the injury, at \$16 per week. That is 34½ weeks, amounting to \$549. In addition, there would be the specific compensation payable at \$10 per week for 50 weeks for the loss of a leg." Now, I do not believe it is quite the thing for Mr. Kennard to say that my statement is absolutely without foundation, because it is based on the figures given from his office.

Mr. KENNARD. I would like to make a statement, which I missed inserting in this questionnaire, covering every one of these cases: "Permanent disability compensation at \$16 per week until \$4,000

had been paid. In addition compensation of \$10 a week for 100 weeks for loss of both legs."

The CHAIRMAN. That is dealing with a total disability case.

Mr. KENNARD. That was to be taken in conjunction. Our law is not based on this estimated advance of what that man is going to lose. If a man earns \$35 a week, we say to him, "We will pay you for the loss of your wages, as long as you are out of work, \$16 a week. When you go back to work, if you can't earn the \$35 a week that you did before, we will pay you partial compensation for an indefinite period until your earning capacity gets back to its former figure of \$35." In short, we have a compensation law in Massachusetts—it may be good or bad, but it is at least logical, and it is not an attempt to assess damages because a man has suffered some injury in his body or in his arms or somewhere else.

That is what we believe the law should do. We may be wrong about it, but I do not think so. If we want a damage law, if we want to turn over to the compensation boards the assessment of damages for those people who are hurt in industry instead of giving it to juries, why not go at it like a jury would? Take the case and say, "What is this man's situation? How much is he going to earn? How much has he lost?" Then determine that Jones should have so much money. When Smith comes along, perhaps he should have more or less. But why start in beforehand and say that Jones and Smith ought to have the same amount of money, and base that amount upon a guess—because the committee says it does not know? That is my quarrel with the whole situation.

I do not think there is anything more that I want to say. If I have started any discussion on the subject, I trust that I have done what the gentleman from New York requested. I have tried to discuss general principles rather than specific instances. I might have elaborated on the Massachusetts situation, but what is the use? If the rest of your figures are like that, they are not the basis for any conclusions at all. The conclusions would be incorrect. That factor alone will upset all your averages.

I am frank to say that I came here with the expectation of speaking favorably on this proposition. I expected to speak favorably along the lines I first suggested, that a permanent settlement of disability compensation would lead the man who was hurt to get back to work. I have not heard a man say anything about getting an injured man back into the industry to work, not a word. Now, when all is said and done, isn't that the best thing to do for a man? When you have got him back to work and have made him a satisfied or partially satisfied self-supporting individual you have done more for him than you would do if you paid him all his wages for the rest of his life. That is the way we look at it in Massachusetts. We do not drive the men back to work either—I mean we do not compel them to adopt this idea.

My friend Kingston talked about pensions all the time. All right, if you want pensions, have them. But we in Massachusetts do not want to drag them in under the guise of workmen's compensation, which is fundamentally intended to provide a man with compensation during the time of his injury. Let us approach the matter with honesty. Let us not come in under the tents on the theory that we

are working under a compensation law, when we are providing something which is not compensation but assessment of damages.

The CHAIRMAN. If the chairman will be permitted, he would like to say just a word or two before calling on the next speaker. Mr. Kennard stated, if I understood him correctly, that if after the man has been paid his \$10 a week for a specific number of weeks he is unable to work he is entitled to \$16 a week for a limit of 400 weeks. Mr. Kennard did not explain that that 400 weeks is very much qualified by a maximum limit of \$4,000, which includes temporary total, temporary partial, and also the 400 weeks. Am I right on that?

Mr. KENNARD. No.

The CHAIRMAN. Well, it was stated in your letter— [Mr. Kingston here read excerpts from the Massachusetts letter.] I made this part of my record. I wanted to do Massachusetts full justice. But I think that Mr. Kennard in his statement on the floor here should have made that qualification, which is a very substantial one, that this \$16 a week which a man receives when he goes back to work is qualified by the maximum limit of \$4,000—which is a very serious inroad for a man disabled by the loss of an arm or a leg.

Mr. KENNARD. It is serious from one angle; but when you come to consider that you are going to draw partial compensation, and that the \$10 a week partial disability payments would run over a period of eight years, and lesser amounts for a longer period, you see you are really covering a considerable portion of that man's life by weekly additions to his other income.

The CHAIRMAN. But \$4,000 is the limit; and that \$4,000 is not present value, it is gross value.

Mr. KENNARD. It is not \$4,000 but \$5,000.

The CHAIRMAN. Well, I understood from your letter that it was \$4,000. Will Mr. Slate, from Georgia, say anything on this subject?

Mr. SLATE. I am rather new in the compensation work. I notice that we are so new that no figures have been made for us at all.

The CHAIRMAN. Well, the reason is that I did not get an answer from your State to the questionnaire which I sent out.

Mr. SLATE. I answered it myself.

The CHAIRMAN. It probably was miscarried in the mail.

Mr. SLATE. All I can say is that our law has recently been changed, and our weekly maximum now is \$15, and our minimum \$5. The waiting period has been reduced to seven days. That was done at the last session of the legislature. So some of those cases (notably, the arm case) will pay under our law \$3,000 at \$35 a week. But this question is entirely new to me.

I am rather in accord with the view of the commissioner from Massachusetts, however, that compensation laws are designed to pay a man for the loss of wages and form no part of an assessment of damages. In fact, I am very much inclined, from my limited knowledge, to favor the Massachusetts idea rather than the specific schedule as set forth in the Georgia act. That, however, is subject to change of opinion at any time, because we have only been under the act for two years and of course we are gathering experience from time to time. That is what I have come to this convention for, to

find out the experience of other States. That is all I can say from Georgia.

The CHAIRMAN. Mr. Myers' name is next on the program, but Mr. Myers is not here. Do you know, Mrs. Roblin, if any representative from Oklahoma has made any preparation on this subject?

Mrs. ROBLIN. I think not. May I be permitted, however, to say just a word? I would like to take issue with our friend from Connecticut in this respect. To me the pension comes nearer being applied in his State than where we have a direct or specific amount for these permanent disabilities. We do not use such amounts as pensions. It seems to me that it gives a man immediately some idea as to what he is entitled to, and so he can use it to educate himself. That is what is done in our State with the specific amounts, and I am sure the same thing is true in most of the States. It comes nearer being a pension where you simply pay the man a small additional amount each week.

The CHAIRMAN. Is Mr. Thayer, from Maine, here?

Mr. THAYER. In the first place I want to say that whatever I have already said was not in the spirit of criticism. I came here to get some information in regard to permanent impairment, to find out whether there could be improvements made in the law that we have in Maine, and I was trying to understand the schedule given here and whether or not the benefits that were given by other laws were greater than those given in Maine. That is the reason I tried to bring out the point that our law gave benefits very much in excess of what were shown here.

Now, in the first place, taking this schedule by numbers——

The CHAIRMAN (interposing). But do they in that particular case? That is the point.

Mr. THAYER. Absolutely. There isn't a single case of specific impairment that I know of where a man has lost an eye that he hasn't had compensation, either total or partial, after the 100 weeks have expired. Just the other day (I figured it out right now, for the thumb case you have \$700 down there for Maine) a man who lost his thumb in Maine was paid compensation for it in the sum of \$16 a week for 100 weeks, and we had a hearing to grant him a lump-sum settlement for \$1,000. He got \$2,800 for the loss of that thumb, because it put him absolutely out of commission. I can name you hundreds of such cases. If you put in what Mr. Eddy said, that in addition to the temporary total and specific we give partial up to 300 weeks, then you will have given the provisions of our law.

Now, in the first place, I want to say that in my opinion the schedule of permanent impairment should be continued during a man's life if he is totally incapacitated. That is as far as we could go in Maine with this report, and for these reasons: When you come down to a compensation schedule based on the percentage of what you give for permanent total, then you are carrying the thing through the man's life. I have just figured it out for one case, to see how it would work. If a man at the age of 30 years should lose a thumb, he would be given $31\frac{1}{2}$ per cent of what he would get if totally incapacitated for the rest of his life. Now, granting that that man lives the average expectancy of about 70 years, that man would draw

compensation for 40 more years. So that at the rate of \$16 per week, which we give to a man who earns \$24 a week, that man would get \$16,640 for the loss of that thumb.

The CHAIRMAN. You are starting on the wrong angle.

Mr. THAYER. Well, if I am wrong, I want to get it straightened out. You give a man, if he is totally incapacitated at the age of 30, \$1,600. Now if he lives to be 70, he would have 40 more years. Now multiply 62 by 16, then take 40 per cent, and see if you do not get that.

Mr. HOOKSTADT. Where do you get your 40 per cent?

Mr. THAYER. Well, it is 38 something for the loss of a thumb. I made a mistake—it's the loss of a hand that I meant. Now we'll change that from a hand to a thumb and make it \$1,600 for the loss of a thumb. In our State the maximum for loss of life under our law court decisions is \$5,000. The law court has repeatedly set aside decisions where the jury has awarded to a man for impairment due to an accident, \$8,000, \$10,000, or \$15,000. We have to base our compensation upon what the law has allowed in other personal injury cases, and for the loss of a life we get only \$5,000. So we could hardly get our legislature to give \$16,000 for the loss of a hand.

The theory of the compensation act in Maine is to place upon an industry the burden of taking care of injured employees in that industry. We have a lot of self-insurers in Maine—a man does not have to file a written statement and buy an insurance policy—and our self-insurers are doing exactly what the United States Government is doing in a good many cases. They take back an injured man, one with the loss of an arm or a leg or an eye, and give him a job and pay him the same wage that he earned before. In our opinion that is infinitely better than pensioning that man for the rest of his life and putting a burden on that industry. It is not fair to the industry. We have to take into consideration that this compensation has to be paid by somebody, and that the industries in the several States have to pay it. If you are going to charge that \$16,000 for the loss of a hand upon an industry, you can not get by with it in a State like Maine.

Now another thing. It seems to me that before we could intelligently discuss a plan such as has been suggested here in this schedule, it would be absolutely necessary to have an actuary figure out what those percentages would mean as regards the several industries in which accidents occur. Without such information, we are only making a stab in the dark. If you should go before your legislature, the first thing any sensible legislator would ask you is, "What is the premium rate, or what is the burden, that you are placing upon an employer if you get this schedule that you are asking for?" "Well, to tell the truth, I don't know," you would have to say. "Well, hadn't you better find out before you come here and ask us to place the burden upon the insurance carrier or upon the employer?"

What I would like to see is a schedule worked out with an actuarial rate to show what burden would be placed upon the employers in the several industries if that rate was granted and leaving it as compensation and not as a pension.

The CHAIRMAN. I am not responsible for this schedule at all. I did not know the committee was working on it until a few days ago. But I agree with it in substance. You ask what record there is as to the burden it will place on industry. Well, I stated in my paper (and I wish that it would be discussed here) that possibly, as you seem to think, we have put an unusual burden on industry by reason of what may seem to you very large awards in these major cases of leg, arm, hand, and foot. But in Ontario and the Canadian Provinces we are charging a lesser rate (because this is all governed by a rate on industry) to carry that burden than is being charged in the States by the insurance companies that are carrying such risks and are paying a good deal less money in compensation to their injured workmen. Surely if we can carry the burden and pay those losses on that basis with a rate considerably less than the insurance companies are charging you, that is the answer to your question, it seems to me.

Mr. OTIS. I want to say that I am very much interested in these tables. I have been scanning over the figures for New York, because naturally that is where my first interest lies. It bears out what I have always thought to be the case, and that is that the compensation benefits of New York State are as good as those of any of the other States and perhaps a little better than some of them. While New York isn't the first of the States in rank, I believe it would average up to about that. So I would say, as far as New York is concerned, your figures are about right.

I notice that the nonindustrial States, such as Alabama, Tennessee, and Montana, are way down the line. So it would seem to me that if you want to make a comparison with the six Canadian Provinces, it would be well to take six industrial States. If you take, for instance, New York, California, Wisconsin, Minnesota, Ohio, and North Dakota (North Dakota because it has a State fund, and you mentioned State funds in your discussion there), I think you will find that the average for those six States (four of them having State funds) will run about with the average for your six Canadian Provinces. So much for the side of the benefit to employees.

Now we will take the side of the cost to the employers. You state that you have taken the manual rates and have compared those manual rates with your rates in the Provinces. That is not fair, because, ordinarily speaking, the employer does not pay those printed manual rates. They are subject to experience rating and schedule rating; then they are subject to dividends of companies. I just mention these things to have all our discussion on a fair basis. I believe the employees in our industrial States are faring almost the same as in the Provinces.

The CHAIRMAN. It was with a great deal of hesitation that I even made a suggestion here by way of comparison of the Provinces with the States. I had no thought of invidious comparison. The comparison is rather because of the fact that the six Canadian Provinces are all under the collective liability system. That is the point that I want to make in regard to this comparison.

Just one other word in answer to what Mr. Otis said. We had a case before us in Ontario. A New York manufacturer had his fac-

tory there and a man was killed. Incidentally we asked him what rate he paid over his whole enterprise in the State of New York. Our rate in Ontario for that particular business was 50 cents. He told us that in New York he paid a rate of \$1.50. That is only one instance. I do not know if there is any misapplication of the rate there. That is the actual amount that man paid on his industry, and we could carry that same risk in Ontario for 50 cents.

Mr. OTIS. Of course, I am not prepared to go into the matter, because that is out of my line. Then we have a great many self-insurers.

Mr. FISHER of Pennsylvania. I think we are getting a little bit away from the instructions given the committee at Chicago when we speak about the application of rates. I remember very well that at Chicago, Mr. Chandler, in backing up the motion to have the committee investigate this question, said, "Tell us what the relation is between the loss of a thumb and the loss of an arm." He wanted to know what the percentage was in relation to the various injuries.

Now the committee has not gone into details with regard to rates. It has said nothing about rates. The discussion has been based entirely upon the relation of one injury to another. I think the gentleman from Maine touched on just what the committee wants when he started the question of the advisability of the payment of permanent partial disability based on total disability for life. Now, if this convention does not agree that permanent injury should be based upon disability for life, let the committee know, so we can change our attitude on that. I feel free in speaking about this, because Pennsylvania does not have all the awards for damages that a lot of other States have. But that does not keep Pennsylvania from having an idea about it, and if we ever do put in hand losses and finger losses, we would like to have something concrete to go by, and not have to make a guess, because Ohio has one thing and New York another, as to what we ought to have.

We would like to have some concerted action by the people administering compensation as to what the relation between one injury and another should be. This schedule, which says that one injury shall be paid 33 per cent of permanent total disability and another 40 per cent, has no bearing at all on the present rates. It would be obviously unfair to say that the present rates should exist as they are, because, at present, there is one rate in one State and another in another State.

I should like to see the remarks confined as closely as possible to general principles, and not to what we can get through in the various States. I know there are a lot of things in this report that we can not get through in Pennsylvania, but that does not keep this organization from adopting the principles.

The CHAIRMAN. It seems to me that perhaps we may have overlooked the schedule on page 8 of the report. The committee starts with the idea of taking the arm at the shoulder as one hundred per cent; then it says a thumb is 20 per cent of that; having found those figures it then proceeds further and works out the schedule based on total disability.

Mr. FISHER. But it does not say that you shall continue the present rates in effect and continue to pay \$15 a week.

The CHAIRMAN. The idea of the committee (Mr. Hatch will correct me if I am wrong) seems to be this: That if we can come to any consensus of opinion which can be embodied in a resolution, it will be taken back to the State legislatures with the hope that sometime it may be put across and the whole type of legislation, in so far as rating is concerned, will be changed. Isn't that the idea, Mr. Hatch?

Mr. HATCH. That is it generally. What we are not discussing here, and what the committee did not try to discuss, was whether or not any schedule in any State is high enough. The question is, How should a schedule be made up? After this committee's schedule is adopted, it is going then to the legislatures of the various States, provided they want to adopt it, to decide how high or how low they are going to start this schedule. The question is as to the proper disability schedule, taking in all averages, and not whether the Maine schedule is higher than that of New York, or the New York schedule lower than that of Pennsylvania. That has nothing to do with the problem before us with this report.

I feel a bit disappointed that you are running into questions of insurance rates. We are not concerned with that subject here. What we want to find out is, is the committee building up a schedule on the right sort of a plan, or not? That is, should there be paid a percentage of permanent total disability for life? Should we pay temporary total, and then after that pay permanent partial? It is those five general principles which, whatever your level is, whatever your cost may be (that is a matter of policy for the legislature), should be set out in your schedule when you make one.

Now we want to know whether we are going at it in the right or the wrong way. We do not care whether a schedule in one State costs more than a schedule in another State, or whether the Canadian method of assessing the cost is better than the insurance companies' methods in this country. That is a bit beside the point of this report. Is this schedule a reasonable schedule to get the differences between the different types of disabilities? That is what we want to know.

The CHAIRMAN. We are glad to have Mr. Verrill with us. He is next on the program.

Mr. VERRILL. I am sorry that I did not hear the remarks of Mr. Hatch and Mr. Hookstadt on this report, because it is quite possible that what I say may be a repetition of some of the things that they have said. I was a member of the committee and was present at the meeting in which these principles were worked out.

In view of Mr. Kennard's criticism, it may perhaps be worth while to recall some of the discussion at the first meeting of the committee. One suggestion that was made (it came from Wisconsin, and I also made the same suggestion) was that the committee should endeavor to draft a schedule of minimum disability ratings to be paid in any case, and that the award of any amount over and above the minimum should be made according to the circumstances. Now the reason for that was one which perhaps Mr. Kennard will appreciate, because his law is somewhat like the Federal compensation law, in that it endeavors to pay compensation on the basis of loss of earning capacity.

Under such a law it is possible for a man to be injured, to lose a leg for example (I have known a case of that kind), and after

a healing period of moderate length, to go back to his former occupation at the same rate of wages. In such case there is no loss of earning capacity. In the particular case that I have in mind there would be no loss of earning capacity even from a theoretical standpoint, because the man had reached an age where, presumably, he would stay in the same occupation and in the same class of work for the rest of his life.

The committee considered this suggestion of a schedule of minimum awards, with the idea that such a schedule would take care of the kind of case I have described, and that such a man would receive an award of permanent partial disability in spite of the fact that he had gone back to his former occupation at his former rate of pay.

The committee could not agree on any plan for such a schedule. It did not quite see how it could be worked out, and I am frank to say that even at the present time it is not quite clear to me how it could be worked out.

The question of such a schedule involves the consideration of occupation, and it was because of the feeling that the occupation must be considered if the purposes of the compensation act are to be carried out that this schedule was urged. You will notice that in the committee's resolution No. 5 it is provided that the occupation of the injured employee, including the degree of displacement in industry, should be considered. The committee has submitted a report allowing that resolution to stand, but in spite of that, it appears to have reached the conclusion that the consideration of the occupation was or is impracticable. Personally, I do not agree with that. I do not believe the committee has made a sufficient study of occupation as affecting a schedule rating to give it out. It needs more study, and I believe with more study a different conclusion will be reached.

I am sorry that California has not been represented here, and therefore we have not the benefit of the criticism of the California commission, based on its experience of a schedule with consideration of the occupation given. While I am sure the California schedule is subject to criticism (some of its defects are freely admitted), I do not believe the plan should be rejected, and I do believe that a study of the California schedule will result in some practical effort that will be a step far in advance of the committee's present report.

The compensation act based upon the loss of earning capacity is subject to a good many difficulties. Mr. Kennard did not refer to them directly, but it is plain that he is aware of some of them, for he referred to the case of a man not going back to work because of his compensation. Personally, I feel that the difficulties in the way of a loss-of-earning-capacity law are very, very great. To be effectively administered it would require extensive investigations far beyond what I believe any commission is able to make. There are not only the cases of the partially disabled men who do not go back to work because of compensation, but also very serious difficulties in the way of ascertaining the man's loss of earning capacity, of ascertaining whether he is able to get work. It is fairly easy for a man with a serious disability to make a pretense of trying to get work when, as a matter of fact, he is applying at places where he knows he has no chance of getting work. I have seen cases, too, of

a man who is seriously disabled, when applying for work, making it quite clear to the person to whom he applied that he did not believe he could do the work for which he applied.

In my opinion, those cases represent some of the most serious difficulties of a loss-of-earning-capacity law. I would not be understood to say, however, that such a law is wrong and should be replaced entirely by a schedule. But I do believe that no schedule that omits consideration of the occupation will be acceptable.

There is one point in the committee's scheme to which I think attention should be called. Whether it would meet with the approval of the association is a matter of some doubt. You will notice that in the last table of the committee's report it is shown that the permanent partial disability ratings increase up to the age of 70, in the case of the loss of a major arm at shoulder 85 per cent being given at 70 and over. It seems to me that there is a serious question whether this is not continuing the increase in the schedule rating to too high an age. I think that you will find in the report comment to the effect that the man of 60 with a loss of major arm at shoulder is practically out of the industry. In spite of that, the rating is increased at 65 and again at 70 and over.

Now, if strict application is given to the principle laid down here, that the permanent partial disability shall be valued as a percentage of permanent total disability, that means that the compensation rate here fixed shall continue for life—that is, shall begin at 85 per cent at the age of 70 and shall continue for the man's life, although he is practically out of the industry when he is disabled at the age of 70, and we know he would be unemployed either at that age or very soon after. I believe I am right in saying that practically all retirement or pension schemes would retire a man at 70 on the ground that he was no longer industrially useful. It seems to me, then, that there is a very serious question with regard to the ratings for those higher ages and to the fixing of such a high rate and continuing it for the remainder of the man's life. If the increase in rating was stopped at 60, it is possible that the criticism might be adequately met.

I do not think that this report of the committee should be considered in any sense as more than a progress report. It will be very unfortunate if the committee can not have the advantage of some constructive criticism here. It is true that destructive criticism may be useful, but certainly the committee has a right to ask for some suggestions along the line of what would be satisfactory.

The CHAIRMAN. Is Doctor Rowland here?

Doctor ROWLAND. I want to thank you in behalf of the Chief of the Veterans' Bureau, Colonel Forbes, for the opportunity of being with you. I prepared some notes, but I am not going to talk on them because I see we have gotten a different angle to this subject. I do not believe I can approach your problem from the same angle that we approach ours—in the first place, because of the nature of the war risk insurance act, and, in the second place, because of the surgical disabilities naturally incurred in war that we are compensating, and they are high.

I wanted to say something about the amount of compensation we give monthly, but I do not believe that the amount in dollars and cents has any bearing upon the principle as laid down by these

gentlemen. It isn't a question of how much; it is a question of how applied. So that all of this discussion, as far as I am concerned, is beside the point.

Again, we compensate both for injury and disease. The greatest number of cases compensated are cases of disease—tuberculosis, for instance, over \$5,000; neuro-psychiatric disease, about \$3,500 (as of September 1st). I am talking now in terms of permanent total disability, understand, not in terms of the amount of compensation allowed. I am talking in terms of permanent total disability allowed as of September 1st. Then we have our permanent and surgical totals, running about \$500. That is for amputations and fractures. Then we have the injuries, the wounds and injuries to muscle joints that will run approximately \$200; eye disabilities and blindness, about \$175. Then we have a double permanent total rating for a double permanent total disability. Probably you know our act, so I will not have to go into it. We have four double permanent total disabilities—men with the loss of two hands and two feet, etc.

The compensation act really makes four broad provisions. The first provision is for noncompensable disabilities, those of less than 10 per cent. For those people we provide hospital care and treatment, dental treatment, and hospital appliances. Then we have the compensable cases—those of 10 per cent and over—who are entitled to temporary total compensation of \$80 a month, running up to \$120 for the full allowance of the dependents, and permanent total of \$100 a month with an additional \$20 for being permanently and helplessly bedridden or in constant need of a nurse or an attendant.

Then we have the third provision of compensation, the rehabilitation provision, in which we rehabilitate men of three classes. And, fourth, we have the insurance provision. The men who have taken out war risk insurance are entitled, in addition to their compensation, if they become totally or permanently disabled, or if they die, to benefits up to \$57.50 a month if they are carrying \$10,000, or in that ratio.

With that explanation, I think I can get down to the discussion of this schedule. Now, let's take the first:

The schedule of permanent partial disability compensation shall be for compensation to be paid after compensation has been paid for temporary total disability.

Under the law our temporary total disability is based upon the individual. Our temporary ratings are made upon the individual, whether or not he is working. Our permanent ratings are made upon averages. We carry our men on a temporary basis until their disability has become fixed. The fact is that we can carry them practically as long as we want. The temporary disability compensation varies with the number of dependents. The permanent ratings make no allowance for dependents. The fact of the matter is that we are still carrying certain injuries to joints and certain nerve injuries on a temporary partial basis.

When we make our permanent partial adjustment rating with the man, if there is an absence of abatement of the disability that requires him to be rehospitalized for treatment, we place him back on the temporary status for a period of time until he has returned

to his fixed condition of disability. In other words, we are applying in the compensation under the work risk insurance act the provisions suggested in No. 1 of your committee's report.

Now No. 2:

Compensation for permanent total disability shall be valued on the basis of total disability for life.

All our permanent disability rating schedules are based upon percentages of permanent total disability, our measuring stick for the condition shown being the average industrial capacity. In other words, our permanent partial ratings are industrial and not vocational averages.

Compensation for permanent partial disability shall be valued as percentage of permanent total disability.

That is what we are following out.

The permanent disability schedule shall be one designed to measure loss of earning capacity, considering all elements.

We base our permanent partial disability upon the average loss of earning capacity in the individual case.

The permanent disability schedule shall be based upon the principle of variable rather than fixed factors. The variable factors to be taken into account shall be: (1) Nature of injury; (2) age of injured employee; and (3) occupation of injured employee, including degree of displacement in industry.

Our ratings are made upon the nature of the injury. We do not take into consideration the age factor. Naturally, the men fall principally in the age group between 25 and 35 years. Again, we do not take into consideration the occupational factor. We do not have to, because the rehabilitation provisions of the law care for that. However, I believe that in applying an average rating schedule you run into a great many difficulties with the occupation factor, and I do not believe that the suggestion of an age factor is sound. It seems to me that the age factor penalizes the young man for his injury and it does not provide any means for rehabilitation.

As to percentages of injury, our percentages for surgical injuries will naturally be higher than those of an industrial commission. Our rating for the loss of the right arm at this articulation at the shoulder joint is 94 per cent permanent partial. The man gets 94 per cent, or \$94 a month, for the rest of his life.

In that rating we make allowance for the disarticulation, which does away with the shoulder girdle, a dropping of the shoulder. We make allowance for the cosmetic effect that an obvious disability will produce. We make the same consideration for the cosmetic effect of eye injuries where there is a wound. I think that is usually made by the industrial commissions also.

Our rating for the loss of the arm in the upper third runs from 84 to 89. Our rating for the loss of the thigh is low. We make a rating for the loss of the thigh at this articulation at the hip of 80 per cent; the middle third, 68; the lower third, 63.

MR. HOOKSTADT. How do you justify that 80 per cent for the loss of a leg at the hip?

DOCTOR ROWLAND. Well, we rehabilitate a man for an industry where there will not be such a damage factor. I want to say that you will hear lots of discussions against and for our rehabilitation prob-

lem, but do not forget that we are attempting honestly to rehabilitate that disabled shoulder. That is our first problem. We are working out another problem, I believe. We are the advance students on the question of the rehabilitation of disabled men in industry. That is coming after a while, and it is coming not as a paternalistic thing but as a purely business proposition by the various States. We are the students. Naturally we are spending some money on that thing, but we are getting knowledge that the States can apply after a while. If I had the time I would like to show you some of the things we are doing in rehabilitation.

The CHAIRMAN. There is one more paper on the morning program, or one more discussion. Mr. Wehe, of North Dakota.

Mr. WEHE. I have been substituted at the eleventh hour for Mr. C. A. Marr, of the Workmen's Compensation Bureau of North Dakota, who was a member of this committee. I was not a member of the committee. After listening to the discussion taking place here as to whether or not to adopt these resolutions, I can say that I am heartily in accord with the general trend of the resolutions, as the resolutions are pioneering the way in something that will have to be done sooner or later.

It is true, as has been said here, that we have not the statistics definitely to determine or positively and scientifically to figure out these things. Nevertheless we have to pioneer the way some time and we might as well make the start now. I commend this committee for the start it has made along these lines. During the three years that I have been in the bureau I have looked in vain for something along this line.

While I heartily indorse the committee's report as a whole, I have some exceptions as to some of the provisions. In regard to No. 1, we have in North Dakota the schedule of permanent and partial disability. As I said before I should think that would be adopted as one of the resolutions.

In regard to No. 2—"Compensation for permanent total disability shall be valued on the basis of total disability for life"—I am in favor of that with limitations, that it is applicable only to the major permanent specific disabilities, and that all the minor disabilities below the loss of a hand or of a whole arm at the shoulder or a leg at the hip, etc., be eliminated, and then I will go along with the committee on that proposition.

Mr. HOOKSTADT. How would you compensate the minor disabilities below the loss of a hand?

Mr. WEHE. I would provide for the minor disabilities as we have in North Dakota—a specific definite benefit schedule for a number of weeks, and then have it ended and dismiss the subject.

The CHAIRMAN. So many weeks for each percentage?

Mr. WEHE. Yes; for so many weeks on these schedules and then the case is dismissed.

The CHAIRMAN. But you still have to consider the loss of a finger for a certain percentage.

Mr. WEHE. There is a certain amount, but it is too insignificant to take note of. Lots of times I can not use my finger, but I am able to perform my duties just the same. That is what I have refer-

ence to. If we cut out a lot of these minor injuries and go after the big injuries, we will get somewhere.

In regard to No. 3—"Compensation for permanent partial disability shall be valued as percentage of permanent total disability"—well, I think that is all right because we have that in North Dakota. I think it is a good thing.

In regard to No. 4, I would put a question mark after that. "The permanent disability schedule shall be one designed to measure loss of earning capacity considering all elements." I have put a great deal of earnest study on this subject, and that is one of the things I can not quite agree with. In North Dakota we have worked that out in the case of death where we pay compensation to the widow and the children, etc. But to apply that to permanent partial disability or permanent total disability, I can not say that I would at this time recommend that.

Mr. HOOKSTADT. If the compensation shall not measure the loss of earning capacity, what shall it measure? What shall it be based on? I am referring to rule 4. What basis would you put it on?

Mr. WEHE. Loss of earning capacity is all right; but as far as dependents are concerned, I should think you would want to increase the compensation for a man who has many children.

Mr. HOOKSTADT. The committee disregarded that.

Mr. WEHE. Well, if you disregard that and just accept the loss of earning capacity, then I will agree with the committee on that part of the proposition. I took it that we were discussing those propositions, and I wanted to bring it out that if that was the intent of the resolution I did not want to go the full length with the committee; but if it is based on the earning-capacity loss alone, I would perhaps O. K. that.

In regard to No. 5, I think we should take the age as the factor in figuring this until we have something better, and leave out the other elements.

I want to call your attention to something in the North Dakota law. You may not find everything in our law if you read the code. Why? Because under our act great general powers are given to the board to do many things, and they are not left to the legislature. That law has been held constitutional. You might say that it is a legislative delegation for a committee or a commission to be given those powers, but our supreme court has passed directly on the question and said that it is not. That is why I want to explain the section that I want to bring to your attention before I read it, because I see that it has been overlooked by this committee.

This section contains a clause under which we can, if we see fit, provide for just what you are attempting to provide here—a life compensation all along the line. It is left to us. We have worked out under that clause basic schedules of the specific benefits under the law. Section 3, clause E, of the North Dakota workmen's compensation act as enacted in 1919 reads as follows:

If the injury cause permanent partial disability, the percentage which such disability bears to total disability, taking into consideration the employee's age and occupation, shall be determined and the North Dakota workmen's compensation fund shall pay to the disabled employee a weekly compensation equal to sixty-six and two-thirds per cent of his weekly wages for the following periods.

Now that is what the gentleman referred to in his report. What I am calling your attention to is, that this is not all of it. This section says that for a 1 per cent disability we give 5.2 weeks; for a 90 per cent disability we give 468 weeks. That is in the law. But what else? We have a subsection tucked in that gives us absolute power to fix what you want to fix here to-day, and this is how it reads:

The bureau shall immediately fix and file its schedule of specific benefits to be allowed for specific injuries. But such schedule shall not be changed more than once in each year. The bureau shall not decrease, but may, however, in any case, for cause shown, increase such specific benefits.

There isn't a thing that ties us down in these permanent disability cases. We can increase the schedules that we have, but not decrease them.

Mr. HOOKSTADT. Have you increased them?

Mr. WEHE. We have not; no, sir. The "Basic schedules of specific benefits" says, "See section 3-E of workmen's compensation act," and then it goes on to say:

On the basis of 66½ per cent weekly wage—allowing minimum compensation of \$6 per week and the maximum compensation of \$20 per week: 1. For loss of arm, 312 weeks; minimum \$1,872; maximum \$6,240. 2. For loss of hand, 260 weeks; minimum \$1,560; maximum \$5,200.

I am not going to give them all.

Mr. MOORE. When was that enacted?

Mr. WEHE. That was enacted in 1919 when the law was put in force.

Mr. MOORE. We had that in West Virginia in 1915; not exactly like yours, but one quite similar.

Mr. WEHE. You see, we did not want this particular schedule. That is what I want to explain. We could have what you are pioneering here for. Under our act we want the award for permanent disabilities for major injuries continued through life and minor injuries cut out. But there were no statistics to go by.

The CHAIRMAN. We have been doing that for eight years in Ontario.

Mr. LEE. What do you define to be a minor injury?

Mr. WEHE. We take nothing as a major injury that is less than the loss of a hand, that is, at the wrist. We figure that when an arm is lost above the elbow, it takes in the whole arm. With regard to the leg, the loss of any part above the knee is construed as the full loss of the leg. Those are the major injuries. I would say that the minor injuries are the thumbs, fingers, toes, etc., like that. That is the way I would divide it up.

Mr. LEE. You would not give compensation for those, I understand?

Mr. WEHE. Oh, yes. We give compensation according to the basic schedules of specific benefits. We leave those stand. We give what you call a certain number of weeks' compensation for the loss of a finger or a thumb, and let it stop there, because that is not such a great handicap as the loss of an arm or something like that.

[The meeting adjourned.]

TUESDAY, OCTOBER 10—AFTERNOON SESSION.

CHAIRMAN, C. A. M'HUGH, CHAIRMAN VIRGINIA INDUSTRIAL COMMISSION.

STANDARD PERMANENT DISABILITY SCHEDULE.

The **CHAIRMAN**. The first gentleman to be heard from this afternoon is Mr. Hatch of the Department of Labor of New York.

Mr. HATCH. This morning we discussed the schedule in general. As I said at one point, the committee's report is a tentative report designed to secure discussion and an expression of opinion of approval or disapproval, so far as the association feels like expressing such an opinion at this stage of the work. What I would like to propose is this: That this afternoon we take up the five general principles set forth by the committee, one by one, and if that meets with your approval, that we begin the discussion of each one with a motion that the association approve the principle or approve it with modification, or whatever seems necessary, and then that the discussion be confined to that principle and that motion until we can get action on each one of the five. That is not because we want you to approve the committee's work, or anything of the kind; but that seems to me the practical way, after the general discussions this morning, so as to have specific things settled and some definite progress made. So I make a motion that we proceed under that order this afternoon.

[The motion was seconded and carried.]

Mr. BEERS. I move the adoption of the first recommendation as finally amended by the committee, the amendment being the elimination of the word "total" before the word "disability," and adding after "disability" the words "whether total or partial," so that it shall read: "The schedule of permanent partial disability compensation shall be for compensation to be paid after compensation has been paid for temporary disability, whether total or partial."

The **CHAIRMAN**. As I understand it, that means that the convention approves of that method, and, of course, it is left to the individual legislature to carry it into effect.

[The motion was seconded.]

The **CHAIRMAN**. You have heard the motion. Is there any discussion?

Mr. KENNARD. What I said this morning does not mean that I have been in opposition to many of the features. I am heartily in favor of them. But as to this particular one of temporary disability, in the vast majority of cases the disability is due to the fact that it is not taken care of surgically. That period of disability will extend to two or three years sometimes. I do not know whether or not that is what you mean by temporary disability. As a matter of theory this resolution is all right, but as a matter of practical application it will be very difficult to carry it out. When a man

gets so that he is surgically and medically sound, his period of disability is over. If you back that proposition with that sort of a disability as temporary, you are far away from the mark. The disability is not temporary; it extends over a good deal longer period than a few days, or a few weeks, or a few months.

And on top of that, you are going to add your schedule. That is all right, but you are going to find as wide a discrepancy with regard to what people get for injuries of a specific character under this resolution, if it is applied, as you will find between Ontario and Massachusetts. I want to say, from practical experience, that that would be the result of paying permanent on top of what we call temporary—if by temporary you mean that period which is necessary to get a man back into the physical condition of a fixed status, in which he expects to be and probably will be during the remainder of his life.

Mr. KINGSTON. As I understand the effect of this resolution, it means simply this: The proposal is to pay temporary total disability; that is, the percentage of the man's wages as prescribed in the act during the healing period. That healing period is a question of fact, to be determined partly on the recommendation of the medical officers of the board and partly on the judgment of the board itself. Such facts as are brought to the attention of the board are the facts upon which the board makes a finding of fact. When the finding of fact is that the healing period is ended and the man has reached the fixed status where permanent partial disability should be considered, the resolution would then apply, that the permanent partial disability rating will begin at that point. It is in addition to, not concurrent with, the temporary total.

I do not think there is anything else to it. I do not see any such difficulty as Mr. Kennard suggests. That is the principle upon which we have acted, and we have had no difficulty in reaching a conclusion. There are cases, of course (I want to admit this), when it is hard to get a man to consider that he has reached that fixed condition. It is very hard to convince a man who has been in receipt of our maximum of \$25 a week for a couple of years, that he has reached the time when he must be expected to accept less money. But apart from a few scattered cases, a very small percentage of the total, I do not think it is a difficult thing to apply.

Mr. KENNARD. It isn't difficult. That is not the point I am making. The point is, that if you expect to get out of this arrangement a compensation payment which is going to be about the same amount for the same class of injuries, you will be disappointed, because the injury of one man will take two years to heal and that of another fellow will take two or three months—with the result that the first man will have more money paid to him. You are going to have a wide divergence in compensation.

Mr. VERRILL. The very purpose of that resolution provides for those cases that Mr. Kennard speaks of. There are quite a good many States that have a partial disability compensation scale, which is all that they can get. The healing period is included in that partial disability scale. Now the purpose of this resolution is to declare that those laws are wrong, that there should be a healing period, to be determined by the commission, which should be con-

sidered a temporary compensation, and after that is over, the schedule should apply. I have seen cases such as Mr. Kennard describes. I saw a case only yesterday where over \$6,000 was paid for medical and hospital treatment, and the case is still a temporary and total disability.

The CHAIRMAN. We have the motion just made, which is for the approval of the first suggestion made by the committee with certain modifications. Of course, we all understand that by giving it approval we mean simply this: That we have come here as delegates representing various States and various industrial commissions; that in our judgment this would be desirable; and that we want to give to those who wish to put these changes into effect in their several States the advantage of having the joint judgment of men engaged in similar work the country over, including Canada, to back up their judgment and also as an additional incentive to their several legislatures to carry those amendments into effect.

[The motion was carried unanimously.]

The CHAIRMAN. That brings up, then, the second recommendation. Will somebody make a motion touching upon that?

Mr. KINGSTON. I have much pleasure in moving that the principle involved in the second suggestion be approved. The proposal is: "Compensation for permanent total disability shall be valued on the basis of total disability for life," instead of a limited number of weeks. The principle now involved in nearly all of the laws, with some half-dozen exceptions, is a limited number of weeks. The proposal is simply to get away from that limitation; and whatever the compensation is to be, it is to be payable for life.

The CHAIRMAN. Is there any discussion upon that?

Mr. BEERS. Would the gentleman apply that to a phalanx of a little finger of an 18-year-old boy?

Mr. KINGSTON. That is another point. This deals purely with the question of total disability. If a man is totally disabled for life, compensation should run for life.

Mr. BEERS. I think that everybody will agree that this is logical and fair: That the compensation should be in its terms commensurate with the period during which the disability is going to be suffered, which is for life. But how is it going to affect the cost of compensation to the community, or whoever may happen to pay it? That is a question that will have to be met with individual legislatures.

Mr. KINGSTON. It is a question of rate.

Mr. BEERS. I know; but is it going to cost five times as much or three times as much? I do not think you can go back to the legislatures and ask them to extend the period compensation is to be paid without showing them how much it is going to cost. What are you going to answer when the legislative committee asks you the question, "As humanitarians we would like to see it done; but can we afford it?"

Mr. HATCH. I will answer that question. That would depend, of course, on the existing provisions in the State in question. In New York State, for example, it does not add anything. There are a num-

ber of States that pay during life. This resolution expresses the judgment of the committee that that is the sound thing to do as soon as it can reasonably be done.

Mr. BEERS. But is it a millennium or is it something recently practiced?

The CHAIRMAN. As I understand, the purpose is to indicate the desirability of having it done and then leave it to the individual commissions and the legislatures concerned to work it out as best they may. Is there any further discussion upon this recommendation?

Mr. WEHE. Will you please repeat that? I did not hear what you just said.

The CHAIRMAN. I simply said that the purpose here was to try to map out what was considered a desirable and ideal course to pursue; that we would leave for the various commissions the carrying of it into effect, as far as conditions would permit. There is no use of going to a legislature and asking for something that you know you can not get. The best thing to do is to come as near as you can. We are trying to establish an ideal standard, that can be taken to the legislature with the recommendation behind it of men who have given their lives studying this work.

[The motion was carried.]

The CHAIRMAN. The third proposition is now before you: "Compensation for permanent partial disability shall be valued as percentage of permanent total disability." That is open for discussion and for a motion.

[It was moved and seconded that the third proposition recommended by the committee should receive the approval of the convention.]

The CHAIRMAN. Is there any discussion?

Mr. BEERS. Just what does it mean? Suppose a man sustains a permanent total disability. He gets a certain number of dollars a week, say \$14, for life. They take an artificial figure. Is that right?

Mr. KINGSTON. As I understand the significance of it, it is simply this: You start off on a predicated basis that total disability for life represents 100 per cent, that is, 100 per cent of a man's working ability, the whole of his loss. If you say that the loss of his arm means 60 per cent (we say 70 per cent in Ontario, but assuming that you say 60 per cent), that is the way you start off to ascertain what compensation he is going to get. Forget about the \$14 he gets.

Mr. BEERS. That is what he gets. He doesn't get abstract philosophy.

Mr. KINGSTON. Now, say that man gets \$30 a week wages. He has lost his arm, and that represents 60 per cent. Sixty per cent of \$30 is \$18 a week. Then if you pay two-thirds in your State, his compensation is represented by two-thirds of \$18, which would be \$12. Then if you want to find out what that means in money simply ask some actuary to tell you what the present worth of \$12 a week for life is.

Mr. BEERS. I understand it now. That is, if the total rate is two-thirds of \$30—

Mr. KINGSTON (interposing). Sixty per cent of \$30, and then two-thirds of the 60.

Mr. BEERS. I see. Now are you going to apply that, for instance, to one phalanx of the little finger?

Mr. KINGSTON. It is as easy to apply it to that as it is to the arm.

Mr. BEERS. Only a man won't get enough to be of any use to him. Are you going to spread those minor payments over the whole of a man's lifetime?

Mr. KINGSTON. No, absolutely not. If the report of the committee involves spreading those little things over a period of time, I would absolutely disagree. For small losses, I would say, pay the loss in a lump sum; or, if you don't want to do it that way, spread it over a half dozen weeks or so.

Judge TAYLOR. Mr. Kingston, how do you arrive at your percentages? You say, as an example, that the loss of an arm is equivalent to 70 per cent. How do you arrive at that?

Mr. KINGSTON. Well, we have been operating on this thing for eight years, and we have adopted a scale which to some extent appeals to our common sense and the best judgment we can bring to bear on it. I do not say that that is right. I do not ask any of you to say that the scale we pay is the right scale. We may be paying too much. Sixty per cent may be too high. But when you say to the man on the street that a man who has lost his arm has lost a percentage of his earning ability, he can appreciate what you say and he knows what you mean. But, if you say, "Oh, we value a man with a lost arm at 300 weeks at so much a week," he doesn't know what you are talking about.

Mr. HATCH. If I may explain, this third resolution doesn't really go into the point raised by the gentleman from Connecticut, which is a very proper point to raise. It might very well be that we should, when we carry the work further, adopt the principle that payments in accordance with that section 3 be valued by that method. That is really a method of expressing the value of each permanent partial disability. We may adopt the idea that payments for life should be made only for major disabilities; that these minor ones, whatever they may be determined to be (for one phalanx of the little finger, for example), being very small percentages of the total permanent disability, might better be commuted into lump sums and paid at once. The only point is that we recommend that all permanent partial disabilities should be valued as percentages of permanent total, because they are permanent injuries. The award may be paid in payments running through life or in a lump sum. The matter of payment might be accomplished either way, and doubtless (as is done in Ontario, for example), in the matter of minor injuries, all cases of less than 10 per cent would be made in one payment instead of in a series of payments.

Mr. BEERS. Mr. Kingston, if a man is going to get 15 cents a week for life for the loss of one phalanx, say, you would commute it into a certain number of dollars based on the probability of life according to the age of the individual. Now, that is all well enough, but remember this, that in numbers little finger injuries, or finger injuries as

a whole, loom up way beyond serious injuries, and it is rather important, isn't it, not to have too much mathematics and too much complication as to these things of every-day and almost every-hour consideration?

Mr. KINGSTON. It is a matter of only a moment's computation when you get your schedule and your basis well understood. We have before all our rating officers a scale which has the present value of \$1 a month for life worked out. You have that before you. If that is shown (that is, if the figures in that scale are sound), then we simply bring everything else to fit into that scale, and we figure out our compensation so that it will read in terms of so much a month for life. It may be only 2 cents a month for life. That is very small, of course. It may be 5 cents a month for life. It may be \$1 a month for life. It is just as easy to figure what 5 cents a month for life is as 50 cents or \$50 a month for life. It is simply a matter of a moment's calculation.

If disability is more than 10 per cent, we pay compensation in the form of a monthly payment for life. If it is less than 10 per cent, we commute it. The result is that there are only a few (and they are very high-wage men) who ever get as high a lump sum as \$1,500. The great majority, 95 per cent of our lump-sum cases, are cases in which the amount paid is under \$500.

Judge TAYLOR. Mr. Kingston, how do you arrive at the length of a man's life—by the tables?

Mr. KINGSTON. We use the American experience table of mortality. That is a well-understood table that all actuaries recognize as sound.

The CHAIRMAN. Well, is it the wish of the mover of the resolution to provide that minor injuries be commuted according to the principle enunciated as to the major injuries?

Mr. HATCH. I would rather leave the general principle as it is, and let that be handled as a mode of payment rather than as a part of the principle.

The CHAIRMAN. All right. Is there any further discussion?

Mr. McSHANE. I wish to say that in Utah we pay according to this principle, but we commute all small and slight injuries. In fact, we do not pretend to pay for life, except in what we term permanent total disability cases; that is, the loss of any two members or a back injury which incapacitates a man to pursue remunerative occupation. We can adopt this principle just the same, but we would have to change our law in order to conform to what some gentlemen are trying to arrive at. But we are after the principle. We believe in it. We know that the schedule we have set up for these permanent disabilities, such as the loss of a thumb or finger, is arbitrary; but, nevertheless, we are using it. However, we hope to get some light from this convention, and perhaps recast that schedule sometime in the future. We are all working toward an ideal. We will take the ideas that are disseminated here to-day and some of us will crystallize them into law quickly. Others, perhaps, will extend the process over a course of years. But we are all working toward one great object. I am getting a good deal of valuable information from these discussions.

Mr. BEERS. May I offer an amendment—"except in the case of minor injuries?" If some one will second that, I want to say just a word about it.

[The motion was seconded.]

Mr. BEERS. The compensation system has been described in one of the New York cases as a rough and ready system of justice. I think that most of us ought to keep its character of rough and ready justice and not try to put too fine an edge on things. A very large percentage of the people you know have lost a finger, and for all I know they may have lost a toe. It takes a while for a man to adjust himself, but in the great majority of cases he does adjust himself. He knows what 30 weeks means; he knows what 10 weeks means. But to confuse him by figuring his expectation of life, which may or may not be true, as a true estimate in his case, to give him a few cents for that period, and then to turn it back by a system of commutation and give the money all at once, does not seem to me to be the right way to meet the problem. I therefore suggest that in the case of minor injuries the old system, with such changes in weeks as may be made, after all, with its rough and ready justice, can be administered by plain folks, as most of us are, and can be understood by plain folks.

Doctor DONOHUE. I wish I could feel as Mr. Kingston does, that if you tell a man after he has received an injury that he has received a certain percentage of the loss of a member of a body, he accepts that and can realize it, and that is a simpler method than telling him he has lost a certain member, which means a certain number of weeks. I think if you deal with concrete figures you can get along easier with the vast majority of men whom we have to contend with. It looks to me as though we would have to have an actuary figure what he is going to get, according to what you have said.

Mr. THAYER. When this percentage has been paid under this suggested plan, if the man's actual incapacity is in excess of the percentage you have estimated, does he get anything more? For example, you estimate a 10 per cent disability for the loss of a thumb—or rather 6 per cent—which you commute into a lump sum of \$1,000 for that man. Having paid him \$1,000, is the fact taken into consideration at all that he can never go back to his same occupation and may not be able to earn half as much for the rest of his life? If so, the loss of a thumb to that man may mean 10 times as much as to another fellow who gets the same amount and then can go back to his same occupation and earn as much as he did before. Is the percentage settlement that you offer a final settlement, regardless of the incapacity of the man to work thereafter at the occupation in which he was injured?

Mr. FISHER, of Pennsylvania. I think that point will come up under principle 5, the occupation factor.

Mr. THAYER. I have read No. 5, but that says nothing about whether you have paid him the 10 per cent.

The CHAIRMAN. I see that section 4 says that "the permanent disability schedule shall be one designed to measure loss of earning capacity considering all elements." Does that take in that factor?

Mr. BEERS. Can't the gentleman's question be answered direct? If the member in question is worth 10 per cent and he gets the 10 per cent, he is paid; that is the end of it.

Mr. THAYER. That does end it, but isn't that going to work an injustice in a great many cases where a man is actually put out of commission by the loss of a thumb or some other member, whereas some other man may lose an arm and keep right on working and not lose even three weeks out of his regular work for the rest of his life?

Mr. HOOKSTADT. Mr. Thayer's question comes up under resolution No. 5—whether or not occupation is to be taken into account. Your question is, Shall occupation be taken into account in fixing a percentage? That comes up under resolution No. 5.

Mr. THAYER. As I understand it, this compensation is a permanent partial disability which is to be valued as a permanent total, and you have fixed your permanent total at 100.

Mr. HOOKSTADT. We have not yet come to that point.

Mr. THAYER. In the second one—"Compensation for permanent total disability shall be valued on the basis of total disability for life"—is not that 100 per cent for life, and then the other injuries are based on that percentage for life?

Our experience has been that an injury that puts one man out of commission for life may not affect the other man's earning capacity in the slightest. Therefore it is not fair to give one man who does not lose any earning capacity a 10 per cent lump-sum settlement and bar him from any more compensation and then give another fellow who is actually put out of commission the same compensation.

Mr. HOOKSTADT. But up to this point we have not said anything about 10 per cent.

Mr. THAYER. What are we talking about?

Mr. HOOKSTADT. That schedule comes up later on.

Mr. THAYER. Just what is the proposition in No. 3?

Mr. KINGSTON. The adoption of this report, without also giving to the administering board a very large element of discretion, will not meet every case. You can suggest any case. The gentleman from Maine has suggested a case. But special cases make bad laws. You can not provide a scale or a law which will fit every case. The only way to get over that is to invest your administering board with discretion, as they have in North Dakota and in the Canadian Provinces and in some of the American States—I do not know just which ones they are. If you have that discretion, you can meet your special case. In other words, as I stated this morning, the use of this scale is to serve the board. Do not let the scale be the master of the board to tie your hands in every case. Let the scale be the servant of the board, to assist you in handing out the rough justice which you have to hand out because of the large number of cases you have to meet every week.

Mr. HATCH. I believe the question now is on the amendment. I am inclined to oppose the amendment, because as it reads it would imply that it is our sense that for minor injuries you should not undertake to determine their value in percentages of permanent total disability. I think that is what was intended. If that is what was intended, I do not believe it is a sound proposition. All the schedule

is for is to get the relations between the different permanent disabilities, and it seems to me highly important, if the value of a permanent injury to one finger is to be properly correlated with the value of other injuries in any schedule (low level or high level on which it is set) that you value it according to a schedule that is based on permanent total disabilities. You can carry out the plan of commuting those percentages at different wages into a certain amount of money or a certain amount of weeks' compensation at a given wage. But your schedule, which is to be the standard by which you are to correlate these things one to another, ought to be uniform in its terms all the way through.

That is all the committee is driving at, to set up an outline for the purpose of arriving at relative values. The commutation (as it is done in Ontario) of the minor injuries through lump-sum payments does not put those minor injuries outside of the principle of valuing injuries on the basis of a percentage of permanent total disability. These minor injuries the compensation for which amounts to a few cents a month are simply commuted to a lump-sum payment for convenience and economy. That saves a lot of clerical work. I am inclined to think that we are not jeopardizing the possibility of treating minor injuries in that way at all by still leaving the fundamental principle, which is really defining the way we are going to express these things. That is what No. 3 does. I am inclined to urge that we leave the amendment out.

Mr. DUXBURY. If I understand what the fundamental principle involved in this matter is, I want to oppose the amendment, because it seems to me that the fundamental proposition is whether we favor a method of expressing the compensation which shall be paid for these specific injuries by the number of weeks or whether we favor the method of determining it as a percentage of total disability. That is the fundamental proposition involved. That is all there really is in the motion itself. I either favor that fundamental proposition or oppose it. I would not want to say that one method is good for a portion of the minor injuries and another method is good for the others, because you can not logically determine the point where you would change your system. I think that the amendment would be very unwise. It would leave a situation where for one injury you are expressing the measure of the compensation in terms of weeks and for another practically analogous to it you are using a wholly different method. You will have a confusion of methods and results that will be wholly undesirable. I think we ought either to accept this principle or reject it. I think the amendment ought not to prevail.

Mr. KINGSTON. I am absolutely opposed to the principle involved in the amendment.

Mr. WEHE. While I agree with this gentleman in regard to his amendment (and in order to save confusion we should let each board take it up and act on it accordingly), I think the main motion should prevail.

Mr. VERRILL. I want to observe in regard to those minor injuries that, having a schedule, it would be perfectly easy to convert that schedule at any point, beginning with any minor injury, into weeks. For example, you have a man, we will say an average man, and you

find that the schedule rates his injury, say, at a 10 per cent disability. We will say that his expectation of life is 30 years. If that is so, then he is entitled to full compensation for three years. You can easily, by working back in some method, convert it into weeks.

Mr. BEERS. It does not seem to me that the analogy between the serious injury and the less serious one, the minor one, is sound. Take the case of a carpenter. If he loses his arm he ceases to be a carpenter; he must get some other sort of job. If he loses his little finger, he continues to be a carpenter, and gradually overcomes the handicap. It seems to me, also, that it is a most artificial sort of figuring to find out the percentage that a little finger bears to the whole human frame in its normal condition.

So far as the suggestion made by the gentleman from the United States department is concerned, it is true that the commission can convert a percentage into a number of weeks; but you have to have a different number of weeks for every age, and, furthermore, a large percentage of people do not know their ages and a large percentage—male and female—do not tell the truth about their ages. Now, for the purpose of carrying out this rather glittering theory, why should we discard the practical advantages of a law which everybody can read, everybody understand?

Mr. FISHER. If you set up a disability schedule and say that the loss of a hand shall be 200 weeks and the loss of a finger 75 weeks, you are doing no more than expressing the value of the loss of the finger and of the hand. There must be a correlation between these various losses. Now the only question is whether you are going to express it in weeks or for life. It seems to me the point under discussion is nothing more than a method of payment and not a basis of the establishment of the relation of one injury to the other.

The CHAIRMAN. The question now comes up on the amendment. You are all familiar with it.

[The motion to approve the amendment to resolution No. 3 was lost.]

[The motion to approve resolution No. 3 was carried.]

The CHAIRMAN. The next resolution is No. 4: "The permanent disability schedule shall be one designed to measure loss of earning capacity, considering all elements."

Mr. KENNARD. I am heartily in favor of this resolution No. 4. But the committee says here that "there are two principal factors which have operated in determining the amounts in compensation schedules: (1) Loss of earning capacity, and (2) the economic need of the disabled workman or his dependents." I do not know where the gentleman came from who framed that particular statement, but I want to say to him that in Massachusetts there is a factor, and it is a very important factor, with regard to the economic needs and the economic ability of the people who are paying the bills. If that has not been taken into consideration in getting up this schedule, I think it would be well to have it taken into consideration.

You have here a proposition as to giving a man permanent partial disability. It may be that his disability is such that he will draw your permanent partial. It may throw him into a new line of employment where he is going to earn more than he ever earned before. And on top of that you are going to ask the taxpayer

to pay him a weekly compensation over a long period of time when he is better off than he ever was. It seems to me that the committee ought to have had in mind the economic condition of the rest of the community who are paying the bills. I know that is rather revolutionary, but it might be well to take that into consideration.

Judge TAYLOR. What reason has the gentleman from Massachusetts to assume that by rehabilitation the man will be in a better position to earn more money than he did before?

Mr. KENNARD. What right have you to assume that you are going to pay 66⅔?

Judge TAYLOR. By the right of common sense.

Mr. KENNARD. Then I say, by the right of experience; I have found that to happen.

Judge TAYLOR. I disagree with the gentleman. According to his hypothesis it would be better to remain injured.

Mr. KENNARD. Is there any compensation law which pays an injured workman all his wages from the date of his injury until he is completely recovered, or if he does not completely recover is there any compensation law in Canada, the United States, or anywhere else which assumes that the workman shall not bear a share of his injury? There isn't a word about that. The logical thing is that a man shall be paid his full wages from the moment he is injured until he gets ready to go back to work: There is your logical conclusion and you can not escape from it by any other basis of argument. You are approaching this proposition apparently without considering that last element, which is the one element that stands in the way of this whole thing when you come to try to get it into your legislation.

Judge TAYLOR. I do not agree with the gentleman and I do not agree with the theory that has been advanced by some. There is, in spite of all we may say, gentlemen, an element of damage. Whether we admit it or not, if I lose a finger I may be rehabilitated, and then be put in a vocation where I earn more than I ever earned before. But notwithstanding that, I carry a damage, and the presumption is in my favor that I am hurt and that my earning power is impaired. That presumption is so universal that it ought to be accepted by all. That is recognized as common sense and common reason.

Most of the courts of the country (yours as well as the jurisdiction of the United States) construe this act always with the fact in view that the workman is deprived of his common-law rights, and therefore they use the utmost liberality. We can not assume that because a man who has been maimed returns to work and earns more money than he ever did before he is without injury. We can not assume that; but we must assume that he is injured. That is the universal rule. It is always accepted that where a man is maimed and then changes the course of his life and earns more than he ever did before, that is the exception. The universal rule is to earn less.

Mr. KENNARD. This whole thing is a question of damages and not a question of compensation, as I said this morning.

Mr. KINGSTON. As I understand the effect of this resolution, it would simply be, in effect, to disapprove the idea which Oregon and Washington have incorporated into their law and to say instead that

earning capacity (not marital relations or conditions at home) controls the amount of compensation to be paid.

I quite agree with Judge Taylor that when a man has suffered dismemberment you have to presume a certain amount of loss. You can express that in terms of percentage or in any other way you like. I think the best way to express it is in terms of percentage, as the resolution provides. I do not think we will be going along right lines if we endeavor to incorporate into our expression of disability a lot of family factors. I am not saying there isn't an argument in favor of that. I think that if Mr. Marshall, of Oregon, were here he would put up a very strong argument, showing why family conditions should be considered. I think that the experience of Oregon has a lot to commend itself to the people here. But I think the safest plan to adopt as a universal method, if we are trying to reach an ideal condition, is to go along the line suggested in this resolution—that is, that loss of earnings should be the basis.

You will find lots of cases in which there is no loss of earnings. We have sympathetic employers who will take back a man who has lost his arm, at the same wages as before. We do not make any difference in the monthly payments that that man gets by reason of that condition, because it is not going to last forever. Some few men are fortunate in that regard, but the vast majority of men are not. And to try to base an argument on the exception which all of us can recall from our own experience, is, I think, absolutely unsound.

Mr. WEHE. I move the adoption of resolution No. 4.

[The motion was seconded and carried.]

The CHAIRMAN. That brings us to the last—No. 5. Is there any motion?

Mr. HOOKSTADT. I move the adoption of resolution No. 5.

The CHAIRMAN. It is moved that proposition No. 5 receive the favorable consideration of the convention. Any discussion?

Mr. HATCH. In resolution No. 5 we have really three items, and I would like to suggest that we take them up one at a time. That is, "The permanent disability schedule shall be based upon the principle of variable rather than fixed factors. The variable factors to be taken into account shall be: (1) Nature of injury; (2) age of injured employee; and (3) occupation of injured employee, including degree of displacement in industry." Are we all agreed that the nature of injury should be taken into account? I presume we are.

The CHAIRMAN. It has been suggested that proposition No. 5 be divided into three separate items. The first is the nature of injury. There seems to be general agreement on that, and we will pass it. The next is age of injured employee. Is there discussion on that or difference of opinion?

Mr. KINGSTON. Assuming that there is a motion to adopt that, perhaps it is not in order to move exactly the opposite, or to vote nay, but I would like to say that on this point I am quite opposed to the principle embodied in the resolution. I think that the scales should not vary according to age.

Judge TAYLOR. Now why do you think that?

Mr. KINGSTON. Because in Ontario we adopted the companion idea of varying the scale according to wage for some seven years. I do not think there is any difference in principle between varying the scale according to age and varying the scale according to wage. We varied it according to wages for some seven years and we put that to the test of experience and satisfied ourselves that it was not a sound idea. We based that plan on the idea that the high-wage man was generally the aristocrat in the wage-earning world, and would rehabilitate himself or readapt himself to the condition of a lost arm more quickly than the low-wage man—whom we usually considered was probably somewhat under the high-wage man in mentality. Perhaps in theory the idea sounds all right. It appealed to us when we started the operation of the board eight years ago. Our scale was along those lines, and our earlier awards were all made on that basis. But a year or so ago we departed from that entirely, and our scale now is a fixed scale for all ages and for all wages. That does not mean that we do not take both age and wage into consideration in determining the compensation that a man is to get. Age, wage, and occupation are all taken into consideration in working out the scale. All I am saying is let the scale be uniform for all ages and wages, and then you will find that both age and wage will be elements or factors which will enter into the working out of the compensation which the man is to get.

Mr. WEHE. I heartily agree with your remarks on No. 5, and I think we should not adopt that resolution as it stands, but that it should be changed. I am in favor of a flat rate right straight through—a flat basis. Under our system a man 30 years old earning \$30 a week would get \$20 and a man 65 years old earning \$20 would get two-thirds of that. Under this resolution there would be a discrepancy because the compensation goes up according to age, while the earning capacity is going down all the time. It will not be an equitable basis. By the time a man injured when he was 25 years of age reached 70 he would be getting less than the man of 70 years who became injured at 70. That is what I object to. You are not taking that part of it into consideration. The other is more equitable and just. Therefore I am opposed to that part of the resolution.

The CHAIRMAN. The question might be determined by ascertaining the sense of the convention with regard to the recommendation as to age. Therefore, if a motion be made that the recommendation of the committee as to age be not indorsed that can be voted on and we will find out what the sense of the convention is.

Mr. BEERS. Judge Taylor asks why age should not be taken into account. The argument in favor of giving the older man more and the younger man less is that the younger man is more adaptable and can more readily rehabilitate himself. I take it that that is the argument in favor of it.

Let us see what there is on the other side. The compensation never covers the loss of earning power. It may be 40 per cent; it may be 50, 65, 66½, or some other artificial figure. But that figure is always, under every law, far less than 100. The man, therefore, who is injured at 20 has a longer period during which he suffers the difference between what he earns and his compensation. For that reason his compensation ought to be raised. Furthermore, if you

make it too easy for the old man to get compensation you will make it correspondingly hard for him to get a job, and the old man would have another shove away from industry.

You can not do exact justice in any compensation case. You might as well try to lay down rules for a jury to follow in figuring the results of an injury. This schedule must be largely artificial; and I, for one, do not believe that you will get more justice (you will get more complications, but I do not believe that you will get more justice) by this sliding scale, because all the elements, so far as we can see, balance each other. The young man is more adaptable and thus is in a favorable position; but on the other hand he has a longer period to suffer loss, and thus is in a less favorable position. There is the necessity of protecting the old man by rendering it not too hazardous to employ him. After all, may not the best way to get justice be the simplest? Have your rates, and be done with it.

Mr. McSHANE. There is just one angle that has not been touched. I believe I agree with the gentleman from Connecticut, with one exception. Take the case of a young man who is apprenticing himself, as it were, in some occupation that pays an extremely high wage. One case that I remember was that of a structural-iron worker. It is true that this boy of 18 was only drawing a nominal salary, but he was of such a nature and so adapted to that particular kind of work that the people who hired him looked upon him with favor and expected him to become a leading man among them. While he was only drawing \$25 a week, he could approach and would, had he been permitted to continue his employment, have reached a point where he would have earned \$15 to \$17 a day. Now he has lost an arm. His vocation in life is entirely destroyed. Under the Utah law, while we pay for the permanent partial disability and unlimited medical treatment in that case, when we come to fix the average weekly wages we have a right to assume that his earnings would have increased in the future.

With this one exception I agree with the gentleman from Connecticut. In the particular instance that I have reference to, it seems to me that that boy's compensation, in so far as his permanent disability is concerned, should be figured on the expectancy of an increased wage and not on the low wage that he was getting in the employment at the time of the injury.

Mr. BEERS. That is a rather different subject, then.

Mr. McSHANE. I was wondering whether we were going on record against that.

Mrs. ROBLIN. Could not that be taken care of in determining the rate of compensation for the average weekly wage?

Mr. McSHANE. We figure that is what our law provides.

Mr. HOOKSTADT. This question, it seems to me, should be considered in connection with another one, and that is whether the commission shall be given discretionary power to vary the schedule. Mr. Kingston and his board do have that power and consequently do take factors such as age and occupation, etc., into account. The point is that if the association adopts this schedule and does not grant this discretionary power to the boards to vary the schedule, then these factors can not be taken into account as they are in Ontario.

It is true that a young man will carry his disability longer; whereas with the older man the disability will affect him more. That is, the younger man receives a lower rate but he carries the disability longer. The point is, do disability and age run in the same direction, increase in the same way? If they do, why then there is no point in having an age variation factor. The committee believes, however, that they do not vary to the same degree. There are certain periods in the life of the industrial worker when he is affected less by his disability than at other periods; that is, the rate is not uniform. The curve in the chart presented in the report shows what the committee believes is the way the average workman is affected by his disability at various ages.

Mr. THAYER. I have been convinced of one thing since I have been attending this convention, and that is that every member of every separate board is absolutely convinced that his compensation act is the best that has yet been put into existence.

Judge TAYLOR. That is conceded by everybody.

Mr. THAYER. Having come from Maine, I am also of the same opinion. In order to show the simplicity with which we arrive at results that you people, though you argue here for the next three weeks, can not arrive at, I would like to have the gentleman from Ontario take a specific case and step by step show the results under his act, and then let me take the same case and show you how much simpler and easier we arrive at the same proposition under the Maine law, and yet always protect the rights of the injured employee according to his age, according to the nature of his injury, and according to the occupation in which he was injured.

Mr. KINGSTON. I am not here to say how our law is the best. I am willing to meet the suggestion that the gentleman from Maine puts forward if it is the wish of the meeting. It is very simple to reach the result in Maine. All you have to do is multiply so many weeks by so many dollars for a week.

Mr. THAYER. It can be ascertained according to the conditions arising in each separate accident. No body of men in the United States can sit here and determine what is fair in every individual case that comes up. That is why I said the Maine law is the fairest. Give a minimum compensation for the loss, and then take care of his loss in the occupation.

Mr. KINGSTON. There is one point that I wonder if I have made clear, and that is as to how age enters into a flat schedule. Suppose you have a flat schedule of values in opposition to the curve schedule as outlined in this report. I do not know that I have made clear that age does enter into the consideration. Suppose you adopt the plan of 10 per cent for a thumb, with a uniform level schedule of values. You reach the conclusion, say, that that man is entitled to \$3 a month for life. That will be the goal that you will reach. It may be \$3 or \$3.50 or \$4, somewhere along there. The present value of \$3 a month for life for a young man 25 years old is approximately \$600. The present value of \$3 per month for life to a man 60 years old is approximately \$300. There age immediately enters into the application of your schedule, and you give the young man \$600 for the loss of his thumb and you give the old man \$300.

Mr. THAYER. May I ask what would be the average earnings of the young man at 25—the fellow who gets \$600?

Mr. KINGSTON. I do not know what his average earnings are.

Mr. THAYER. As I understand it, we are trying to arrive at some regulation as to permanent impairment that would fairly compensate a man for the injury that he has suffered. Am I right in that?

Mr. HOOKSTADT. You are right.

Mr. THAYER. I do not understand why arguing whether or not the Maine law is the better way to arrive at that result than the other suggestion is just a difference of opinion of two men. I am trying to show that there is a fairer method than a fixed schedule for obtaining the result that everybody here is apparently trying to obtain. If we take an average young man of 25 years of age whose earning capacity was, say, \$15, that fellow would get \$500 within a year; and if his earning capacity had been affected by the loss of a member, he would get a partial or total for 200 weeks thereafter, according to the degree. That is what I wanted to show. I think that if you take an individual case and apply the principle that you are trying to put through here, and then compare the results that would be obtained under the Maine act, you will find that the fellow is invariably better off under the latter; and if there has been a serious impairment to his earning capacity because of the loss of a special member, he is certainly very much better protected than the man who is paid his 10 per cent and then loses any rights from then on.

If this convention wants to arrive at a fair system of determining what a man shall get for permanent impairment, why not adopt a system that leaves that question open and gives his compensation according to loss of wages? Why sit and try to estimate what is going to happen in the future when the facts themselves will determine it from time to time?

Mr. WEHE. I move at this time postponement of final action on resolution No. 5—indefinite postponement until some time in the future.

The CHAIRMAN. I do not hear any second to your motion for indefinite postponement.

Mr. HOOKSTADT. The gentleman from Maine argues that the Maine law is a good one because it is simple. If simplicity is to be the test of the desirability of a law, why then he can increase the simplicity in his law 100 per cent by not paying any compensation whatever.

Mr. THAYER. We are not trying to get at simplicity. We are trying to pay a man according to the facts. We are not trying to say that an injury has incapacitated a man 10 per cent for the rest of his life. It may have incapacitated him 50 or 100 per cent. Give him a minimum and then pay your compensation according to the degree of actual impairment. If he lives it can be determined, even if the compensation board ceases to exist.

Mr. HOOKSTADT. How many cases do you settle by lump sum?

Mr. THAYER. We very seldom give a lump sum. The theory of compensation in the State of Maine is that of a weekly compensation; and, unless a man moves out of the State or something unusual comes up, we do not grant him a lump sum.

Mr. HOOKSTADT. Some five years ago I made an investigation of 123 cases of lost arms and lost legs. I found that in just one-half the cases the commissions or the boards ordered a lump sum.

Mr. THAYER. Our industrial accident commission has been in existence only six years, and five years ago we did not have 120 cases of lost arms.

Mr. KENNARD. I want to correct the gentleman. I think from my experience of some six years as chairman of the Massachusetts board that there have been lump sums granted, but we do not lump sum the first week or the first month. When we do lump sum a permanent partial disability case it is after the man has been drawing compensation for two or three years and has either adjusted himself to some sort of a job or found some place where he can adjust himself. When we lump sum such a case we take the man's case and investigate his family, we investigate every element that you have here in this schedule, and then we pay him. I want to say that for the last five years anyway, as a result of considering the various elements and taking into account the exact features of every case, we have paid in lump sums for permanent partial disabilities more than the average shown on that schedule for those 30 States of the United States.

Mr. VERRILL. Am I right in understanding Mr. Kennard to say that a lump sum is paid practically as soon as it is sure the disability has reached a permanent status?

Mr. KENNARD. We lump sum the cases because the people request that their cases be lump summed. We may turn down a lump sum this year and next year we may grant it. We do not grant a lump sum until we feel that the case has reached the status where it can be settled in that way, and then we assess the compensation for that particular case.

Judge TAYLOR. In other words, you educate him as to how to spend his money.

Mr. KENNARD. We do not give him the money unless the facts of the case warrant it. We put it in the bank and he draws it weekly, even when we lump sum his case. We do not give him money to go into a business either. We do not let a man come in and tell us that he wants to run a corner grocery store or anything else. In other words, his status (as my friend from Maine has said) has become fixed to a very considerable extent. The various elements that you are talking about here are before us in this particular man's case. We are not speculating upon a lot of men; we are dealing with that one man. We can lump sum his case with something that I believe approximates what you are after here to-day.

I said that because Mr. Hookstadt said we lump summed half of them. My experience is that we have very few cases in Massachusetts that need to be lump summed. But we do grant lump sums when we get ready to pay for permanent partial disability, and take into consideration all these elements that you wish to take in and a lot more besides.

Mr. VERRILL. It seems to me that Mr. Kennard's statements indicate that his board has evolved some method of giving a rating on every permanent partial disability case after having an opportunity

to study the man's experience for perhaps a year or two after the injury. It is more or less of an arbitrary rating, it seems to me, because we all know very well that in this country men do not stick to positions permanently. That would be especially true with men who have major and semimajor disabilities. It is an old trick of the claim agents to get a man back to his old job for a reasonable time and then to divide the profits.

Mr. KINGSTON. I wonder if it would meet the sense of the meeting if we suggested that this second number be referred back to the committee. The committee has asked to be continued for another year, and it admits that its work is unfinished. I think, perhaps, if this matter were referred back to the committee for further consideration, report to be made at the next convention, perhaps that would meet the feeling of the meeting.

Mr. WEHE. I make that as a motion.

The CHAIRMAN. It has been moved that No. 2 of resolution No. 5, relative to the age question, should be referred back to the committee for further consideration, report to be made at the next convention.

Mr. THAYER. I would make an amendment to that motion to state that the whole subject be referred back.

Mr. KINGSTON. No. 1 is adopted already.

Mr. WEHE. I will accept that amendment.

The CHAIRMAN. The motion has been amended to refer the entire resolution No. 5 back to the committee.

Mr. HATCH. May I say just one word? This resolution No. 5 I must say (and I feel I voice the feeling of the committee) was one upon which we made a report with less feeling of unanimity than on any of the others. I think that you would be wise in taking action to refer it back to us. We will be glad to go into this thing and endeavor to present at the other meetings all the considerations that have been suggested here and many others pro and con on those three points. I am inclined to think that that is the way to arrive at the proper conclusion of the whole thing.

Mr. WILLIAMS. I have had no opportunity to examine this paper with care, but in the little look which I gave it, I failed to find any exact definition as to what was intended by total disability. I do not know whether it means inability to do the work a man did before he was hurt, or whether it means inability to pursue another occupation. I would suggest that when the committee continues its labors it put in some exact definition with regard to that.

[The motion was carried.]

The CHAIRMAN. Resolution No. 5 has been referred back to the committee for further consideration. The committee will continue for another year. The convention and all of its members are asked to furnish it such suggestions or tables of experience as are likely to be helpful to it in its labors.

Mr. FISHER, of Pennsylvania. I would like to present a little matter as part of this report of the committee on statistics. I have in my hand, through the kindness of Mr. Stewart, a bulletin of the British Industrial Safety First Association. I want to present it at this time to show the need of being careful in what we do in the adop-

tion of these various reports of committees. It seems that there is need all over the compensation world for establishing some uniform system of paying compensation, and I want to quote a paragraph from this bulletin on accident prevention, published by the British Industrial Safety First Association, as follows:

Fatalities and permanent disabilities.—In order to arrive at a comprehensive measure of the severity rate in any particular works, it is necessary to take into consideration fatal accidents and permanent disabilities. This can only be done by expressing the far-reaching results of such casualties in terms of time lost. A scale of arbitrary equivalents on the basis of working days lost (technically described as weights) has been fixed by the International Association of Industrial Accident Boards and Commissions. As uniformity in the matter is important, the adoption of this schedule is recommended to all members of the British Industrial Safety First Association.

It further goes on to say:

In conclusion the hope may be expressed that the system of recording and compiling accident statistics outlined in these pages may find a wide acceptance in the industrial world. Only by the general adoption of such a system can it be hoped to secure for the accident-prevention movement that basis of scientific knowledge which is the essential condition of an effective national appeal.

Then follows the table of the scale of time losses for deaths and permanent disabilities, as prepared by the committee on statistics a year or so ago and adopted by their association. I bring this up at this time merely to show that the people of England (perhaps all of Europe) are confronted with the same question as this association. I feel that the work that we are doing in the committee on statistics is directly in line with the work that they are attempting, and it is very gratifying to the association to know that the British have accepted the schedule as adopted by this association. I believe that at some future time after this present schedule has been accepted by the association an international committee can be appointed which will have even a broader field than the present membership of the association.

[The following committees were appointed at this session by the president.]

Committee on dissemination of workmen's compensation information through the schools and by motion pictures.

L. A. Tarrell, chairman, Wisconsin.
Wm. W. Kennard, Massachusetts.
Mrs. F. L. Roblin, Oklahoma.
Arthur Calverley, Wyoming.
Clifford B. Connelley, Pennsylvania.

Ernest Withall, Illinois.
Ralph Young, Iowa.
George H. Webb, Rhode Island.
C. G. Kizer, Virginia.

Committee on resolutions.

Geo. H. Fisher, chairman, Idaho.
Donald D. Garcelon, Maine.
L. S. Carmona, Porto Rico.
Harry A. Mackey, Pennsylvania.

L. J. Wehe, North Dakota.
Fred S. Johnson, Michigan.
Ernest Withall, Illinois.

Nomination committee.

George A. Kingston, chairman, Canada.
Geo. B. Chandler, Connecticut.
Lee Ott, West Virginia.
Chas. H. Verrill, Washington, D. C.

O. F. McShane, Utah.
Leonard W. Hatch, New York.
S. J. Slate, Georgia.

[The meeting adjourned.]

WEDNESDAY, OCTOBER 11.—MORNING SESSION.

**CHAIRMAN, ROBERT P. BAY, M. D., CHIEF MEDICAL EXAMINER, MARYLAND
INDUSTRIAL ACCIDENT COMMISSION.**

MEDICAL PROBLEMS.

The CHAIRMAN. We are especially fortunate this morning in having Doctor Bloodgood speak to us on "Malignant disease with reference to traumas of industry." Doctor Bloodgood probably knows more about this subject—certainly about malignant disease—than almost anyone in this or any other country.

MALIGNANT DISEASE WITH REFERENCE TO TRAUMAS OF INDUSTRY.¹

BY JOSEPH BLOODGOOD, M. D., OF BALTIMORE, MD.

I am going to speak about the subject in the purely academic way and confine myself to a small group of cases in which the evidence is so strong that we must feel there is some relation between the malignant disease and the original injury.

In a few instances cancer of the skin has developed in an unhealed wound in the skin. In the majority of these cases the wound has been a burn. The interval of time between the original injury that produced the wound or the burn that produced the wound and the development of carcinoma is a very long one. I have not a single example as yet where such a case has come under compensation. The number of cases are few.

Of course, you are familiar with the burn and the later cancer. For example, a man has a little burned area on the face. The barber cuts it every time he shaves it, or every few times, and later cancer develops in that area. A man receives a gunshot wound in the ankle and it never heals, and later carcinoma develops in the sinus.

One recent observation is of great interest—as far as I know, it is the first time that we have observed a development of carcinoma in a wound made by an operation. In this case the man had a giant-cell tumor of the upper end of the tibia. In 1900, 22 years ago, I curetted and removed the tumor and left the wound open to heal by granulation. The wound never healed. It covered with skin down to a point about the size of a 5-cent piece, but that little ulcer remained. About 1919 I advised the patient, because it was a nonhealed wound, at least to have the ulcer excised, so it would start another attempt at closure. He refused. I had no idea that cancer would develop, but it did develop in that little ulcer which had not healed for more than 20 years, leading to the amputation of the leg. It seems to me that the development of that cancer dates back to the wound.

When we come to cancer of the mouth, the trauma which produces the lesion in which later cancer develops apparently has no particular reference to industrial diseases, because the trauma is tobacco and ragged, dirty teeth. But now and then a bite, an accidental bite, or a foreign body, such as a piece of bone, may produce a wound which does not heal and in which cancer may develop. There is no doubt that cancer is possible in any lesion of the skin or mucous membrane in which there is an unhealed area. The interval may be months; it is usually years.

When we come to cancer elsewhere, such as cancer of the breast, in relation to trauma, that might come up under accident insurance,

¹ Repeated efforts were made to secure the original draft of this address, together with the lantern slides with which it was illustrated. As the publication of the proceedings could not be delayed longer awaiting this material, the stenographic transcript of the address is merely reproduced, and the illustrations are necessarily omitted.

especially in relation to women. Up to the present I have had no such case, but if we go over the records of malignant tumors of the breast in which the tumor has developed directly after trauma, the number of cases are relatively so small that we would have to question the relation there between cancer and trauma.

When we take another large group, cancer of the uterus, the trauma there would not be industrial. The trauma is the birth of a child. There is no question that carcinoma of the cervix is observed chiefly in women who have borne children, and there is every evidence for the belief that the development of carcinoma rests largely upon an unhealed injury during the birth of the child. The interval, as a rule, is many years.

When we come to carcinoma within the abdomen, such as carcinoma of the stomach and colon, the larger group, and carcinoma of the gall bladder, the liver, the pancreas, and other areas within the abdomen, the relation between external trauma, like a contusion of the abdomen, and the development of carcinoma is practically nil. So if a patient had a contusion of the abdomen and later developed a carcinoma within the abdomen, it would be difficult to prove that trauma had anything to do with the development of tumor.

In going over large numbers of histories (it has been done again and again in the literature, and I have gone over all our group) in relation to the tumor of the connective tissue, the malignant tumor or sarcoma, the evidence there is greater than in any other group. In the great majority of cases of sarcoma of soft parts—that is, subcutaneous, fascia, muscle—and the bone, both periosteal and central, the relation between trauma and malignant disease is very evident. In this group we have a large number of cases that have come under industrial insurance and accident insurance. I have had correspondence with at least a half dozen State industrial commissions and they have all ruled that if a malignant disease of soft parts or bone develops after trauma, unless there is evidence that it existed before, we must conclude that it was due to trauma.

There is a second interesting group which illustrates an unusual result of trauma and which must be considered in compensation; they are the reactions of the muscle, the joint, and the bone to trauma out of proportion to that usually observed. For example, a thousand men receive contusions of the thigh. In a certain per cent there is the hemorrhage, laceration of the tissue, healing, no further trouble. In a certain per cent there develops in the region of the hemorrhage an ossifying myositis which must be looked upon as due to the trauma. Why trauma to one individual heals without ossification of muscle and to a smaller group of individuals heals with ossification of muscle we do not know. But the fact remains that after trauma the muscle-ossifying myositis, with its disability, may take place.

In a certain per cent of cases after the trauma, instead of healing and instead of ossifying myositis, there develops a sarcoma in the soft parts. The relation between ossifying myositis and sarcoma of the soft parts to the trauma is almost as close as the relation of trauma to a fracture, except that the interval is longer. Then there is another group. Instead of the healing or the ossifying myositis or the sarcoma, there develops in the scar a fibroma which may be disabling.

When we come to the bone the same thing is true as with regard to soft parts. There is a contusion of the bone. With or without a fracture, there may be complete healing, but there may develop after the trauma to the bone an ossifying periostitis or sarcoma, just as there may develop in the soft parts an ossifying myositis or a sarcoma.

The literature has a number of very interesting articles entitled "The localization of infection by trauma." Sometimes after that injury to soft parts, bone, or joint, there may have developed in the contused area an infection from an organism present somewhere in the body of the individual at the time of the injury. The individual has a chronic gonorrheal infection. There are no joint symptoms. A knee joint is sprained and gonorrheal arthritis develops. The individual has the syphilitic spirochæta somewhere in the body. The Wasserman is positive. There is a trauma, and in the position of the trauma there develops a syphilitic ulcer, a syphilitic gumma, or a syphilitic periostosis. There is somewhere in the organism a pus-forming focus; and after the trauma, osteomyelitis develops. There is somewhere in the body tuberculosis; and after the trauma a tuberculosis in the region of the area injured develops.

Now as to the group in which after a trauma occurred there develops a localization of a reaction to an organism already in the body, I am not familiar with the ruling as to accident insurance and industrial insurance, but I feel confident that we must look upon it as a fact that the trauma is the cause of that local condition.

I will now show you some X rays.

The practical deduction from this group is that if a patient receives a trauma, within the first 24 or 48 hours, if possible, the surgeon or medical man in charge of that individual should make examination to determine the condition of the patient at that time. Then we have the evidence. For example, if the X ray shows a disease of the bone that can not be explained as having formed since, that injury of a few hours has an entirely different significance than if the X ray shows a normal bone in which later some trouble develops.

[Slide:] Here is a man in which, without question, there was a trauma and a fracture of the fibula. We have the evidence. I am not showing it to you here. The fracture healed. Here is an illustration of an unusual joint and bone condition following a trauma. I think we can conclude in this case that this man would not have had this disabling inflammatory reaction about his ankle joint if he had not had a trauma within it. There is no evidence that the fracture was not properly treated either in the X ray or in the history. But there has developed around this joint this enlarged tibia in the light areas. The man's ankle was swollen. We might have thought it was malignant disease. The foot was useless, and no rest treatment had improved it.

[Slide:] On exploring this ankle, hoping to do something, we found that the lower end of the fibula and the lower end of the tibia were enlarged to the formation of this tissue in the bone, the formation of a callus.

[Slide:] Here is a man who received a wound of the knee joint with an ax. The wound heals as far as we can make out. There may have been suppuration. You remember some little fever. But the wound heals. From that time the knee, for an interval, for some months or a year, was apparently as good as the other. Then there began to be an inability to flex, so that the man, a carpenter, was unable to work. Here we find that following this injury there have developed areas of bone formation from both bones—so-called osteoarthritis or multiplex osteitis.

[Slide:] You see it here in the accurate posture view.

[Slide:] These small particles of bone and cartilage were removed at the operation, and within a year joint function was restored. In these two cases the osteochondroma multiplied about the ankle after fracture and the multiple osteoarthritis of the knee after an open wound can only be explained as trauma with trauma of the knee as a logical fracture. Unusual, but definite.

[Slide:] A very large group where after contusion of shoulder there followed pain and inability to use the shoulder joint. On X ray you find deposits in the bursa—the disease described by Codman as subdeltoid bursitis—even after being properly treated, with a long period of disability. You might say that no one would have a subdeltoid bursitis unless he had some focus of infection which localized it. But there is apparently no doubt that a large number of subdeltoid bursitis with or without calcification of the bursa are due to trauma and trauma only. We can not prove bacteria as primary or secondary factors.

[Slide:] This, perhaps, is the larger and the more interesting group—the relation of trauma to sarcoma, but our evidence is very small. In my own group of bone tumors, now 1,000, of which perhaps 400 are sarcoma, I have but 2 cases in which directly after the injury an X ray was taken showing a negative bone; that is, in all of them no X ray was taken. In 2, however, an X ray was taken, and in those 2 the bone was negative. This man sprained his knee in July, and this picture was taken on July 10. You would say here is a lesion. But it is present in the other knee. It is the normal lighter area here. There is also a picture taken 24 hours after. Pictures were taken every few days from July 4 until August 20, when a definite area was found here.

[Slide:] Here is the picture of September 1. There we have a series of X rays taken by very good men, observed by an orthopedic surgeon in St. Paul. The man himself was a surgeon. He felt there was something more than the usual contusion, because fixation did not give him discomfort.

[Slide:] The leg was amputated and, I believe now, unnecessarily. I believe it could have been cured by local operation, but that was some seven years ago, and we gave him the benefit of the doubt and amputated it. Here you see the tumor. The bone shell was destroyed. When I cut down upon it there was no bone shell but a thin connective tissue of the membrane. There is a type of giant-cell tumor difficult to distinguish from sarcoma.

[Slide:] When you study through a microscope with a low power you see these cells which are so frequently the giant-cell tumors or suggest that we are dealing with the giant-cell tumor. But there is

a sarcoma which contains many giant cells, and the diagnosis rests upon the interpretation of the cells between the giant cells.

[Slide:] At first this was interpreted as a sarcoma and not the giant-cell tumor, but now that we are submitting our sections to many pathologists and taking the major diagnoses, this can not any longer be reported as a cured case of sarcoma. The majority of consulting pathologists agree that this is a giant-cell tumor. Here, then, we have evidence of a trauma of a negative X ray for at least a month, and then under the X ray the development of a defect in the outer condyle of the femur, which turns out to be a tumor. This man received his compensation from the Aetna Insurance Co.

Mr. WILLIAMS. What was the trauma?

Doctor BLOODGOOD. He was getting over a wire fence to pick some flowers for his wife and fell and sprained his knee, and immediately he was disabled. He went to see his doctor, who put the knee in plaster. The reason so many X rays were taken was simply that the man was a surgeon. He felt that the pain that he had was out of proportion to the usual action, especially at the end of two or three weeks where fixation gave him no discomfort.

[Slide:] This brings up the group where there is something there before the trauma—a latent disease. Of course, that is shown best in bone. The first one of these that I observed was not more than two years ago—showing you how unusual it was for all of us to make the routine examination after injury. Since then there must be at least 20 cases where after trauma X ray was taken at once and a preexisting disease revealed. I show you this simply to show you the preexisting disease. This woman came into the clinic for a breast tumor. She complained of rheumatism, pains in the joint, and in the routine examination of joints we found this area in the knee. I looked upon it as healed. Nothing has been done; nothing has developed. But if this woman should fall and injure her knee, we have evidence of a preexisting disease. This disease has been present for four years, and it is giving her no trouble. If she has an injury now, and that gives her trouble, that injury is the cause of lighting up the old trouble.

[Slide:] Here is the lateral view of the same case.

[Slide:] Here is a Pennsylvania Railroad man. He sprains his knee. This X ray is taken. Now you can be certain that that disease existed before the injury. As a matter of fact, the sprain did not disable him at all. It did not light up any trouble here, but it revealed that trouble. Yet in the history sent to me you would have felt this man had no trouble until the injury, showing you that you must examine your patients and take careful histories. When I went over the man the thing that struck me was that he could not extend his knee. The first examiner thought that followed the injury. The man admitted that he had been unable fully to extend his knee since he was 10 years of age. There was an evidence of preexisting trouble. We explored and found it to be a partially healed bone and restored the full ability of extension. Therefore in this case we could say there was a preexisting disease; we could say that the trouble that he had—inability to extend his leg—was present before the injury; and there was no evidence that the injury had made this any worse.

[Slide:] Here is another picture of the same case.

We might take up the abdomen and I might give two examples where trauma undoubtedly was the cause of an abdominal condition. A sailor falls from a mast and is caught with a rope, so that it lassoes him around the abdomen, a little above the belt line, and breaks his fall. He is in bed for two or three weeks, with pain and vomiting, recovers, and 15 years later he comes under our observation with a mass in the right lower quadrant or the middle zone of the right abdomen. We explore it. There, around the colon, the mass, the size of an orange, composed of granulated tissue, communicates with the colon. A walled-off abscess formed in that perforation and remained quiescent for many years.

Perhaps the most difficult group is the so-called traumatic appendicitis, and I will not go into it. There is appendicitis following the trauma in the abdomen.

If we are to consider this question academically, we must have the evidence, and that means when the patient who has been injured comes under our observation it is important to make a record of those examinations that will record and reveal, if possible, any local or general disease there before the trauma. I think it would make the decision as to the relation between disease and trauma and as to compensation a much simpler one. In all the cases that I have had anything to do with the difficulty was that the records were incomplete.

DISCUSSION.

The CHAIRMAN. This is a most excellent paper, and from the commissioner's standpoint a most satisfactory one, because it is rather difficult to get a medical man to come out and say definitely that tumor, whether or not malignant, is directly the result of an injury. I am glad also to hear some one say that traumatic appendicitis is definitely the result of an injury. We have had very few malignant cases that were the immediate result of an injury. We had one which occurred following an old traumatic ulcer of the leg and another sarcoma following an injury to the femur just above the knee. As far as I know, they are the only cases we have had in the Maryland commission. Has anyone any questions to ask Doctor Bloodgood?

Mr. KINGSTON. I would like to have in the record the distinction that the doctor makes between sarcoma and carcinoma. I have never been just sure what the difference is.

Doctor TARUN. May I ask Doctor Bloodgood whether there is any relation between an injury to the eye and a sarcoma of the choroid? Recently there have been a number of cases recorded, and which have come before the Industrial Commission, I understand, in which the history has been given of an injury, and within a period of two, three, four, five, or six months the patient developed a tumor in the eye, which was definitely diagnosed, and, of course, the eye was removed.

Doctor BLOODGOOD. I will answer both those questions. In regard to carcinoma and sarcoma, they both mean malignant disease. Is that clear?

Mr. KINGSTON. I understand that, Doctor. But what is the technical distinction between the two?

Doctor BLOODGOOD. Carcinoma is a malignant disease of the skin and mixed member. Sarcoma is a malignant disease of the tissue between the skin and the roots member in muscle, bone, and fiber.

In regard to the eye, I can not answer that, because I have not gone over a large enough group of cases of tumor of the organ. I can only answer it in general by saying that sarcoma of the organ would probably have a relation to the eye. But I have not the evidence. That must be checked elsewhere. I have not had very many eye tumors come under my personal attention, and only recently have the opticians been sending me such cases. So I have had no study whatever of the relation of tumor to the eye.

Doctor DONOHUE. You spoke of the differentiation between the giant-cell sarcoma and the giant-cell tumor. Is that sarcoma?

Doctor BLOODGOOD. That, of course, brings up a very important point. We had better say that tumors may follow traumas. When we come to the decision as to whether that tumor is or is not a sarcoma, the medical profession—those at least who know most about it—must admit that in some tumors we are unable to tell whether or not they are malignant. Does that answer your question? We are unable to tell. It seems to me that that must be borne in mind. I would give you this advice: Never accept the microscopic diagnosis of one man—never; I do not care who he is. Submit it to at least two men who have had experience—at least two—and if they agree, the chances are it is right. If they differ, it may take a long time to decide. For example, in this case we have had an academic discussion for over a year as to whether or not it was sarcoma. I know the man's leg was amputated, and I know the man is well, but we have decided not to record it as a cured case of sarcoma—that it belongs to the malignant type. The giant-cell tumor is not malignant. It never kills. It may destroy the limb, but it never kills.

The CHAIRMAN. We will take up the next paper "Causation or aggravation of hernia," by Dr. Alexius McGlannan, of Baltimore, Md. Doctor McGlannan can speak with authority on hernia as he has had possibly as many hernia cases as anybody in this section. While we may not agree with everything he says, at the same time it is most likely true.

CAUSATION OR AGGRAVATION OF HERNIA.

BY ALEXIUS M'GLANNAN, M. D., BALTIMORE, MD.

That the association of hernia and trauma is firmly fixed in the minds of many people is evidenced by the persistent use of the term "rupture" as a synonym for hernia.

This old English name was applied to the condition long before careful anatomical studies, especially those made in the course of operation for the radical cure of hernia, proved that the existence of a preformed sac of peritoneum, with or without muscular defects, is the essential feature and cause of hernia.

The only exception to this rule is found in the exceedingly rare true traumatic hernias, where the structures of the abdominal wall have been punctured by some instrument, which at least has lacerated the muscles and fascia, although the peritoneum may have escaped injury. Such injuries are extremely rare.

In Coley's vast experience at the New York Hospital for the Ruptured and Crippled he has never encountered such a case and has personal knowledge of only one which was treated by a colleague. (*Annals of Surgery*, April, 1922, p. 467.) The relation of the traumatism to the hernia is so clear that compensation in such a case would be paid without question.

The great majority of cases, however, belong to the other group. There is no direct injury of the abdominal wall in the region of the protrusion. The patient attributes his hernia to some unusual, more or less violent, strain or movement. At operation a sac is found whose physical characteristics show distinctly that it has existed for a period much longer than the interval between the date of operation and the date when symptoms were first noted by the patient.

Often well-organized adhesions within the sac mark the position of old inflammations which have long since healed. In addition, in most cases developmental alterations are found in the abdominal muscles and their attachments.

Many times the patient honestly believes that the onset of his hernia and the accident are simultaneous, and this may be true as far as he is concerned, because the accident produced the last forceful protrusion into the sac which made him conscious of the swelling. If circumstances in all cases were as simple as this, controversy over hernias would be unusual.

Unfortunately every surgeon of experience has had workmen come to him claiming that all sorts of swellings in the hernia region have resulted from a single definite traumatism. Gonorrhoeal and chancroidal bubo, epididymitis, tuberculosis, gumma of the testicle, and hydrocele of the cord and of the tunica vaginalis are all attributed to the strain of lifting a heavy weight.

We are all familiar with the cases of large hernias extending into the scrotum, sometimes bilateral, often showing the marks of truss

pressure on the skin, in which the patient declares that his hernia became evident only a few days before, when he was called on to do some additional hard work, or just before a particular contract and his employment were about to come to an end.

Physical examinations of all workmen before employment, with careful record of existing hernias, or predisposition to this condition, will prove a bar to unjust claims and in time will provide some definite information regarding latent hernias and their development in the course of employment. Trustworthy evidences of predisposition are few in number.

Colcord has shown that the large external ring, so often mentioned as a forerunner of hernia, is not a predisposing factor. Imperfect development of the conjoined tendon and bulging in the canal, discovered by invaginating the scrotum and passing the finger through the external ring, are strong evidences of predisposition.

A family history of hernia is important. There are many evidences in favor of the existence of hereditary predisposition. Fat in excess, or suddenly acquired, favors the development of inguinal hernia. Foreigners, especially the Greeks and Italians, are exceptionally prone to hernias; probably because of degenerative changes in their abdominal muscles brought about by malhygienic living.

An attempt to produce artificial hernias for the purpose of escaping conscription accounts for some of the cases observed among foreigners. One method of producing these artificial hernias consists in taking a hard, slightly blunted stick, placing it over the inguinal canal and then striking moderate blows from time to time with a mallet until the muscular structures in the neighborhood of the canal are torn or pushed to one side and finally a hernia develops. It does not occur as a result of a single blow or single injury. It is only the repeated blows with this more or less sharp instrument that finally produce such a weakening that the direct hernia follows. (*Annals of Surgery*, April, 1922, p. 473.)

Much of the confusion existing in the relation of hernia to workmen's compensation arises from the indefinite nomenclature. At the risk of further complicating the subject, I shall offer one more classification: 1. Hernia appearing spontaneously; 2. Hernia appearing after violence. The great majority of hernias belong in the first group. The sac gradually fills and dilates, the hernia protrudes and grows larger without any definite accident or strain to fix the attention of the patient on its development. These are hernias due to natural causes. They are frequently bilateral, although it is not uncommon for the patient to notice only the one side and be surprised when the other smaller hernia is pointed out to him.

Often there are protrusions at several of the hernial orifices, inguinal, femoral, umbilical, and epigastric. The patient may have had a hernia in childhood which was apparently cured by a truss. The hernia is often associated with an undescended testicle, a peritoneal lipoma in the canal, or a hydrocele of the cord. Many times the individual is not aware of the existence of the hernia until it is pointed out to him in the course of a physical examination. This fact has been observed by everyone who has had occasion to examine large numbers of men for any purpose. In the selective service examinations many such cases were noted.

In the second group there are two classes of hernias:

(a) True traumatic hernias—those in which the hernia develops immediately after and at the site of a direct violence to the abdominal wall. As has been said, these hernias are extremely rare and need no discussion.

(b) Accidental hernias. These are the cases in which the onset of appreciable symptoms occurs immediately, or shortly after, some accident or strain. The essential characteristic of this group is the sudden onset of the symptoms.

Most of these hernias are of the incomplete, indirect, inguinal type (bubonocoele). In the order of their probable occurrence after violence the other types of hernia are epigastric, femoral, direct inguinal, and umbilical.

The protrusion is small and the internal ring is usually narrow, so that spontaneous reduction seldom occurs and protrusion after reduction is slow. The onset is accompanied by pain in the region of the protrusion, practically always with nausea and a feeling of faintness. Persistent pain and tenderness on examination may be present but are not necessarily so. The protrusion may come on at once, but more often it is found from 6 to 36 hours after the accident.

Patients having such hernias should receive compensation. The situation, however, requires careful sifting of the evidence that an accident took place, and that the patient became disabled in consequence of it, and within a short time of its occurrence.

Evidence of disability would be complaint of pain and discomfort and request for relief and medical or surgical attention. The accident may consist of any set of circumstances which suddenly increase the intra-abdominal tension, especially if this increase takes place at a moment when posture puts the abdominal muscles at a disadvantage. The violence, therefore, may include such different forms as running over the abdomen with an automobile, and vigorous coughing or sneezing. The shouting of hucksters, like the crying of infants, puts a great strain on the hernial regions.

Lifting is the commonest cause to which workmen attribute their hernias. Under ordinary circumstances, if the man is accustomed to the work, his muscles protect him even when he makes vigorous efforts. Unless the effort is far in excess of that which the individual's musculature, stature, and experience call for, it is not likely to produce a hernia.

Posture while lifting is of much greater importance than the weight lifted. Muscular effort made while stooping forward, or while the arms are extended over the head, favors the development of hernia. More important still is the occurrence of strain on the abdominal muscles when they are not prepared to meet it.

DeQuervain (Surgical Diagnosis, p. 478) mentions a case of a trumpeter, who blowing for the attack, fell into a hole and got up with a hernia.

One of my patients, a man of 48, sneezed as he stepped from a platform; he immediately felt sharp, stinging pain in his groin with slight nausea. A few hours later he found a small lump in his groin. At operation, we found a thin aponeurosis with wide separation of the fibers over the canal, high attachment of the internal oblique, and a thin sac without adhesions. This was clearly

a case in which the violence caused the protrusion in a groin congenitally predisposed to hernia.

Golf furnishes opportunities for this sort of strain. I have had a few patients who attributed the onset of the hernia to a strain incident to playing this popular game,

If we admit the existence of this second group of hernias due to violence, we are forced to admit the possibility of aggravation of a preexisting hernia by accident.

Strangulation, incarceration, or hemorrhage into the sac give rise to such severe symptoms that the patient is forced to seek help, and therefore his condition and its relation to the accident are soon recognized.

The situation is different when the workman complains that an accident which occurred days or weeks before has brought about an enlargement or extension of a preexisting hernia. Unless the hernia was carefully described in the record of a physical examination made at the time of his employment, no surgeon will be able to dispute the workman's statement regarding the change in its condition.

Compensation for aggravation should not be given, unless the injured man has presented himself for treatment immediately after the accident, on account of sudden intensification of the symptoms of hernia, and unless there is corroborative evidence that an accident really occurred.

DISCUSSION.

The CHAIRMAN. I am sure that we would like to have some discussion on this very interesting paper. I might say that Doctor McGlannan has been a lot more liberal with the commission's standpoint than I had expected him to be. It is a very difficult matter, from the physician's or surgeon's standpoint, to see just how hernias are traumatic in the great majority of cases. We all believe that everyone who has a hernia is more or less predisposed to that hernia. So many times it looks as if possibly the hernia had been in existence for a long time and the accident was just a minor consideration.

I would like to mention that sometimes a slight accident can produce a very serious condition from a muscular standpoint. It was just last week that a man, who was given exercise to reduce, while taking his exercise, elevating his head from the level of the floor to the bed, completely tore his large rectus muscles clear across without any local injury whatever. Now that seems almost impossible, and I would have thought so had I not operated on his case a few hours after it occurred. So it goes to show that we should be a little more lenient with trauma.

There are a few minutes left for discussion. If there are any questions, I am sure Doctor McGlannan will be glad to answer them.

Doctor HUBBARD. I am particularly interested in what the speaker said relative to golf causing hernia. During the past two years there have been no less than three cases which occurred in my personal practice. I have advised my golf patients that when they notice tumor or pains in the lower part of the abdomen, particularly if it is accompanied by a tendency to vomit or by nausea, that they should consult a surgeon.

During the past year on one golf course, 3 out of 15 friends of mine have developed hernia. It may be a question of old age, it may be a question of undue exercise, or it may be a question of position. It seems to me that if so many physicians play golf, it is high time for them to consider the question of ordering themselves off the course when they voluntarily make extra efforts in an extremely hard drive.

Relative to strain conditions, that has not been so frequently observed, but in our service we have three men in the health department who have been pensioned as a result of having had a rupture incident to lifting heavy desks. No operation was performed at the time, each of the men refusing operation, but they were referred to the Hospital for Ruptured and Crippled, and the diagnosis made was of traumatic rupture.

Civil service employees are not under workmen's compensation in the State of New York. So when you have three such cases occurring in one department as a result of strenuous labor, it appears a little more frequent than we are inclined to admit.

Doctor DONOHUE. I was interested to hear Doctor McGlannan say that the direct trauma was a clearly flexible injury. In my personal experience of about 26 years I must say that I never saw a hernia produced by a direct trauma. I have been wondering what his experience has been with direct inguinal hernia; what his operative experience has been; also I have been interested to know whether or not in all cases of indirect hernia he attempts to obliterate the sac.

The CHAIRMAN. Doctor McGlannan is a very busy man and probably he would like to get away. The general discussion will be held after all the papers are read, but anyone wishing to ask questions of Doctor McGlannan will please do so at once.

Judge TAYLOR. I think I can answer Doctor Donohue. Some time ago we had a difficult case. The claimant contended that he had appendicitis, and we made an investigation. We consulted competent physicians; we also went to the medical books; that is, we went to those who were competent to interpret these things correctly. We concluded that the connection was so remote as to justify a finding that the appendicitis was not of traumatic origin. I should like to hear from the Doctor briefly relative to this point.

Doctor MCGLANNAN. I feel that traumatic appendicitis is almost impossible. The reason I feel that way is this: We see in the course of time a great many injuries to the abdomen, as a result of which some of the abdominal contents have been badly injured—torn bowel, torn mesentery, ruptured spleen, ruptured liver, and all that sort of thing. In the Mercy Hospital, which is right in the center of the city, with certainly the largest accident service in Baltimore, in about 25 years we have had ruptures of everything within the abdominal cavity except the appendix. I think that is the answer to that. The appendix, unless it is badly diseased, is so situated that in the trauma it gets out of the way. If you think of the size of the appendix, a tube anywhere from two and one-half to four inches long, with a lumen of about a thirty-second or a sixty-fourth of an inch, and with a wall whose diameter including the lumen is about one-fourth to three-eighths of an inch, the normal appendage,

hanging loose with the mesentery that lets it get around, and then think of the bowel to which it is attached, a lumen of two inches, a gut wall which is about a thirty-second of an inch in thickness, and on the other side a bowel with the lumen of an inch and an intestinal wall even thinner, do you think traumatism is going to pick out this slender wall and burst it and let the gut on either side escape injury? It seems to me it is foolish to think that it will.

When you talk about traumatism on an acutely inflamed appendix, on a gangrenous appendix that is ready to rupture, that is another story. A man with that is not doing hard work. He is sick and he does not come to work when he gets appendicitis, because he is sick and vomiting. We have all seen that. I had a case where a man who was ruptured and cut went to work. He was a brewery man, but he was drunk when he was working. No man with a belly-ache goes to work.

Judge TAYLOR. May I ask you another question? Do you think that a blow could be inflicted with sufficient force in that region to so wound the appendix, which ordinarily would be in a healthful condition? Would it produce that?

Doctor McGLANNAN. I do not see that it can. Here is a thing that has every opportunity to protect itself on either side, and here is the other thing that is protected by a structure of a similar nature, but much weaker, fixed so that it can not protect itself. Why would the blow hit the thing that can get out of the way and miss the thing that can not move?

Again, of all the diseases in the abdomen, appendicitis is the most common. If you have 10,000 cases of appendicitis and you go over them and ask each one, "Did you ever have a blow in the region of your appendix?" of course a large number will say they have. But go out in the street and of 10,000 people try to find out how many have had a blow in the abdomen, and the great majority will have had a blow. Who of us has escaped a blow some time or other? It isn't fair, it is reasoning backwards, to say that traumatism in this region has gone out of its way to pick out this well-protected and freely moving organ to burst it and not to hurt anything else in the neighborhood. I do not see how you can reason that way.

Mr. McSHANE. Would it not also, because of the protection and because it is freely movable, be quite as difficult to rupture the appendix through a strain as through the trauma?

Doctor McGLANNAN. I think it is possible. But if we could just show the layman a fresh appendix and the gut to which it is closely connected, he would see it at once. It is just like trying to burst a piece of fire hose and one of those toy balloons they sell on the corner. Who would hesitate to say which would burst under pressure?

Now about the direct hernia? The direct hernias are much more difficult to hold in place than the indirect hernias, because you have these alterations either from trauma or disease. In that type of hernia the operation must be done a little differently than in the direct hernia. We have depended, and feel that we can depend, on the transplantation of the rectus sheet to cover the gap. But the recurrences in direct hernia are much more common than in the indirect type. We always take out the sac in the indirect hernia, separate it,

take off the fundus and close the neck, and invert the neck under the internal oblique so that the funnel-shaped product is turned into this sort of thing to take the pressure. If it is turned upside down, the pressure is on the sides instead of in the middle. That, of course, as the surgeons all know, comes in addition to the hernia operation.

The excision of the sac in the cases of direct hernia, is low down, where we consider the possibility of the bladder; and if for any reason we believe the bladder is in the hernia, we do not open that sac but leave it in, because of the risk of getting into the bladder and complicating things. But that group of cases is rare.

Doctor RICE. How about double hernias arising spontaneously?

Doctor McGLANNAN. That is possible, but it is pretty far-fetched. A man who comes to you with double hernia has had the hernia longer than the day before yesterday.

Mr. KINGSTON. There is just one question I would like to ask. This is a matter that I suppose troubles every board more or less. A man has a claim of hernia. Claims it was due to an accident. He continues working. How long can a man continue at his ordinary work after he has first felt the onset of the hernia before he is going to be down and out? We have always gone on the principle that if a hernia is due to an accident the man is going to have such pain immediately after the occurrence that he will not be able to work. But there seems to be a difference of opinion on that.

Doctor McGLANNAN. He need not necessarily stop work because of the pain. He may feel this way: He straightens up and says, "I am sick in my stomach," and goes over to the water bucket. A good many men do that and then go on with their work. At night, when that man is washing up, he will observe the hernia. He need not stop work—the pain may not be that bad, because we do have people who develop hernias and never know it. We have all kinds of cases, from those not knowing they have any pain at all to those having such great pain that it will knock them over. That is largely a matter of susceptibility to pain, which we know varies tremendously in people. Unless the man was clearly one whose mental activities were bad, I think if he did not complain or notice something wrong in his groin within a few hours or immediately after the accident, I would put his case down as a hernia that had been there before and he had just found it out.

Mr. KINGSTON. You say a few hours?

Doctor McGLANNAN. I slipped on that. He ought to feel the pain at once, and he ought to notice the lump within a few hours or a day.

Mr. KINGSTON. But if he is going to go back 24 or 48 hours to look for the occurrence, what would you say as to such a case?

Doctor McGLANNAN. I would be suspicious of that. When it comes on suddenly, you are conscious of it, and most workmen, unless they are mentally defective, complain as soon as they feel something harming them.

The CHAIRMAN. The next paper on the program is the "Diagnosis of Industrial Back Conditions," by Dr. J. W. Sever, of Boston, Mass. As Doctor Sever could not get here, we will simply have his paper published.

DIAGNOSIS OF INDUSTRIAL BACK CONDITIONS.

BY JAMES W. SEVER, M. D., BOSTON, MASS.

[Submitted but not read.]

The diagnosis of the so-called "industrial back" is a subject which the writer undertakes with a great many reservations, and to cover the subject properly in the time allotted is obviously impossible.

The individual who has injured his back "in and as the result of his occupation" presents many difficulties. It might be stated at the outset, however, that the more severe the injury the greater the ease in making a diagnosis, provided always that an adequate and careful examination is made. Many factors must be taken into consideration besides the actual objective signs, and generally the more common subjective symptoms present.

The necessity of a correct diagnosis in these back lesions following industrial accidents is essential. The accuracy of the diagnosis is essential not only that proper treatment may be instituted and carried out, but that anatomical repair be helped, restoration to function hastened, and the disability period shortened as much as possible. Precision in diagnosis, however, even under the most favorable conditions is not often obtainable, due to the fact that many cases show no demonstrable bone lesions by X-ray examination, and the impossibility of differentiating muscle and ligamentous tears is evident. The best that can be done is usually to be content to differentiate bony from soft-part injuries, and to venture an opinion as to prognosis and duration of disability, partial or complete, as one's experience may dictate.

The back injuries to be discussed will be divided into three classes, namely (*a*) those due to lifting strains; (*b*) those due to contusions of the back from a fall or by being struck by some object, the injury being only to the soft parts; (*c*) those due to any accident where there has been bone injury to the vertebral body or one or more of its appendages.

The first class is represented by those cases who injured their backs by lifting strains, generally acquired by trying to carry or lift some object much too heavy for them. Many of these cases had sudden pain in the back when trying to lift heavy objects. They felt, as they report, something snap or give way in their backs, and generally are able to localize the sore spot very accurately. Generally the pain is in the lumbar region. There may be pain and localized tenderness over the low spinal muscles, usually one-sided, and at times the soreness extends around into the flank.

It is difficult to differentiate between muscle and ligamentous tears at first. I believe, however, that ligamentous tears are of longer duration, and that the soreness and tenderness are deeper seated. Ligamentous tears may be located in the region of the sacroiliac joints, and so may confuse the diagnosis. They do not get well as

quickly, and heavy work in the future is apt to produce a recurrence of the soreness and lameness at the same spot. The term "back strain" is used advisedly, for any definite classification of these cases from these causes is difficult.

The frequency of supposed injuries to the sacroiliac ligaments or joints is well known, and the local conditions generally misinterpreted. The necessity for clearly localizing the anatomical forces and the distribution of pain, with other signs and symptoms, is obvious, and an analysis of the method of production is essential to a correct interpretation of the condition, without which one may go far astray. An X-ray examination is always of assistance, if possible to have one, even purely on a negative basis. Long-continued disability following back injuries should always be checked by an X-ray examination.

Associated with these back strains and sacroiliac strains or displacements one often sees sciatica. In fact, many low back conditions are manifested early by sciatica, more or less severe, and generally clearing up following adequate treatment of the primary cause. Sciatica by itself is a rare condition.

A source of backache, often persistent, is that due to inequality in the length of the legs. All cases who are examined for backache should have the legs measured and should also have the trunk displacement noted. A short leg is a frequent and often unrecognized cause of backache, and many cases get early relief by making the short leg longer, or as long as the other one, by means of a lift on the shoe. Any flat foot or pronated foot should be, of course, corrected likewise.

Another common condition complicating these back injuries is the presence of hypertrophic arthritis in the older individuals, generally quiescent and existing before the injury. The accident may light up the condition and so aggravate it. Without this complication the disability period might be short. With it the period is indefinitely lengthened and may be controlled only by careful and skillful treatment. Not a few of the individuals who have had a quiescent arthritis of the spine aggravated by an accident fail to return to their original occupation as a result of such a complication. They are laid up for long periods of time with an increasingly stiff and painful back, even under good care, and repeated X-ray examinations rarely fail to show progressive arthritic changes.

The industrial accident boards, operating under laws which recognize aggravation of preexistent conditions, generally recognize that an accident may and often does aggravate such a preexistent condition, and consequently the insurer has to pay compensation for the period during which the individual can not work and has pain in the back. The presence of hypertrophic arthritis in a spine which presents an appearance in an X-ray of a crush fracture of one or more vertebral bodies may lead to confusion in the diagnosis, in that the vertebral bodies may be so altered by the arthritic disease as to resemble a fracture, and one can not be too constantly on his guard in the interpretation of such X-ray plates.

To say to every patient with a back injury as the result of a strain or sprain, that he is in for a period of six months' disability, would soon rid you of such cases, but nevertheless it is true, such being the

fact in these industrial cases that I have followed. In my opinion, better treatment of these cases is an obligation upon the medical profession.

The conditions causing the injuries in the second class are clear—a fall from varying heights and landing on the back, or being struck on the back by some object, the injury due to direct violence. Now, direct violence may produce many results, such as fracture of the vertebral bodies, or fracture of a transverse process, lamina, a spinous process, rupture of anterior or posterior spinal ligaments, as well, even, as rupture of the ligamentum nuchæ or intraspinal ligament. Contusions involving both deep and superficial muscles and ligaments are common, and injuries to the tendinous insertions of the spinal muscles and ligaments in the region of the sacrum are frequent. Overextension or forced hyperextension of the spine may produce injury to the anterior spinal ligaments, while forced flexion may produce not only a compression fracture but ligamentous rupture as well.

In the second class the average minimum period of disability was 6.3 months, which, as compared with the period of disability of 5.9 months in the first class, should excite comment in view of the more severe type of injury. In the second class the back injury was caused either by a fall, varying from a maximum of 70 feet to 18 inches, or by being struck on the back by some object. Those cases which suffered fractures of the spine as a result of such falls are not included in this series.

Here again more active treatment might have alleviated the symptoms and shortened the disability period, and the same conditions held in this series in regard to treatment, accurate observation, and follow-up work, as in the first class. No further comment seems to be necessary.

To go on now to the more severe injuries to the spine itself, I should like to discuss the diagnosis of crush fracture of the vertebræ, including as well those cases which showed fractures of the spinous and transverse processes. It was found by a study of the cases in this series that the region from the twelfth dorsal to the second lumbar, inclusive, is the "point of election," as it were, of these fractures.

The causes of injury in this group were falls from a height, the patient landing on his back, feet, or buttocks. Others received their injury by being struck on the back by falling objects such as derrick booms, bags of flour, automobiles, and wagon wheels.

The mechanics of a crush fracture is generally that of forced flexion of the spine, and the lesion is most commonly located at or about the dorso-lumbar junction. The comparative frequency of this type of fracture following injuries to the spine, has, I believe, been long overlooked.

As has been shown, the level of the first lumbar vertebra is the most common site of this type of injury, probably due to the fact that this is the area of greatest mobility of the spine, and the least guarded by bony protection. The fractures are not limited to one body alone but involve others as well as the first lumbar.

Certain cases show a deformity of the back, a kyphos or backward bowing, or knuckle, as a result of the bony destruction or collapse of the vertebral body. This knuckle, or kyphos, is not a constant

factor, and may result from the fracture of one or more bodies. It is an important diagnostic point to bear in mind, and means, of course, only one thing, namely, destruction or distortion of the vertebral body. The kyphos may not make its appearance at once following the injury, but may appear and increase somewhat during the convalescence, especially when the individual is up and about without proper back support.

The interesting thing about these fracture cases, and probably the reason why so many of them are not diagnosed at first, is that they complain only of a stiff and painful back, with generally some tenderness over the site of the fracture. Very few of the cases have any symptoms due to nerve pressure, manifested as loss of sensation, paralysis of the legs, or incontinence of the bladder and rectum. Practically all cases of this injury complain of a stiff, lame, and painful back. They can not bend freely, and are much more limited as to side bending than in forward bending. Their disability at first is generally complete, but as time goes on, they are able to be up and about but not able to do heavy work.

In regard to the graver symptoms accompanying these fractures, certain of the cases showed definite signs of cord injury, manifested by loss of sensation in one or both legs, not complete, except in three cases, and more or less paralysis, either early or late. Some of the cases which showed early loss of muscular power recovered it wholly, while others have suffered permanent damage to the cord from pressure of the injured vertebrae, the dislocated intervertebral disk, or pressure myelitis of the cord from extradural hemorrhage.

Many of these cases who had crush fractures of the spine went unrecognized, and consequently untreated as such for long periods of time, or were treated as sprained backs and strapped. Many of them, as shown by their histories, left various hospitals with the ailment unrecognized in spite of their complaints, and without support for their backs, in some cases as early as 11 days after the injury.

The treatment, of course, in all these cases should be early and adequate fixation of the spine, in a plaster jacket at first, and later by a back brace. The whole period of treatment may cover probably several years in the severe cases. The question of operation on the spine designed to furnish support to the crushed vertebrae has been considered, and has been done in some cases, with the view to cutting down the period of convalescence and disability. In the simple crush fracture of one body I do not personally believe that either much time or much additional fixation is gained in restoring the individual by such operative procedures.

The question of treatment of these cases of compression fractures of the spine without nerve symptoms is one of the greatest importance. Should they be treated as one would treat any fracture, that is, with a net minimum period of fixation, and then gradual use, or should they have a long period of fixation with plaster jackets and back braces, covering a year or two? Are we fixing them too long, or shall we be guided by clinical symptoms of a strained and irritable back, and continue fixation as long as these symptoms continue? Will increasing use, begun early, say after three or four months, make a back more irritable, aggravate the callus already present, increase the symptoms, and possibly lead to nerve pressure

from new callus formation, or will such use, properly restricted, lead to earlier restoration of usefulness and function? These are the questions we should be able to answer.

My own opinion is that with the simple crush fractures, there has been in the past and still exists a marked tendency for too long a period of fixation, either with or without operation. As I have said before, I believe they do quite as well without operation, if not better than with it.

We all know the evils of too long fixation of any joint or part, with its consequent atrophy of soft parts and muscle adhesions, and all of us who deal with fractures have this phase of the subject brought home to us daily. Why should not the same contributing factors be present in too long fixation of a single vertebral body fracture? It is a common experience to have a case come for examination several months after an accident, complaining of only a stiff and painful back, with no deformity, who shows after an X-ray examination a crush fracture. Early fixation by a brace or light jacket, but better still, rest in bed for three or four weeks, followed by a brace, would probably have averted this subsequent discomfort.

The CHAIRMAN. I will ask Dr. William Tarun to talk to us on "Compensation for injuries to the eye."

Doctor TARUN. I might make a preliminary statement. You all know that eye injuries are very, very frequent, especially industrial eye injuries. Before the Federated Engineers Society and the Conservation Council began cooperating, of the general injuries occurring as many as 17 per cent were eye injuries, but since their work that percentage has been reduced quite a great deal, and it is now as low as 2 per cent.

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COMPENSATION FOR INJURIES TO THE EYE.

BY WILLIAM TARUN, M. D., BALTIMORE, MD.

The subject of "Compensation for industrial eye injuries" and the closely related subject of "Estimation of industrial visual deficiency" have received much attention of late. The large mass of material published is in itself an evidence of the chaos existing.

In bringing this subject before you, I wish first to state that I have nothing original to offer—no table rating losses. This I leave to the next essayist. My purpose is to show how widely divergent are the compensation awards by the industrial commissions of the various States and how widely divergent are the views of the ophthalmologists.

The maximum amount of compensation for the total loss of an eye is fixed by acts of the State legislature. The amount for partial permanent loss of industrial vision, I believe, is left to the discretion of the commissions. In this lies the stumbling block and unless there is a close cooperation existing between the board and competent ophthalmologists, an injustice is done the State, the employer, and the employee.

It is true the former differences are due to acts of the legislatures, but to us they certainly do not appear logical. A review of the paper published by Smith, Tucker, and Prince, and read before the American Ophthalmological Society, is very instructive. This paper shows the per cent of wages paid, the duration of compensation, and maximum and minimum amounts for one and both eyes, for all States in which the compensation law is active. Thus, 50 per cent for loss of one eye is paid in 12 States, duration of payments 100 to 132 weeks, limit per week \$4 to \$18; 55 per cent is paid in 3 States, duration 100 to 150 weeks, limit \$5.50 to \$16; 60 per cent is paid in 8 States, duration 100 to 125 weeks, limit \$5 to \$16; 65 and 66½ per cent are paid in 8 States, duration 140 weeks, limit \$5 to \$20.

California pays 65 per cent and has a sliding scale. The schedule of this State takes into consideration age and occupation in addition to the nature of the injury. In case of eye injuries the commission applies a tentative rating for the Snellen chart fractions as modified by other factors which impair vision. These other factors include degrees and character of any vision remaining, impairment of the field of vision, watering of the eye, cosmetic disfigurements, and whether or not the injured eye was the master eye.

Five States have a clause giving rating with correcting glasses. The question might be asked, why 50 per cent of wages is paid in 12 States, 55 per cent in 3 States, 65 and 66½ per cent in 8 States, with no uniformity of time nor maximum amount.

As no uniformity of awards exists among the industrial commissions, so no uniformity of rating industrial vision exists among the ophthalmologists.

Tables for rating compensation are numerous. Every author thinks he has simplified the ratings so that their application by the compensation board is easy. This may be true of some, but a fair number are very complex—so much so that no board will take kindly to them or take the time to solve this apparently complex rating table.

The larger number of tables for rating industrial losses of vision are based on three functions, viz, visual acuity, binocular single vision, and visual field. In several others there is added the age and earning ability of the injured. Let us take these three main functions in order.

Visual acuity, as you all probably know, is the ability to read a certain size letter at a certain distance, the normal being designated by the fraction 20/20; in other words, a definite, scientifically built letter designed to be read at 20 feet. Now, 20/200 is the fraction for a letter which should be seen at 200 feet but is only seen at 20 feet. These two extremes limit industrial vision generally. This is not always so, as will be pointed out later.

Further, visual acuity as taken by ophthalmologists, and this applies more forcibly to physicians and surgeons not regularly engaged in eye work, varies a great deal. This variation is due to the fact that all ophthalmologists do not use test cards having well-defined and correctly built letters on them. Therefore, a 20/20 vision as recorded by one may be a 20/30 vision by another, a 20/30 a 20/40, etc. Compensation based on inaccurate taking of vision is unjust to all concerned.

We are all at a loss in determining what degree of vision should be considered an industrial total loss. This is generally given as 20/200, yet the United States Government considers an eye totally lost with vision 20/400 or less. In other States, for example New York, 20/100 is the standard. This equals 80 per cent of loss in that State and its court of appeals ruled that 80 per cent can not be considered a total loss since 20 per cent remaining of normal vision is far from having lost the use of the eye. Later, however, the State legislature amended this particular part of the bill so as to read "80 per cent shall be considered equivalent to the loss of the eye." This variation of what visual acuity shall be considered industrial blindness is further complicated by the wide difference in rating the percentage loss.

Opinions of well-known ophthalmologists differ. It had always, perhaps, until compensation boards were established, been considered that a person with a vision of 20/40 has only 50 per cent of normal, one with 20/100 only 20 per cent, and so on. If compensations were based on visual acuity alone and this scale adopted by every board, little difficulty would be encountered; but lately the views of commissions as well as those of ophthalmologists interested in industrial compensation have changed a great deal and there has appeared a most annoying series of tables, as previously stated, the author of each respective one believing his the only one by which an equitable award can be made.

The second factor, binocular single vision, or, more properly, seeing an object singly with the two eyes, which includes depth or perspective, plays a comparatively small part. There must be at least a reduction to 20/80 and in some instances 20/100 before this function is lost. If, however, it occurs from no traumatism, such as a partial or complete paralysis of any eye muscle, this condition should be con-

sidered systemic in origin, and either no compensation awarded or if an award is made the plans followed by the Industrial Accident Commission of California should apply.

The third function, loss of visual field, is also a rare condition and usually occurs from some contusions to the eye, or fracture of the skull resulting in an injury to the optic nerve or its origin in the eye, viz, the retina, which corresponds to the sensitive plate of a kodak or camera.

The subject of rating loss of industrial vision has cropped up annually at the meeting of the ophthalmologic section of the American Medical Association. The committee appointed to study this problem has been continued because of the failure to adopt the report submitted last year. The committee, consisting of three members, submitted a majority report. Exception was taken to it by one of the three. It deals only with the loss of visual efficiency, the result of injury, and does not attempt to take into consideration the economic efficiency or competitive ability of the injured from the standpoint of general economics. The following is a synopsis of the same:

Compensation is estimated on the degree of loss to visual acuity, binocular single vision, and field of vision, the loss of all these functions being considered a total permanent disability and compensation of 100 per cent awarded. It further suggests a compensation of 110 per cent for the complete loss of an eye. The committee apparently means a loss of vision less than 20/220 and an eye irreparably injured or requiring enucleation, and any injury sufficient to produce complications, e. g., disturbances in color vision, cosmetic defects, such as eversion and inversion of the eyelids. As regards the latter, it must be borne in mind that these deformities can not be remedied by operation to such a degree as to function normally.

Suggestion is also made that a certain time should elapse before compensation is to be estimated. This time varies with the degree of the injury. In some instances a year or more is required. The maximum time as specified is 16 months. It seems to me in such cases compensation should at least be partial so that the injured employee can defray some of the expenses during his disability.

It is further recommended that the best possible vision with a correcting lens of not more than 4 D spherical shall be the basis of estimating compensation. It seems to me also that the equitable thing to do is to base compensation on vision without the correcting glass. Some persons can not wear a glass of 4 D on one side when no lens or one of only moderate strength is required for the other eye.

The committee furthermore considers visual acuity for near. Since this vision is relative, a separate consideration seems unnecessary. The complete industrial loss of visual acuity is estimated at 50 per cent; that is, 50 per cent for visual loss of 20/220.

The other functions upon which the committee lays stress are binocular single vision, for the loss of which 25 per cent should be added, and the loss of visual field, adding also 25 per cent. Allowance is made for partial contraction of the visual field. A table rating the various losses is also presented. This table is simple and per cent of loss rapidly determined.

The minority member contends that the majority based their findings on an empirical method, or as commonly expressed, guesswork; that they arbitrarily assigned a fractional value to each one of these

functions of vision, viz, visual acuity, 50 per cent; binocular single vision, 25 per cent; field of vision, 25 per cent; and also that they attempted to complete visual efficiency by adding these three factors together, whereas each one of these factors has an integral value and stand to one another in the relation of mathematical factors, thereby computing visual efficiency by multiplying them. He further maintains that these three functions are factors of vision, therefore indispensable economically. Being indispensable, the total loss of any one of these factors produces a total economic loss of vision, and therefore should be awarded 100 per cent.

In view of the foregoing widely divergent conditions existing in various States, the arbitrary method of making awards, the marked difference in awards for the same character of eye injury to the skilled mechanic, and the widely divergent views held by the ophthalmologists as to the prorating of the visual disability, I would suggest that this body appoint a committee to cooperate with the committee of the ophthalmologic section of the American Medical Association before the next convention, so as to bring order out of this chaos.

I would further suggest that all industrial compensation boards have appointed one or more competent ophthalmologists whose duty it will be to render the board a report estimating the loss of functions systematically and accurately.

DISCUSSION.

Mr. McSHANE. Doctor, may I ask you a question? I understood that you recommend, or your society recommends, payment of compensation on the basis of your physical findings and not after correction has been made by the appliance of the artificial lenses. For instance, a man is 50 per cent deficient in his vision in one eye. It may be corrected by a lens which will bring it down to 30. You would pay on the 50 per cent basis; is that right?

Doctor TARUN. You bring it below 20/50.

Mr. McSHANE. I am not dealing with your tables, but with a man who has lost one-half of the sight of his eye, according to your finding. Even if by your lens you can bring the sight up to normal, that man has the physical loss just the same as a man who has lost his leg, and you pay on the basis of what the physical findings are?

Doctor TARUN. That man should be paid on the basis of what the physical findings really are, and not on the basis of a vision corrected by means of a lens. In other words, there are some persons who can not wear a correction of even as little as four diopters in one eye and who require a very weak lens or no lens at all for the other eye. Such men should be compensated for their loss without the correction by means of a lens.

Mr. WEHE. One thing that suggested itself to me is in regard to an individual, with one eye, working in an industry. Suppose he loses 50 per cent of his remaining eye. Would you base this 50 per cent on the loss of the second eye or would you base it on the permanent partial disability of the whole body? That question often comes up in our board.

Doctor TARUN. The loss of one eye has no bearing upon the loss of vision of the other eye, if the loss in the first eye was not due to the same accident. The compensation paid for the loss of 20/50 is the same as if he had had his two eyes at the time. In other words, he gets the compensation for the loss of one eye only.

Mr. WEHE. What do you think of the case of a man who loses one eye and you give him compensation for that under specific schedules, give him a specific sum for a specified number of weeks, and then after that, working, perhaps, in the same industry, he loses the other eye—what would you figure in that case?

Doctor TARUN. The same thing would apply. In other words, he would have the compensation for one eye, and the visual loss for the other eye would be in the same relation.

Mr. McSHANE. It seems to me that the question is purely one of the statutory provision of the individual State. In our State, if a man loses an eye working for Bill Jones, Bill Jones or his carrier pays for that eye. Then, if the man, who has only one eye, works for Tom Smith and loses the other eye, Tom Smith will pay for that eye. But in the meantime the man has become a permanent total, and after these two employers have paid the full disability of 100 per cent loss for each eye, we will pay him, out of a special fund we are accumulating, this 100 per cent for the rest of his life. That is the Utah statute.

Doctor TARUN. That is determined by the legislatures of the various States. I have a patient who got a piece of steel in one eye, leaving a vision of only two one-hundredths, for which injury he was getting compensation. He returned to his employment, where he got another piece of steel in the other eye, leaving that with a vision of 20/15, for which he is getting no compensation. Yet that man has a condition which is very serious to him and for which certainly some compensation should be made.

Doctor DONOHUE. Doctor Tarun, considering the three elements that obscure the vision, is the ophthalmological section of the American Medical Association endeavoring to produce some means whereby the man working under the compensation law can have definite figures to show to an injured workman, figures which will explain to him just what his loss of vision is, or is it your idea that this association should cooperate with that society and endeavor to bring about some form of agreement whereby the society could tell approximately how to base compensation on these losses?

If those three elements could be so correlated that in making an estimate on the loss of vision they could each be given a rating, it seems to me that that would be desirable for those members who are laymen in handling these eye injuries. Is it your idea that this society cooperate with the American Medical Association in order to bring about some such plan so that we can definitely deal with these things?

Doctor TARUN. That can be very easily done. As I mentioned in my paper, the visual acuity is rated at 50 per cent loss, the visual field at 25 per cent, and the binocular single vision at 25 per cent.

Mr. CARMONA. Suppose a man who lost an eye afterward lost 75 per cent of his other eye, is that permanent total disability or permanent partial?

Doctor TARUN. That is a permanent partial impairment.

Mr. CARMONA. Did you understand my question? Suppose a man has lost his right eye and then loses 75 per cent of the other, is that a permanent total case or a permanent partial?

Doctor TARUN. That would be a permanent total in one eye and a permanent partial in the other.

Mr. CARMONA. Well, in my country they rate it as permanent total disability, because that man can not work. That is a question of medical jurisprudence.

Judge TAYLOR. I want to ask a question. You express your power of vision in 20/25. Why don't you, for the sake of the layman, express that in percentages? I always have to go to the doctor to have him interpret that.

Doctor TARUN. As I suggested, every board should have one or more competent ophthalmologists to whom it could refer these questions.

Mr. KINGSTON. Certain conclusions in respect to eye injuries which we have felt warranted in reaching are, possibly, apropos to the discussion. We have felt that perhaps as large a percentage as 90 or 95 of our partial eye injuries might be dealt with purely on the basis of the loss of visual acuity. There is, of course, a small percentage in which certain other factors do enter. But the great majority of the partial eye injuries that we have had to deal with (I am sure that the experience is the same with all of us engaged in compensation work) have convinced us that they can be dealt with on the measurement purely of the loss of visual acuity as expressed in these so-called fractional terms.

In the study which I have made regarding eye injuries, I found this to be the fact: There is more uniformity among us in the matter of the whole loss of the eye than there is of any other injury. There is no knowledge, of course, as to what we do in these partial eye injuries. It may be of some interest to you to know just how we have dealt with them. I would be extremely glad to know how other boards deal with partial eye injuries. We have said that if a man's eye is measured by our eye expert as a 20/200, or, as they sometimes say in the old country school, 6/60 (dealing in metrical terms), that that man has lost just half of his vision. If the eye is given to us as a 6/24 eye, or in terms of feet a 20/80 eye, which is the same thing, we have decided that that man has lost practically a quarter of the total use of his eye.

Of course, that is a fairly rough measurement, but I asked our eye expert who has been doing eye referee work for us practically ever since we started to give his best summation of losses as represented by these terms, and for quite a while now we have been using those figures as a guide. We feel that they represent fair compensation for those injuries.

I should like to have your criticism of that estimate of those losses. I do not know whether I have followed you in your paper regarding that or whether your paper touched just that point, but

that is the way we have dealt with it. I may say that, speaking in terms of percentage, we have considered that a lost eye represents 16 per cent of total disability, a little larger amount if the eye is enucleated, because of the loss in appearance.

Doctor DONOHUE. Do you take into consideration the various elements which the doctor has been speaking of?

Mr. KINGSTON. If there are these other elements to consider in any particular case, they will strengthen the position of the claimant for a larger award. As I say, in a large percentage of these cases that we have to deal with, these other elements do not come in, but where they do come in they are given consideration.

Mr. WILLIAMS. In reaching those estimates, do you take into consideration whether the man is a watchmaker, or anything else?

Mr. KINGSTON. Oh, yes; that is all observed when we come to deal with the individual case. When I speak of these figures, I am speaking for the moment of the ordinary laborer. It is only right to say that in the case of a special occupation, where loss of acuity of vision is a very serious matter, it is taken into consideration, but for the ordinary laborer whose eye reads 6/18 or 6/12 it does not amount to a great loss. My own eye once read 6/12, and I was not conscious that I had the slightest loss. There are a lot of you who think you have perfect eyesight, but if you had a test you would probably find that you did not.

Doctor TARUN. Of course, it is well known that this basis of determining vision has been in operation for a long time. In other words, we can not lose sight of the fact that a man who has lost his vision of 20/40 has lost one-half of his eyes. That has been well recognized for quite a while. However, efforts have been made to revise that standard of visual disability. That is largely because it is thought that a person who has a vision of 20/40, or who has lost one of his eyes, is getting compensation for that loss to which he is not entitled. In other words, he still has a very useful eye, one useful in his own occupation. The person with a vision of 20/50 has lost three-fifths of his vision. He still has two-fifths remaining. Of course, it means that he has also a reduced vision, but he can still see his work fairly well and probably do just as accurate work in his particular line of occupation as one who has perfect normal vision.

Doctor DONOHUE. Now, dealing in the old common fractions, which we are used to, we are probably erring on the side of liberality, aren't we?

Doctor TARUN. I do not mean to say that. Personally, I believe that a man is compensated very little for the loss of an eye, no matter what his occupation may be. Under the new table, of course, the man is getting a great deal less than he would under the old table. I think that is one factor which has caused so much confusion and dissension among the various eye men as to just why we should adopt this or some other table. For instance, Hoyt, of Portland, Me., contends that when a man has lost 20/100 of his vision he has lost his sight entirely, and therefore should be compensated for the whole thing, whether he has a single field or single binocular vision. I do not know whether or not that is proper. It seems to me that a skilled mechanic who has lost quite a good deal of vision

has lost a great deal as far as his competitive ability with another man is concerned. Therefore, he can not be paid too much for the loss of the vision that he has sustained. There are quite a number of men who have said that 20/50 or 20/40 is equal to the loss of one-fourth of an eye, and yet the committee appointed by the American Medical Association thinks differently.

As I said before, there is so much confusion that it would be very well for your body to appoint a committee to cooperate with the committee of the American Medical Association and see whether you can not agree on some definite standard of grading these losses.

Mr. KINGSTON. The doctor has just said something which makes me feel that I am confused or altogether misinformed. He says that it is well recognized that a man whose eye reads 20/40 has lost half of his visual acuity. I have been taught altogether different from that. I have been taught to believe that that means simply that a man can see at 20 feet what he ought to see at 40 feet, that is all that means. It has no more relation to a fraction than one paper on top of another. The man whose eye reads 20/200 is simply a man who can see at 20 feet what he ought to see at 200 feet; and it does not mean at all, if I understand the situation, that he has a vision of 20/200 and has lost nine-tenths of his vision. It amazes me to hear the doctor say that it is well understood that a 20/40 eye means that a man has lost half of his visual acuity. I can not feel that that is right.

Doctor TARUN. I feel that way myself, that that man has not lost half of his actual vision, but nevertheless that is the standard on which a great many of the prominent ophthalmologists base their practice.

Mr. KINGSTON. They regard those as equivalent to fractions?

Doctor TARUN. Yes. For instance, Fuchs, one of the well-known ophthalmologists, was approached on that very thing. He was asked what a 20/40 vision meant in relation to the loss that the patient may have. He said it means the loss of one-half his vision. All these older tables have been based on that very thing. The association is trying to get around this thing so as to make it much more equitable for the injured employee.

Mr. KINGSTON. Well, is it right that that man has lost half his vision?

Doctor TARUN. No; I do not think so.

Mr. KINGSTON. Well, I was afraid that the impression was going out from what you said that the books gave us to understand clearly that that was the situation.

Doctor McGLANNAN. What consideration is given to a preexisting nearsightedness and farsightedness in estimating this disability? I have mentioned here that if I break my glasses I have less than 20/200 visual acuity in each eye. I will be thoroughly blind, although the next pair of eyeglasses can bring me around half-way. Certainly that must be considered. I think a good bit of confusion in these estimates of percentages comes from that fact; and when we say that 20/200 means that you see at 20 feet what you ought to see at 200 feet, that does not mean that you have lost nine-tenths of the use of your eyes.

Doctor TARUN. I might answer that question by making this statement: That anyone who examines eyes can readily tell just about how much loss of vision that man has as a result of his disability. Of course, I do not mean to say that the two eyes are always alike. If a person has normal vision in one eye and 20/40 vision in the other, I do not know anything about it. As long as there is no change on the inside of the eyeball (and we can tell that, as a rule, by means of an instrument), as long as everything on the inside is absolutely normal and the surface of the eyeball is also normal, if there is a certain scar there, the result of an injury, we know by the depth or the thickness or the density of that scar just about how much distortion of the surface of the eyeball that scar could produce, and can tell fairly well how much of the injury is due to his former condition. I think the time is coming when every employer, particularly in large factories, will recognize the importance, before he hires a man, of having an ophthalmologist make a thorough test of his vision with and without glasses, the appearance of his eye-grounds, and other things connected with visual acuity. The time will come when he will be forced to do that, because it simply means that if the man who sustained an injury has had a preexisting condition, his compensation is based on the injury he has sustained from the loss of vision, regardless of his preexisting condition. I think that is the general rule. I am not sure about that, however. The sooner an employer has someone to look after those cases for him, to test the man's vision thoroughly, to examine his eye-grounds thoroughly and make an accurate record of it, the sooner he will recognize that he is saving money.

Mr. KINGSTON. What do you say for the loss of a 20/200 eye? I was suggesting that we measure a 20/200 eye as equivalent to the loss of half the use of that eye.

Doctor TARUN. That is the estimate given by the American Medical Association. They consider that when a person has a vision of 20/200 he has lost the use of that eye to the extent of 50 per cent. That takes into consideration his visual field.

Of course, a person can have his vision reduced to 20/200 because of a very tiny scar directly in the line of his vision. If it is a little bit on the side that small scar will not obscure his vision at all, and he has a perfect field, for which the American Medical Association suggests a reduction of 25 per cent. A vision of 20/200 in that eye, regardless of the size of the scar, is equivalent to a loss of use of both eyes together. Therefore he is given compensation of 50 per cent for the loss of visual acuity and 25 per cent for the loss of his ability to use both eyes, thus getting 75 per cent compensation for the loss of vision to the extent of 20/200.

Mr. WILLIAMS. What would you say, Doctor, in those rather common cases where you find the vision in the injured eye, for instance, is 20/170 and the vision in the good eye instead of being 20/20 is 20/15?

Doctor TARUN. Well, 20/15 is considered normal vision. In other words, the man sees at 20 feet what he should see at 15 feet, and therefore sees better than the average eye; 20/20 is the basis, and therefore he really has a better vision than normal.

Mr. McSHANE. May I ask a question? We have been using the Chapman table and the percentages have been figured on that table. Taking, for example, a man whose eye shows 20/170—he sees at 20 feet what he ought to see at 170 feet. That is converted by the tables as a 75 per cent loss of vision. Now, then, if I am to understand the arguments and the statements that I have heard the last 10 minutes, that does not mean a thing—it does not mean a loss of 75 per cent. I must confess that I do not know anything about how to pass on compensation for lost vision if that Chapman table is thrown into the scrap heap.

Doctor TARUN. I agree with you. I knew this subject this morning was going to cause a great deal of discussion. That is one reason why I suggested that this convention or this body of commissioners get together and cooperate with the American Medical Association and form some definite plan whereby you can all rate your losses exactly the same, whether it is a Chapman table or any other table.

Mr. McSHANE. Just one more question. In the case I just cited, so long as the physical anatomy and the eye is normal, the facts are that, notwithstanding this table, the man is not blind at all?

Doctor TARUN. Your man is blind to the extent of 20/170. That in some States is total loss of vision; in other States it is less.

Mr. McSHANE. But that is a matter of law. I am trying to get at the matter of fact. The facts are that as long as the mechanism of the eye is all right (except this one thing, that he has to get the object nearer to him—20 feet instead of 170 feet—to see it) he is not blind at all, but just has that handicap of having to get nearer the object; he can see just as well.

Doctor TARUN. I think you are mistaken about that. Do not forget that 20/170 vision due to an injury is a relative thing when it comes to bringing the object nearer. In other words, when he sees that object at 20 feet when he should see it at 170 feet, he only sees a relative size object, corresponding with his reduction of distant vision.

Mr. KINGSTON. What about my 6/24 suggestion for a quarter eye?

Doctor TARUN. Well, of course, that is under the older authors.

Mr. KINGSTON. Then call it 20/80.

Doctor TARUN. 20/80 would be a loss of one-quarter.

Mr. KINGSTON. That is what we use.

Doctor TARUN. That is the table that a good many compensation boards, I believe, use, but I do not think that it is quite fair.

Mr. KINGSTON. It may not be right, but it is rough justice.

[The suggestion of Doctor Tarun that the I. A. I. A. B. C. appoint a committee to cooperate with a similar committee of the American Medical Association to work out a standard eye injury schedule for use by compensation commissions was adopted.]

COMPENSATION FOR EYE INJURIES FROM A MEDICAL STAND-POINT.

BY FRANCIS D. DONOGHUE, M. D., MEDICAL ADVISER MASSACHUSETTS INDUSTRIAL ACCIDENT BOARD.

[Submitted but not read.]

At the meeting in San Francisco, a report was made on the subject of eye injuries. That paper, with the discussion at the meeting, covers the important fundamentals.

It was prepared having in mind that under present conditions the function of the medical officers of the industrial accident boards and commissions should be to aid in interpreting and carrying out the existing laws.

The reason for the law or its justice would seem to be for others to determine, except in so far as law-making bodies seek advice from experience. The administrative problems, properly considered, should be approached from a common sense viewpoint and the law should be interpreted "in the light of its purpose, and, so far as reasonably may be, to promote the accomplishment of its beneficent design." (*Young v. Ducan*, 218 Mass. 346.)

Like other parts of the compensation laws the eye sections will continue to represent a compromise between the ideal and the practical.

They are part of a humanitarian measure enacted in response to a strong public sentiment that the remedies afforded by action of tort at common law and under the employers' liability act had failed to accomplish that measure of protection against injuries and of relief in case of accident which it was believed should be afforded to the workman.

It is settled that the statute provisions are to be construed liberally for the protection of the injured employee, whose rights to compensation either at common law or under the employers' liability act it has taken away. (*Meley's case*, 219 Mass. 136.)

Our Massachusetts Supreme Court in a case of claim for loss of the use of the hand says, "the use approaches the infinitely small, and must be disregarded if we are to prevent the technical impairment of a humane provision of law." (*Floccher's case*, 221 Mass. 34.)

The constant demand for a "table" to settle medical problems may come from an attempt to find some easy way of settling complex medical problems by men either unfamiliar with medical fundamentals or lacking in desire to master them. Formula construction applied to the human eye and its functions has been done 25 years since, and thoroughly done, admitting of but little improvement. If you concede the value of a formula having for its aim estimation of economic visual loss in percentage, it is ready at hand and has been so for a quarter of a century, appearing in *Visual Economics*, by Magnus and Würdemann, in 1902.

Percentage-table construction is a pleasant occupation, and if a compensation law sets a percentage of vision indicating occupational blindness, then a percentage table is simple of construction.

If 20/20 be taken as normal vision and 20/200 as blindness, percentages can then be calculated for distances in between, but if this be central visual acuity alone, then the law or its interpretation is unfair.

Doctor Allport's table and Doctor Chapman's table, reported at the San Francisco meeting, both start with 20/200 as 90 per cent loss of vision. As a matter of fact, and as a matter of Massachusetts law, it is total loss and in the construction of tables should be considered zero.

The making of tables, if they would solve our problem, is not a difficult task, and working ones can easily be made, but they do not and can not take the place of intelligent consideration by a capable commissioner.

Some States make no specific allowance for partial reduction in vision except in fixing wage-earning ability.

Under the Massachusetts act, an employee is entitled to additional compensation for certain specified injuries, including the reduction of vision to one-tenth of normal in either eye with glasses. For the reduction of vision in one eye to one-tenth of normal, compensation is due for the incapacity resulting from the injury, and in addition specific compensation for a period of 50 weeks at the rate fixed by the act. If the vision in both eyes has been reduced to one-tenth of normal with glasses, the employee is, of course, totally incapacitated for work and is entitled to total incapacity compensation for the period fixed by the law and in addition specific compensation for a period of 100 weeks. The court has interpreted the phrase "reduction of vision to one-tenth of normal vision with glasses" in certain cases, which are referred to here briefly.

In William C. O'Brien's case, 228 Mass. 211, the facts were as follows: A piece of steel entered employee's right eye and injured its vision; vision in his left eye was normal; that of the right eye, without a glass, was about one-sixtieth of normal, and with a glass nearly normal; this vision, however, could not be utilized when the employee used the normal eye and the corrected eye together, as there was a lack of coordination or correlation, a sort of double vision; and additional compensation was awarded on the ground that the employee's vision in the injured eye "with glasses" was reduced to one-tenth of normal vision. The court said that the board correctly interpreted the intention of the legislature when it reached the conclusion that the employee had sustained a reduction of vision in the injured eye to one-tenth of normal with glasses by taking into consideration the vision of the right eye as compared with the normal vision of both eyes used together.

A finding of the industrial accident board that the employee's normal vision in his injured eye was reduced to one-tenth with glasses is warranted upon the testimony of the medical expert in answer to the question, "To what per cent is the sight of his eye reduced?": "I could not reckon in per cent; it would be too small—less than 1 per cent." (Duffy's case, 226 Mass. 131.)

In deciding a finding of the industrial accident board, that a man who in 1910 had lost one eye and who met with an injury in 1915

arising out of and in the course of his employment with a subscriber under the workmen's compensation act, whereby he lost the sight of his remaining eye, was totally incapacitated for work, the court said: "The employee, when he entered the service of the subscriber, had that degree of capacity which enabled him to do the work for which he was hired. That was his capacity. It was an impaired capacity as compared with the normal capacity of a healthy man in the possession of all his faculties. But, nevertheless, it was the employee's capacity. It enabled him to earn the wages which he received. He became an 'employee' under the act and thereby entitled to all the benefits conferred upon those coming within that description. The act affords a fixed compensation for a limited time 'while the incapacity for work resulting from the injury is total.' (Stats. 1911, ch. 751, Part II, sec. 9.) It establishes no other standard. It fixes no method for dividing the effect of the injury and attributing a part of it to the employment and another part to some preexisting condition, and it gives no indication that the legislature intended any such division. The total capacity of this employee was not so great as it would have been if he had had two sound eyes. His total capacity was thus only a part of that of the normal man. But that capacity, which was all he had, has been transformed into a total incapacity by reason of the injury. (The insurer raised no question in this case of the right of the employee to additional compensation for the specified injury under section 36 (b) for the loss of the remaining eye.)" (Branconnier's case, 223 Mass. 273.)

In the case of *Boscarino et al. v. Carfagno & Dragonette (Inc.)*, in re Massachusetts Bonding & Insurance Co. (Court of Appeals of New York, March 13, 1917), 220 N. Y. 323, in which the court found against the injured man, the doctor says:

The vision of the right eye equals 20/100 not materially improved with glasses. Aside from this opacity the eyeball is in good condition. The background of the eyeball appears to be normal. Fields of vision normal in extent. If an artificial pupil were made, the vision would be much improved, but in all probability would not be sufficiently good to permit him to follow any vocation requiring reading or any other relatively fine work. Prospects are that the vision will remain about as it is at present until the artificial pupil is made. There is no danger to the other eye from the injured eye.

As a result of this case it may be said that the New York law was changed. Since 1920, the New York law contains the following: "The loss of 80 percentum of the vision of the eye shall be considered to be the equivalent of the loss of the use of the eye, and the loss of binocular vision shall be considered to be equivalent to the loss of use of one eye."

The California law says: "Compensation depends on the percentage of permanent or partial disability."

These may serve as illustrations of the various types of laws and something of the difficulties in interpretation.

To emphasize again the factors of economic vision:

1. The most important factor in vision is central visual acuity.
2. Visual field.
3. The motions of the eye.
4. The vision of both eyes working together.

Where laws speak of vision it would seem apparent that it must comprehend these factors or that it should be so interpreted. There-

fore, normal central visual acuity alone is not normal vision and adherence to tables based upon a test for central visual acuity would work grave injustice.

Unless in administration we can so interpret the laws, laws need changing so that these factors may be comprehended.

It is most desirable from the administrative standpoint that all examiners of eye cases should report upon the four fundamentals and these fundamentals should be comprehended by any satisfactory law.

The report of the Committee on Forms and Procedure which was presented to this convention contains much important material in regard to the administration of the law.

Form 14 prepared by them (see p. 34) fully meets the situation in regard to the information that boards should have before passing upon settlement receipts or upon specific compensation in regard to eye cases.

The formulation of a law or of tables that will work no injustice but will be just, humane, and adequate for all men under all working conditions, may come with time, but that time has not yet come.

Attached is a table showing the provisions of the laws of 42 States relative to compensation for the loss of vision of one eye. Loss of vision of both eyes is compensated as permanent total disability in practically every State.

PROVISIONS OF STATE LAWS AS TO COMPENSATION FOR LOSS OF VISION OF ONE EYE.

State.	Per cent of average weekly wages.	Weekly maximum.	Compensation period (in weeks).		Compensation for temporary total disability during healing period in addition to schedule amount.	Provision for compensation in case of loss of second eye.	Special provisions and definitions.
			Loss of vision.	Eucleation.			
Alabama.....	50-60	\$12.00-\$15.00	100	.....	No.....	Three-fourths of compensation for permanent total disability minus that for first eye.	
Arizona.....	50	(1)	(2)	.....	No.....	(1).....	
California.....	65	20.83	95	115	No.....	Same as for loss of first eye.	
Colorado.....	50	10.00	104	139	No.....	Compensation for 312 weeks.	
Connecticut.....	50	18.00	104	.....	Yes.....	(1).....	Complete and permanent loss of sight or reduction to one-tenth or less of normal vision with glasses.
Delaware.....	50	15.00	113	.....	No.....	Same as for loss of first eye.	Loss of fractional part of vision compensated for proportional number of weeks.
Georgia.....	50	12.00	100	.....	No.....	do.....	Do.
Idaho.....	55-60	12.00 16.00	100	120	Yes.....	Same as for permanent total disability.	
Illinois.....	50-65	14.00 17.00	100	.....	Yes.....	do.....	Do.
Indiana.....	55	13.20	150	.....	No.....	Same as for permanent total disability minus that for first eye.	Permanent loss of sight or reduction to one-tenth of normal vision with glasses, other fractional reduction compensated proportionally.
Iowa.....	60	15.00	100	.....	No.....	Compensation for 200 weeks.	
Kansas.....	50	12.00	110	.....	No.....	Same as for permanent total disability minus that for first eye.	
Kentucky.....	65	12.00	100	.....	No.....	do.....	
Louisiana.....	60	18.00	100	.....	No.....	(1).....	Loss of eye or reduction of sight, with glasses, to one-tenth of normal vision.
Maine.....	66½	16.00	100	.....	No.....	Same as for permanent total disability.	
Maryland.....	66½	18.00	100	.....	Yes.....	Same as for permanent total disability minus that for first eye.	Loss of fractional part of vision compensated in proportion to total loss, regard not to be had for correcting lens.
Massachusetts.....	66½	10.00	50	.....	Yes.....	Same as for permanent total disability.	Loss of sight or reduction to one-tenth of normal vision with glasses.
Michigan.....	60	14.00	100	.....	No.....	do.....	
Minnesota.....	63½	18.00	100	.....	Yes.....	do.....	
Montana.....	50	12.50	100	120	No.....	Same as for loss of first eye.	
Nebraska.....	66½	15.00	125	.....	Yes.....	do.....	
Nevada.....	50	6.93	108	130	Yes.....	Same as for permanent total disability minus that for first eye.	Partial loss of sight compensated for proportional number of months.

New Hampshire.....	50	10.00	(2)	No.....	(1).....	
New Jersey.....	66½	12.00	100	Yes.....	Same as for loss of first eye.....	
New Mexico.....	50	12.00	100	No.....	do.....	
New York.....	66½	20.00	128	No.....	Same as for permanent total disability.....	Loss of binocular vision or of 80 per cent or more of vision considered same as loss of eye.
North Dakota.....	66½	20.00	130	No.....	do.....	
Ohio.....	66½	15.00	100	Yes.....	do.....	Compensation based on percentage of vision actually lost, but no award for less than 25 per cent loss.
Oklahoma.....	50	18.00	100	No.....	Same as for loss of first eye.....	
Oregon.....	(Monthly pension.)	5.77	173	Yes.....	Same as for permanent total disability.....	
Pennsylvania.....	60	12.00	125	No.....	Same as for loss of first eye.....	
Rhode Island.....	50	10.00	50	Yes.....	Same as for permanent total disability.....	
South Dakota.....	55	15.00	100	Yes.....	Same as for permanent total disability minus that for loss of first eye.....	
Tennessee.....	50	11.00	100	No.....	Same as for first eye.....	
Texas.....	60	15.00	100	No.....	do.....	
Utah.....	60	16.00	100	Yes.....	Same as for permanent total disability.....	
Vermont.....	50	15.00	100	Yes.....	(1).....	
Virginia.....	50	12.00	100	No.....	Same as for first eye.....	Partial loss of vision compensated for proportional number of weeks.
Washington.....	(5)	(5)	(5)	Yes.....	Same as for permanent total disability.....	
West Virginia.....	50	12.00	132	No.....	do.....	
Wisconsin.....	65	16.90	140	No.....	Same as for permanent total disability minus that for loss of first eye.....	
Wyoming.....	(6)	(6)	(6)	Yes.....	do.....	

¹ No specific provision.

² No schedule. Benefits are based on loss of wages.

³ Compensation varies with age and occupation. The number of weeks given is for a laborer aged 33 years.

⁴ If partial disability still exists after schedule period, additional compensation, based upon wage loss, may be paid, the total period, however, not to exceed 300 weeks.

⁵ Compensation for loss of sight of eye, \$900.

⁶ Compensation for loss of eye or the sight thereof, \$1,500.

[Meeting adjourned.]

THURSDAY, OCTOBER 12.—MORNING SESSION.

**CHAIRMAN JOHN ROACH, DEPUTY COMMISSIONER NEW JERSEY DEPARTMENT
OF LABOR.**

ACCIDENT PREVENTION.

The CHAIRMAN. This morning's session is devoted to the subject of accident prevention. The first paper will be on "The value of careful factory inspection," by James L. Gernon, chief factory inspector of the Department of Labor, State of New York.

THE VALUE OF CAREFUL FACTORY INSPECTION.

BY JAMES L. GERNON, DIRECTOR BUREAU OF INSPECTION, NEW YORK DEPARTMENT OF LABOR.

The subject indicated by the above title is so vast in its scope that it would be useless to attempt to cover all its phases in the time allotted. For this reason these remarks are confined to such features as seem to need careful consideration at this time.

Inspection, to be of any value, should be careful inspection. If the inspection made is careful but not efficient, it is useless and of no value. If the inspection is both careful and efficient, it has immense value, not alone in the field of accident prevention and the minimizing of suffering and loss due to industrial injuries, but it opens the way for greater possibilities in the elimination of much of the suffering and loss following in the trail of industrial injuries.

Inspection properly developed would save many workers from becoming industrial derelicts and permit them to continue during their allotted span of life as productive and skillful workers.

Inspection, with a proper study of conditions and the proper knowledge of safe methods applied, would develop in great measure the industrial skill and efficiency of those engaged in the country's industries.

Inspection made by State or insurance inspectors or safety engineers, while thorough and efficient, may be too infrequent to have proper value. The experience and knowledge possessed by those making the inspection is not always properly applied to the existing conditions, because of the inability to make as many visits as are necessary or to devote as much time as would be required to study the causes of injuries occurring in the particular industry.

If we hope to reduce injuries to the lowest possible minimum, we must develop to a greater degree than in the past the educational features of safety work. This does not mean that we must educate only the worker. Experience has shown that the workers may be the easiest part of the task. We must educate the owners, directors, and managers of industry generally. Those in industry who have heard the call for safe practices and answered, "Ready," are far too few, but they are sufficient in number to point the way, and the results they have achieved have proven of immense value in the elimination of human sacrifice, to say nothing of the large financial saving to both the employer and the employee through the reduction of industrial injuries.

Where the inspection is careful and efficient, we are sure to find the inspector possessed of the power of keen observation. Without this very important requisite the inspection would be valueless. It would fail to reveal such hazards or unsafe practices as existed or the false or unsafe motions or movements of the operator or worker,

which may be the primary or contributing cause of many of the injuries occurring in the industry.

If the inspector's power of observation is not properly developed, he will fail correctly to impart to the owners or workers the knowledge he should possess to improve conditions. Without the power of keen observation it is very questionable whether the inspector will acquire the knowledge he should possess in order to make an inspection that will be of value.

It has been clearly demonstrated that proper inspection has reduced industrial injuries. This is particularly true of the industries that are required by the State laws or codes to guard the machinery or to protect the workers against hazardous conditions. The reverse conditions are very noticeable in the group of hazardous industries that are not subject to State inspection, or to law or code regulation.

In several of the large industrial States the injuries caused by machinery, including all causes such as slipping and falling into machinery, are less than 20 per cent of the total injuries occurring in industry. For years the laws and codes have required the guarding of machinery. The State inspectors have enforced these provisions. The enlightened employer has cooperated, and much good has been accomplished. To reach the real goal we will have to give more attention to that vast field which is productive of the greatest number of injuries.

There have been too many instances where those writing on accident prevention have attributed the major portion of accidents to carelessness. There have been many instances where the claim has been made that the proportion of accidents due to carelessness was as high as 85 per cent.

As a rule the carelessness is attributed to the employee. In many instances the high percentage of accidents attributable to carelessness is due to a lack of knowledge of the contributing cause of accidents. In far too many instances the workers are never instructed in the safe way to perform hazardous work. Again, there are many false or unnecessary movements or motions made by workers which increase the hazard and the possibility of accident.

When the injury occurs it is too often claimed that it is attributable to carelessness. Assuming that carelessness was the cause of the injury and the worker was not properly instructed, who was careless, the worker or the employer?

All injuries are not caused by machinery. In many instances unsafe machinery can not be properly guarded without making it inoperative, or at least interfering with the work performed, and in some types of work increasing the possibility of accident. In all such instances the most practical method of accident prevention is to study the proper movements for safe operation and to teach the operator how to avoid injury. Many injuries are due to hand tools or the handling of material.

These few examples will serve to illustrate that it is in work of this character that we must observe the proper method of working and study and teach the safe way to perform the work before we will be able to reduce the number of injuries to the degree that they should be reduced; and we should not absolve ourselves from

responsibility by attributing to carelessness 85 per cent of the accidents occurring.

Here is a field for educational work that has hardly been touched. It offers vast possibilities for preventing human suffering, developing the skill of the worker, and enriching the State by preserving productive labor.

Much will be accomplished when we have realized the importance of the educational features of inspection work, which is essential in the campaign to safeguard and protect workers. It is imperative that many workers be taught the art of working, and this is important and necessary in most all vocations, those requiring great skill as well as those with the most menial work, for the latter may be the most hazardous.

The value of proper inspection is fully realized by those who know. Our task is to carry the message to all in need of proper instruction.

This brings us to consider who should make the inspections and put over the instructions which will enable the manager, superintendent, or foremen to pass along the knowledge of the kind of accident prevention that will protect the workers to the highest degree. In such a program the foreman or gang boss is a most important factor. He is in closer association with the workers during the entire working day than anyone else. He should know the hazards of the industry. His point of contact with the workers is closer than that of any other part of the management, and it should be the pride and aim of the foreman or gang boss to protect his fellow workers who are under his immediate charge. If the foreman or gang boss can be made to realize his importance and value in a campaign of accident prevention, we are sure to have what is equivalent to constant, careful inspection during all the working hours; add to this workers who are fully instructed in the skillful and efficient method of working, and we will develop safe practices to a high degree and reduce injuries.

Careful inspection means something more than the checking up of machinery and equipment that may be unsafe. It means, in addition to that, knowledge of the proper way to perform the work and the handling of material in a manner both safe and efficient.

Careful inspection has immense value and wonderful possibilities in the reduction of injuries, protection of life, development of health and happiness, and the promotion of industrial efficiency, thus increasing the value of human effort.

DISCUSSION.

The CHAIRMAN. Mr. Clifford B. Connelley, commissioner of the Department of Labor and Industry of Pennsylvania, will lead the discussion.

Mr. CONNELLEY. In going over the paper that Mr. Gernon has read, having been asked to discuss it, I have taken it up in six paragraphs—safety organization; promoting better industrial relations; frequency of inspections; systematic safety instruction; high speed production; and women and children in industry.

1. *Safety organization.*—Careful and efficient inspection can be made when the plant is thoroughly organized for safety. The safety organization of an industrial establishment is the fundamental step

in a safety program. The inspector can assist in reducing accidents by advocating safety organization where none exists, or in offering suggestion toward perfecting the organization where it does exist.

2. *Promoting better industrial relations.*—An inspector coming in contact with both the employer and the employees is in a position to further a cordial and helpful relationship between them by tactful suggestions as to the guarding of machinery or protecting a passageway. The inspector who makes safety the vehicle for better understanding between employer and employee gives real value to factory inspection.

3. *Frequency of inspections.*—The value of a factory inspection depends upon how often the official inspections are made and the method of following up inspections. Inspections should be made more frequently for some purposes than for others, for example, lighting, sanitation, head and eye, and scaffold inspections.

4. *Systematic safety instruction.*—Careful factory inspection encourages systematic safety efforts, rather than spasmodic ones.

5. *High-speed production* must not be secured at the sacrifice of safety.

6. *Women and children in industry.*—Too much care can not be exercised in seeing that women and children, where employed, are engaged in suitable and safe employment; special attention should be given to the hours of labor.

I feel that, inasmuch as it is the fundamental thing in our compensation work, there is nothing in industry that is as important as that of inspection.

I was in New York not so very long ago and went over some work with Mr. Gernon. He showed me how a man directing a plant could do a better class of work if he received proper instruction, increasing the production and enabling his men to work safely.

I question very much whether, if it had not been for the war, we would have been as far advanced in safety work as we are now. I come from a district where the only need is tonnage and everybody thinks tonnage; and it is strange that to-day we put a greater premium on something to protect a man's life than on tonnage.

In our work here we are given certain things to protect—the men, the women, and the children on the street—which makes it really worth while.

Mr. Gernon said in his paper, and truthfully so, that the proper inspection, the follow-up inspection, is really worth while, but I find that in many of the large industries our difficulty has been over-inspection, as the insurance company inspects certain things, the State inspects certain things, and then the safety engineer of the plant has the plant constantly inspected.

I believe that if this association could reach a point where inspection would be placed at a higher value we would get along very much better in compensation work. If you will consider just for a moment the "safety week" that is being conducted in New York this week, and the one held in Baltimore just a little while ago, you will find exactly what it means if safety appliances are not used.

We had a very good opportunity the last two or three years, during the lull in business, to make it possible for better safety guards and safety arrangements to be placed in the larger plants. With the safety engineers and the key men of the big plants, we went

over the plants in such a way as to have the machinery there made as near fool-proof as it can be in the operation and production of the work. I am anxious, just as soon as we get to a point where we can know our production, to see what the percentage of accidents has been.

In the western part of Pennsylvania we have had the number of hours which the men worked reduced. For eight months when business was not at its height the plants ran at about 60 per cent, and during those eight months we did not have an accident that lasted more than two days and there were no fatal accidents.

I am sure that where this thing is carried out, as it can be where the proper instruction is given to the men who have charge of it, we can reduce the number of accidents, and that means reducing the compensation and prolonging life.

The CHAIRMAN. Mr. I. A. Tarrell, industrial commissioner of Wisconsin, will discuss the paper.

Mr. TARRELL. I confess at the outset that I am not a safety engineer. I suppose the reason I appear on the program at this point is because I am the only representative of Wisconsin present. We do have safety engineers in Wisconsin, and we have men who could intelligently discuss this question. Anything that I say regarding the safety program is what I have obtained from personal observation through some 11 years' experience as an administrator of a workmen's compensation law, and not in the safety department of the Wisconsin commission.

I think that Mr. Gernon has presented an outline of a safety program that is worthy of careful consideration in any safety department, and, as he has stated, he has merely touched the high spots.

I presume that when he speaks of careful factory inspection he means inspection by a Government inspection department. It is my observation that inspection by other organizations is not such inspection as tends to reduce accidents, as these organizations do not keep in mind the purpose of their organization. In their work these other organizations do prevent accidents, but at the same time they have in mind another function. I know from actual experience in Wisconsin that the inspection service of other organizations is primarily for securing consideration in the rate-making department of rates charged for workmen's compensation insurance. Now, do not misunderstand me. Those organizations do a splendid work, but in Wisconsin our experience has been that the State department is the one organization which does more to reduce accidents than any other organization operating in the State.

We have reached the conclusion that we can do more, far more, to reduce accidents by educational campaigns and proper instruction as to how to operate a particular machine or device used in the industry than by mechanical guards and appliances to prevent contact with the machine.

We do reduce accidents and prevent accidents by mechanical guards, but to my mind the big thing is the education of the operator of the machine through instruction and orders so as to prevent his coming into contact with the place of danger.

I can not discuss this proposition without referring to Wisconsin, as I do not know what you do in other States to prevent accidents.

Wisconsin is peculiar in this respect: We have always assumed that the basic feature of a workmen's compensation law is accident prevention. I want to put the workmen's compensation law of Wisconsin out of business, if I can, by preventing accidents. To do that we have passed legislation requiring every employer in the State to furnish his workmen with a safe place of employment, and have given the industrial commission authority to adopt rules and regulations as to what is a safe place of employment, and rules and orders requiring that certain machines shall be guarded in a certain manner and certain scaffolds in certain industries shall be operated along certain lines.

Under the workmen's compensation law the employer is subject to a penalty for failure to comply with the State safety code. It is incumbent upon the industrial commission in every compensation case to determine whether or not the accident occurred through failure of the employer to comply with the safety code, whether or not the employer has furnished the injured man with a safe place of employment, and whether or not the accident occurred through failure of the employer to comply with the safety order. On the other hand, the workman is subject to a penalty for failure to comply with a safety order or to use a safety device furnished by his employer. If the commission finds, as a fact that the workman was injured through failure to comply with a safety order or to use a safety device furnished by his employer, that workman is penalized and his compensation is reduced 15 per cent.

Before I left Madison, I had our statistical department compile some figures regarding the experience of the past year. I find that employers in the State of Wisconsin during the year 1921 paid almost \$20,000 for failure to comply with safety orders; that is, in 386 cases the commission found as a fact that the accident occurred through the failure of the employer to comply with an order of the industrial commission. I do not recall any case where a finding was made that the accident occurred through the failure of the injured workman to comply with an order of the commission or through his failure to use a safety device furnished by his employer.

Mr. Gernon's reference to the element of carelessness is demonstrated by the fact that in no case did the commission find that a workman was penalized 15 per cent, because we have adopted a rule that in order to penalize a workman for failure to comply with a safety order adopted by his employer the order must be one enforced by the employer.

One of our orders is that in any industry in which particles which may injure the eye are thrown off the workman must wear goggles, which the employer must furnish. If you go through the plants you will find men working at chipping and grinding and similar occupations, and when you ask them why they are not wearing their goggles, they say: "Well, they are over there. They are in that box inside the room." The employer does not enforce his order. Under such circumstances the commission could not find as a fact that the man was injured through failure to comply with an order adopted by his employer. The mere adoption of such an order does not put it in force.

Mr. McSHANE. May I ask you a question? I understand you to say that you practically compel the employer to make the man wear the goggles. If the employer provides the goggles and they are in a proper place and accessible, would the employer be penalized if the employee did not wear them?

Mr. TARRELL. No. Our order simply says that the employer shall furnish goggles. I am making the point that we could not penalize the workman for refusing to comply with the order under such circumstances.

Mr. McSHANE. Well, if they are accessible——

Mr. TARRELL. We would not penalize him then.

Mr. McSHANE. I can not understand why.

Mr. TARRELL. Because we take the position that it is the employer's duty to enforce the order. In my shop I would not have a man working as a grinder on a machine that threw off particles if he did not wear his goggles.

Mr. McSHANE. You can lock the stable after your horse is stolen. The man has already been injured.

Mr. TARRELL. We do not penalize the employee in such a case. I was speaking of the penalty applied to the workman in such a case.

Mr. LEE. Do you mean to say that you adopt a rule that will give a man something to protect him from injury, and then if he refuses to obey the rule he does not suffer any penalty, while you penalize the employer if he does not fire the workman in time to prevent an accident?

Mr. TARRELL. We do not adopt the rule. That statute was provided for by the legislature.

Mr. LEE. I ask whether or not that is the sense of your idea.

Mr. TARRELL. I am arguing that the carelessness in most cases is due to the failure of the employer to enforce the order.

Mr. LEE. That is a different proposition. How are you going to enforce it?

Mr. TARRELL. By simply saying to the workman, "When you use this machine you shall wear these goggles."

Mr. LEE. Well, suppose after I am told I turn my back and walk away?

Mr. TARRELL. If you come before the industrial commission and show that by your course of procedure and practice you have ordered and directed your workmen to wear goggles, and that if necessary you discharge a man for failure to use them, then the commission will say that this man willfully refused to comply with an order of his employer to use a safety device furnished by his employer, and will penalize him 15 per cent.

Mr. DUXBURY. Did you say that no workman was penalized for failure to comply with an order?

Mr. TARRELL. None within the last year.

Mr. LEE. The point I am making is this: I am frank to say to you that I get a little disgusted once in a while with this morbid sentimentality in favor of the workman. I am in favor of the workman getting all he deserves, but when we come to the point where we

award compensation to a man even when he is at fault, we are creating a lot of helpless dependents who will never do anything for themselves.

Mr. TARRELL. I do not want to maintain any such condition. The object of this legislation is to prevent accidents. It has been my experience that in order to get an employer interested in accident-prevention work you have to show him that accidents are costing him just so many dollars.

Mr. LEE. And you have to show the workman also that the accident is costing him so many dollars.

Mr. TARRELL. In Wisconsin we have a criminal statute regarding failure to use safety devices or the removal of safety devices, and workmen have been taken into the criminal court and fined for failure to comply with that statute.

What I was coming to was this: If you compile your statistics to show the loss of time resulting from injuries on particular machines, as we do in Wisconsin, you are in a position to go to the employer and show him his actual loss in dollars and cents from the time lost from injuries on any particular machine.

I can show you just exactly what it cost for loss of time on punch presses in Wisconsin last year. I can show you the loss of time on account of saw accidents last year. I can show you the loss of time, by occupation, for every accident that occurred in the State. When you have that information you can go to the head of an institution and you have an argument to submit to him. You can show him that, due to his carelessness or the carelessness of someone in his plant, he has paid out so much money. If you go to that employer and say, "Here is a foreman or a superintendent of this particular plant who destroyed so much material, due to his carelessness," something will happen in that plant immediately.

That is the idea that we are putting through in Wisconsin, that we have definite information as to the cost to the employer of accidents, in relation to the nature of the industry and the occupation.

As to this penalty to the employer and to the workman, maybe the fact that we have not penalized a workman is due to the fact that the employers have not desired to avail themselves of that defense. We investigate accidents to determine whether or not there is a violation of the statute. The employer has the right in every case to set up the defense that the accident occurred through failure to use a safety device, but no employer has availed himself of that defense. Workmen come before us and say, "I was injured through failure of the employer to guard the machine in compliance with the statute." We must then conduct an investigation to ascertain whether or not that is true. In 386 cases in 1921 we found that the accidents occurred through failure to guard the danger points in compliance with the safety code, and the 15 per cent increased compensation in those cases amounted to practically \$20,000.

Mr. Gernon in his paper refers to a study of the cause of injury. I think analyzing the cause of the injury is a wonderful thing to prevent accidents, because you can go to the employer and show him in dollars and cents what this particular device, what this particular occupation, is costing him; and if your inspection department is what it should be you can point out to that employer how he can

reduce that overhead. If there are any further questions I will be glad to answer them.

Mr. CONNELLEY. The inspection in some of our States, in fact, in most of our States, is not very good. The law requires the manufacturer to inspect his machinery, to guard his machinery, and that where hazardous conditions exist he shall furnish goggles to his men. All right. If he does not furnish them, then the inspection department can enter suit and sue him and make him go to court. That is a lopsided arrangement, of course. We can not fine a man if he doesn't wear the goggles, but there is one thing that we can do in order to reduce the compensation cases and the accidents. We have been trying to get the employers to fire the man who breaks the law and does not carry out the order. That is rather a cruel thing to do, but it is the only way that we can accomplish this thing. That is the reason why I said it is a lopsided law. It protects the man and does not protect the manufacturer.

Mr. McSHANE. In Utah we owe much to Wisconsin. In fact, we copied Wisconsin's statute in this particular. But our experience has been much different with reference to penalizing the employer and the employee. I think that we have penalized two employees for failure to comply with the safety order where we have penalized one employer, and I believe in every instance there has been a just penalty imposed. A man who loses an eye, while working as a smelterer, because he pulls his goggles down and lets them hang about his neck, or a man who refuses to wear goggles when he is cleaning a blast furnace and is burned, should be penalized.

I say that the employer must of necessity be given to understand that he must comply with every safety order that is promulgated by the commission, and that if he does not, not only is he subject to a penalty of 15 per cent in the compensation paid, but also the criminal statute can be invoked against him if it is an aggravated case. I want to say that no matter what your inspection departments may do, no matter what distance your employers may go in trying to prevent accidents, no matter how far your legislatures may go in setting up the very best code of safety standards that can be given by man, and no matter how sincerely your employers cooperate with you, unless there is some way of bringing the employee to a realization of his responsibility you will never get results, because you can not make any machine or any employment fool-proof. I believe that you have got to be just a little bit severe on these fellows. If they are penalized once or twice it soon penetrates the whole factory—"This fellow's compensation has been cut." I believe that it does a lot more good to penalize the man than it does to fire him.

The CHAIRMAN. Well, if you penalize the man and take the compensation away from his family, and his family are in distress, what are you going to do with the family?

Mr. McSHANE. I am certainly not going to fire the man. I think it is better to penalize the man 15 per cent in his compensation than to fire him and have his family suffer thereby, although I believe in extreme cases I would fire him. In fact, I have advised one particular employer who had a man up three times within six weeks, that this man seemed to be a fellow who would not keep out of mis-

chief and that he had better shift him to some other employment or fire him entirely.

Mr. CONNELLEY. I think the gentleman from Utah misunderstood me. I did not mean to leave the impression that the proper thing to do is to fire a man after he becomes injured. It is before he gets injured when the firing should be done. That is the time when you must discipline a man.

Mr. MCSHANE. Then he can not be proven guilty.

Mr. CONNELLEY. Of course he can, under the law. If you have a law for an employee to wear goggles and he does not wear those goggles, he is violating the law.

Mr. TARRELL. To my mind this matter of compelling workmen to comply with an order is all a matter of discipline. I would not fire a man after he got hurt. I would not want to see anyone else do it. I have had employers ask me, "How are you going to compel this man to wear goggles? How are you going to compel him to do this thing in a certain way? I have 50 men in this department and they won't any of them, wear goggles. They won't put this shield up in front of them in all the different operations that they do. What am I going to do?" I would gather the men in that department together, and say, "Here is an order that you have to comply with, and the first fellow that does not comply with that order walks out of this plant." I want to say that you won't have to fire very many before they will all comply with that order.

Mr. GERNON. I should like to inject something at this time which perhaps will start some more discussion. The question of carelessness was the thing that I thought would get the most attention, and it seems that that is true. I want to say that accident commissions and employers are all wrong in their basis of carelessness. There is carelessness in industry. I have said this repeatedly, and after 26 years' experience I am going to say it on every occasion that I have a chance to, that there is nothing so wasteful as carelessness in industry. But the carelessness is not all on the part of the workers; some of it is on the part of the employees, but most of it is on the part of the employer.

Why, industry is so crude that people would think you were crazy if you were to tell the things that are done, not in the plant that has four or five men, but in the plant that is making millions of dollars. When we see concerns like the Standard Oil Co. making a stock dividend of 400 per cent we wonder why they do not do something in their plants to help people, why there isn't a better chance to get more compensation when a person is injured.

I have followed the records in nearly all industrial States and there isn't one State in which the employees are satisfied with their compensation law, and they have a right not to be satisfied with it. When we study what an employee produces in an industry and then consider what he gets after he receives an injury, there is every reason to believe that the law should be jacked up. Now Mr. Lee says he does not like the morbid sentimentality of everybody taking care of the employees. Neither do I.

The employer is obligated to his employees. The best industries are those that are organized, because there is more discipline in them.

We find thousands of plants that will dock a man for being five minutes late, but he does other things that lose more money for the firm than his coming in late, which they never see or notice. I believe in labor being productive, and when we go into that field, believe me, this country is going to outstrip any country in the world.

Now I have to refer to New York, and I want to say that there isn't a State in the Union where the machinery is as well protected, where industries generally are as well protected as those in New York, but still we have a great number of accidents. We do not know how much they cost, but we can estimate it, and it is said that it costs the industries of the State of New York \$60,000,000 a year for accidents. Now, a lot of that can be eliminated if we go at it in an intelligent way.

The responsibility is on the employer to pay for these accidents. He is responsible for protecting the workers. He can not do everything; it isn't expected that he can, but he can do his part, and the worker has to do his part. But you can not blame a worker for not doing his part when nobody tells him how, because we are all human. In certain lines of work where there is no machinery you will find hernia. I can show you where men are doing work that produces hernia, and they don't know how to lift, they don't know how to pull, they don't know how to do anything—they simply have brute strength.

I have heard remarks made as to certain inspections not being inspections. That is true. Because I belong to a State department I am not saying that State inspection is the only inspection. It would be foolish to say so. There are all kinds of inspections that are good, but there is too much commercialized inspection that is no good. It is absolutely valueless, it is harmful, it produces injury.

Mr. LEE. Safety is no part of my job. I am glad it isn't, but I want you gentlemen to have it, because I see what a wonderful field it is and how much trouble you are building up for yourselves.

With reference to morbid sentimentality I said that I call a person afflicted with morbid sentimentality one who stands up here and holds the employees to be always in the right and wants to relieve the workers from any responsibility under the laws. We went a long way when we passed a compensation law to strike down all of the defenses under the common law. We do not charge a workman with his own negligence. We do not charge him with extreme carelessness. We set aside all his failures to comply with the reports and send in notices. Now, if I understand it aright, we want to pass a safety code that further penalizes the employer and does nothing more to an employee than to fire him and let him go next door and do the same thing over again to-morrow; and if that man fires him, he can do the same thing the next day. You are penalizing him by firing him, but not penalizing him in any way that he feels. A lot of these floaters go from place to place and they would just as soon be fired as stay on the job. They are here to-day and gone to-morrow, and somebody else pays the bill. I can not see any sense in that. I say that you will have to be as old as Methuselah before you will ever convince sane legislators in this State that any such program is sane or proper.

Mr. MORLEY. First of all may I say that unlike Mr. Lee I am glad I am in safety work, and I have been in it for a good many years.

There are two or three points that I think ought to be cleared. One is Mr. Tarrell's statement that other organizations do not satisfactorily inspect. He may mean generally, but our organization, an employers' organization, created under the authority of the workmen's compensation act, is producing definite results for those employers.

The other thing is this: I believe that the accident cost to the community at large is less under compensation than it was before compensation. In those days before compensation the corner grocer and the little druggist and the small man all along the line lost the money that was owing to him. Compensation laws have focused the attention of the community on accidents, and some day we are going to have fewer accidents than there are in the community at present.

Mr. TARRELL. I would like to explain what I said regarding other safety organizations.

The CHAIRMAN. As a matter of personal privilege, that is all right.

Mr. TARRELL. I did say in my remarks that some organizations like that were doing good work. What I referred to was the so-called paper association organized for the sole purpose of obtaining a reduced insurance, and I have no sympathy with it. Some insurance company inspectors are doing good work, but I do not say that all of them are. I say that many times the insurance company inspection is made primarily with the purpose of obtaining a reduced rate for that particular risk.

Mr. McSHANE. That is right.

The CHAIRMAN. I am very glad indeed that this discussion arose and if we have a little time after we get through with the other papers I hope we will come back to this point of carelessness and on whom the burden rests. There is a theory that underlies the payment of compensation that has only been touched on in a general way, and I hope that we may come back to it and discuss the matter thoroughly. Mr. G. E. Sanford will now discuss "Plant safety organization"; after Mr. Sanford, Mr. A. S. Regula will discuss "Safety education"; and "Mechanical safeguarding" will be treated later by another speaker. So now we will hear from Mr. G. E. Sanford, of the General Electric Co.

PLANT SAFETY ORGANIZATION.

BY G. E. SANFORD, SAFETY ENGINEER, GENERAL ELECTRIC CO.

Plant safety organization is outlined by the insurance companies for certain requirements. A small plant requires a safety committee partly of executives, partly of foremen, and a part-time safety inspector. As the size of the plant increases it gets up to where it has a safety committee of executives, another of foremen, another of workmen, and a full-time safety inspector.

I believe that one or more States are now working on State codes covering something of the same type and also specifying the frequency with which meetings shall be held. The insurance companies recommend, as I recall it, that meetings be held semimonthly. I am not sure of that, but the point I wish to raise in that connection is that that is all right, but the varying conditions of industry make it necessary to modify those plans according to the general hazards of the industry in question.

In some cases, meeting once in two weeks is not often enough; if a plant has a record of 16 accidents per 100 employees for a year, I think the committees ought to have meetings once a week until they get that accident record down.

If a plant runs along for a year or more without any accidents whatsoever, it seems to me that meetings held once in two weeks are altogether too frequent. In fact, I have in mind one plant which has about 100 employees. The safety committee meets once a month. Its minutes read something after the following fashion: "Meeting called to order (giving names of those present). Minutes of previous meeting read. No new business. No unfinished business. Meeting adjourned."

Now, that is what you are liable to get when your plant is on light work, where there is very little hazard. In that particular case the plant was run for something like a year and a half without an accident of any description.

In the General Electric factories (and we have them scattered all over the country) we have tried out various schemes. In some cases the committee work would go along for a while and then there would seem to be a lapse in some places. In one plant I have in mind, with about 8,000 employees, the safety committee in certain departments did good work. Other departments had a fairly high accident record. We tried dividing the plant into sections and pitting them against each other on a comparative basis. We took into consideration the relative hazards in the different departments and worked out a proposition based on the relative hazards and on the number of employees, allotting to each section of the plant a certain percentage of the total number of accidents which that department might have without it being thrown down below the line, you might say. That score was published on bulletin boards in every department each week. It worked fine for a while, but in the accidents that eventually occurred, one particular section of the plant was way down at the bottom of the list. Apparently those people had lost interest. That meant that we had to do something particularly radical in that particular section. The section was divided into eight subsections. Those eight subsections were pitted against each other for the time

being without any reference to the departmental standing in the entire plant. In about five months' time that section was second from the top of the list. That is what competition will do on hazardous work. It has the effect of cutting down accidents.

In another department we tried another scheme. That department had been running about one or two accidents per week. We took a section where the majority of the accidents were occurring, picked out every fifteenth man (we went down and counted out every fifteenth man, regardless of what his job was in the department), gave him a safety committee button, and told him that that button was his as long as no accidents occurred either to himself or to any of the other 14 people in his particular part of the floor. The result was that it was three months before any one of those men lost his button.

We tried another method in one of our plants with about 2,100 employees. That plant had been running with an unusually good accident record. It was down to less than two accidents per hundred employees per year, and the committees were working fairly well, but they began to lose interest all over the plant. It showed up in the general notations that came out in the minutes of their meetings. So, even with that good record, we tried to see if we could better it. That particular plant has two grades of committees instead of three. The executives and foremen combined are on one committee. The committee selected 35 men scattered in various departments. We appointed those men as departmental safety inspectors. Each man was to stick on his own job and was to look out for conditions in his own room. He had certain duties which he was to do every day. For example, at the start of work in the morning those in rooms where there were fire escapes on the outside of the building were to see that the windows opening onto the fire escapes were in good order; also to see that all aisles in the department were properly cleared and no material piled in any way where it might fall, that being necessary because in some of those departments men work at night, and they might have left things in a different condition than the other men had left them the night before. Also, those inspectors were to investigate first any accident of any description reported by the plant dispensary as coming from that department; that is, minor accidents causing no loss of time, as well as those causing loss of time. That report goes in to the plant safety committee. Those men were also given a slight amount of authority, so that if, during the day, one of them saw anyone doing a job in a manner which he considered to be unsafe, he had a perfect right to leave his own job and go over and tell the other fellow, in a quiet, tactful way, that his methods could be changed. If a man left a box in an aisle, he could tell him to move it out of the aisle. The departmental inspectors are not allowed to go and inspect some other department; in no case can they move out of their own place. The latest figures I have from that particular plant show an accident rate of about six-tenths of 1 per cent per 100 employees per year, and as time goes on the percentage is decreasing all the time and the plant dispensary is not getting very much work. I think those cover the main points of the organization.

The CHAIRMAN. Mr. A. S. Regula, district chief engineer, Liberty Mutual Insurance Co., will discuss "Safety education."

SAFETY EDUCATION.

BY A. S. REGULA, DISTRICT CHIEF ENGINEER, LIBERTY MUTUAL INSURANCE CO.

Mr. Connelley has made mention of the safety week now being conducted in the city of New York. It might be of interest to mention the results of the first four days of that campaign. Up to 10 o'clock last night there had been reported in Greater New York a sum total of 11 fatalities through public accidents as against a record of 44 in the corresponding four days of last year.

How has Greater New York been able to accomplish in a period of four days such a remarkable achievement in accident reduction on the public streets of the city? It has been accomplished, first of all, by the education of the public to the absolute need of progressive and organized work toward the elimination of accidents on the streets of the city, and then by the introduction of the proper educational methods in the schools and the industrial plants of Greater New York, and in the various associations, merchants' associations, trades associations, and other bodies in the city, that can through their influence bring about a proper understanding of the need for this organized work. And so it is true that in our industrial work there is required, as Mr. Gernon has well indicated, first of all a proper understanding of the problem, and then through proper methods the bringing about of such measures as will effect a reduction in the accident frequency and severity rates in our industries.

There has been assigned to me the subject of the promotion of safety education in a plant. I am surprised, as I get around to a large number of plants day in and day out, to note (again referring to Mr. Gernon) the lack of proper understanding as to where such educational work should begin and how it should be carried through. I believe we are all convinced that the time that the safety idea should be implanted in the minds of our employees is at the time that they are first taken on the job. It is the problem of the education of the new employee. As I say, it is surprising to note that even to-day the general practice throughout most of our industrial plants is to accept the worker just as we have in the past. He is hired, he is sent to a department, he is given a job, and then he is left to his own resources with reference to the prevention of possible accidents to himself and to his fellow employees.

However, there are some enlightened employers who have given particular attention to and made a particular study of the problem of so educating the new employee that when he goes to work in his particular department he will have some understanding of the hazards of the work and of the proper practices he must follow in order to prevent possible injury.

Of course, we have a dual problem to deal with. We have the problem of the education of the employee in the larger plant and that of the education of the employer in the smaller plant. The method of approach, the method of attack, is very essential of course. In a large plant we generally have well-organized employment and safety departments. You will find in most of these plants a large sign reading about as follows: "To those seeking employment: Unless you are willing to be careful in your everyday work, do not ask for employment."

You can readily sense the psychological effect of a sign of that nature on the man about to apply for employment. He is given to understand that safety is a matter of consideration in that plant, and that unless he as an individual is prepared to cooperate in the safety work that is being done in the plant, he is not wanted.

We will assume that he is taken on. The well-organized safety department then takes the new employee, tells him something of the safety work being done in the plant, acquaints him with plant hazards generally, and then, perhaps, gives him a rule book and points out to him the specific rules and regulations that he is expected to follow in his everyday work. After that perhaps very brief introduction he is taken personally by some member of the employment and safety department from the gate along the usual route from the plant entrance to the department in which he is to be employed. On the way any unusual plant hazards are pointed out to him. The electrical hazards, the lighting system, and anything that is inherently hazardous in the plant itself along the route to his work are very definitely pointed out. He is, perhaps, then led to a lecture room, where by means of moving pictures and stereopticon views he is further acquainted with general plant and departmental hazards, after which he is taken directly to the department in which he is to work. There, instead of being left to shift for himself as he has been in the past, he is introduced personally to his foreman, and it is then the duty of the foreman to educate him further in the departmental problems, the departmental hazards, and the hazards of the specific work he is to perform. That, briefly, is the line of education that is followed in a large number of the larger industrial plants to-day.

In the smaller plant, of course, the problem is essentially the same but approached in a different manner, perhaps through more direct contact of the employing head, the foreman of the department, and the employee. The smaller plant perhaps has the advantage of the larger plant in so far as the employer and foremen are closer to their men, and in that way are able more definitely to control the particular problems in their departments.

Fundamentally, though, this whole matter of safety education and safety promotion in the plant is nothing more nor less than a big advertising and selling proposition. We have a certain thing we want to sell. It is the idea of safety, and it is that proposition we are trying to put across to our employees.

In planning our campaign, in planning the means by which we shall reach the employee, we might well follow in the footsteps of the large companies that through organized advertising campaigns are selling some commodity. We are selling an idea. The plant is

selling a commodity. As we all know, in organizing a selling campaign the matter of advertising is given very definite study and a great deal of attention is paid to detail. There are certain mediums that are used in a selling campaign—newspapers, magazines, and other forms—and in those mediums particular attention is paid to certain very definite things, such as the location and the wording of the subject matter of the advertisement. And so it is in our safety work. We have very definite mediums. We have the bulletin board and bulletins. We have plant safety magazines. We have safety rallies. We have pay envelope inserts. We have safety calendars. There are any number of mediums that might be utilized in selling this idea of safety.

The matter of the medium having been decided upon by an advertising manager, there is the question of the location in the magazine or newspaper of the particular advertisement that is being utilized. In our safety work let us take the safety bulletin board as the medium. We have, then, the question of location of that bulletin board in order to put across our proposition. It is surprising as we go through many of our plants to note bulletin boards or bulletins posted on dirty walls, in inaccessible places, on doors of lockers, etc.; they are posted in places where it is almost impossible for the employee to derive any educational value whatever from the bulletins. So that after the bulletin board has been decided upon as a medium, the location of the board so that it will function in an educational way is of prime importance.

Now, as to the bulletin itself. Lordyle Scott, in his "Psychology of Advertising," has laid down four fundamental principles that guide the advertising man—repetition of the advertisement, intensity of reading matter, the principle of association, and, finally, ingenuity. In our safety work we also fall back on those four fundamental principles. The question of repetition, of course, is something that we have constantly before us. If it is a matter of failure of employees properly to report injuries at the time of occurrence, the constant repetition of pertinent bulletins drives home the idea that accidents must be reported immediately after occurrence, so as materially to reduce possible infections.

The second principle, intensity, is perhaps resorted to in our safety work more directly through the medium of gruesome bulletins. Personally I do not advocate the gruesome bulletin for universal use, but I do feel that it has a very definite and important place in our educational work. The biggest problem that we have is to put across the idea of the immediate treatment of minor injuries, and that infection and blood poisoning frequently result from failure to report such injuries. In attacking that problem I know of no bulletin that has been more effective than the very gruesome bulletin gotten out by the National Safety Council a few years ago showing in all of its gruesomeness a life-size arm that had sticking into it the drains that are used wherever blood poisoning has developed. It was a very gruesome bulletin, rather hard to look at for some folks, but it did put the proposition across. That is an effort to intensify the idea of that problem in the plant, and it will get across at times.

The principle of association is one that we are constantly using. We are associating the accident hazards and the possibility of re-

sulting accident in one plant with the same possibility in another. A certain unsafe condition which has caused an accident in one plant is likely to cause an accident in another, and it is by means of photographs of the particular practice or the particular condition that has resulted in an accident, and educating by means of that association that most of our bulletins present this fact.

The matter of ingenuity is something to which we should always have recourse. There are many simple bulletins that are ingenious. I have in mind a bulletin prepared by the DuPont Co. several years ago. It was the practice of that company to award to each of its departments without a lost-time accident for a certain period a large bulletin board bearing the picture of a rooster and a nest, and across the top of it simply the legend, "Something to crow about."

Now, that was ingenious. It got across. It not only stimulated interest but also brought into play the competitive idea. The several departments would compete for the bulletin board, which would be posted during the ensuing month in the department with the best accident record. When won, it was something to crow about, and so the employees were particularly interested in the competitive campaign. If by chance the same department won the bulletin board for a second month a hen with an egg was put on the board, and then there was something more to crow about. It was very ingenious. The accident score boards, the accident clocks you have seen in so many plants, are all ingenious methods of putting across this message of safety education in the plant.

There are other mediums besides that of the bulletin board and its bulletins—the safety rally of employees, with moving pictures. We all recognize that we are coming to the point where visual education will be the order of the day. Youngsters in school are being taught psychology, physiology, biology, and all the other "ologies" by means of moving pictures. That is what we are endeavoring to do in our safety work. Unfortunately we are somewhat handicapped, the number of films that are available being very few in number, but there have been prepared some very effective films which are constantly being used by many companies to educate their employees and to stimulate a greater interest in accident prevention.

Plant magazines are being utilized to a very great extent. They can do very effective work in accident prevention, provided they are not of that type of plant magazine, unfortunately rather prevalent, that consists of a few pages devoted to plant gossip, with no articles of real interest for the employees. The plant magazine can well be utilized, but it must be given a great deal of thought and attention on the part of all executives, and those who are responsible for its publication must see to it that articles of timely interest appear.

Rule books are constantly being used, but unfortunately in the past the rule books have not been prepared so as to bring about a proper understanding, not only on the part of the employees but also on the part of the foremen themselves, as to what is expected of them with reference to the enforcement of the rules that have been promulgated.

The practice in the past has been somewhat as follows: It is decided to publish a rule book for a particular plant, and the general manager and the superintendent get together, and from their understanding of plant hazards they publish a rule book. This rule book is issued to the employees and to the foremen who are expected to

enforce the rules and regulations. It is just at that point that the greatest difficulty arises. There may be certain rules in the book that the foremen are not entirely in sympathy with and which they believe can not be enforced. As you know, if a plant has a book of rules, all of which are not strictly and rigidly enforced in everyday operating conditions it can not have the proper atmosphere for safety. So, if a rule book is to be published, the only proper way of preparing that rule book is to call into consultation and conference all those who will be directly concerned with the enforcement of the rules that are promulgated. Call into conference the foremen and the superintendents, the gang boss and the straw boss, and all the rest of them, and let them indicate the particular plant practices for which rules should be written. Then from the very outset you can be assured that you will have their cooperation in the enforcement of the rules, because if they draw up a rule, naturally they must be convinced that the rule is enforceable, and so they will enforce it.

Pay envelopes are also utilized. This method may take the form either of a safety precept or slogan printed on the outside of the envelop itself, or of an inclosure bearing a certain slogan on precaution for safety of the employees.

The whole matter of safety education, the fundamentals of safety education, may perhaps best be summed up in a few words: It requires a definite understanding of the problem in the plant, a definite understanding and realization of the class of men to be dealt with in the particular plant, and the devising of such ways and means as will effectively and continuously bring before the employees those unsafe practices that are constantly indulged in and that may result in injury.

The CHAIRMAN. We will hear from Mr. E. Leavenworth Elliott, consulting engineer of the Cooper-Hewitt Electric Co., who will read his paper on "Industrial lighting as an accident hazard."

INDUSTRIAL LIGHTING AS AN ACCIDENT HAZARD.

BY E. LEAVENWORTH ELLIOTT, CONSULTING ENGINEER, COOPER-HEWITT ELECTRIC CO.

Electric light is the most far-reaching in its effects on industry and the social conditions connected therewith of any invention since the advent of the steam engine. "The night cometh when no man can work" has ceased to be literally true. The sun still rules the day, as on the first morn, but the electric light rules the night. To be more specific the thesis that I propose to discuss is this:

Electric light has made it possible to carry on every kind of industrial operation with the same facility and efficiency during the entire 24-hour day.

Taking eight hours as the standard workday—which is an inevitable outcome of the present trend toward "social justice"—this makes it possible to secure three times the output from the investment in plant and equipment, and thus establishes a new basis for estimating a fair return upon capital. It also reduces in the same proportion the material and labor involved in the construction of plant and equipment, which can then be diverted to other uses. These two general statements indicate the broad economic scope of the proposition.

Considering the present large use of artificial light in industry, and the constant extension of night operation, the question of its effect upon the conservation of human energy becomes increasingly important. Is the electrically lighted workshop as safe in respect to physical well-being, general health, and mental soundness, as the same shop by daylight? To this question I am prepared to give a positive, categorical answer: Yes; if the proper light sources are selected and used with a full understanding of all the conditions involved.

Safety, in its broadest sense, means protecting the worker against bodily injury, impairment of physical health, and depression of the mental state. The present civilization surpasses all that have gone before in this one respect of recognizing the right of every worker to maintain a sound mind in a whole and sound body. This, among the inalienable rights of man, is not only modern but recent. It is the latest discovery in applied sociology. Factory lighting, like all other working facilities, must conform to the highest standard with respect to this code of safety. Let us consider each of these three aspects of safety in relation to artificial illumination.

The unexpected occurrence of injury to a workman constitutes what is known as an industrial accident. Such an occurrence involves an external physical source of injury, and a condition of the human machine which allows it to come in contact with such source. It follows that there are two general methods of preventing accidents: Removing or guarding the source of danger and keeping the human machine constantly in such condition that it will protect itself

against injury. The first of these methods is wholly a matter of mechanics, and in any given case is therefore a fixed condition. But what a human being will do under any particular combination of circumstances can never be foretold. The best that can be done is to keep the human machine in the best possible working condition and to trust in Providence for the rest.

The human machine has an elaborate system of interlocking controls for use in preventing injuries. This system is actuated by the seven "senses"—sight, hearing, touch, smell, taste, temperature, and muscular. Psychologists estimate that 70 per cent of all muscular action is guided by the sense of sight. It is fair to assume that this ratio represents the part which the eye plays in giving warning of danger and inferentially shows the importance of adequate lighting.

The eye may be prevented from giving sufficient warning of danger when—

There is not sufficient light to distinguish objects;

There is a spot in the visual field so bright as to obscure objects in the surrounding field;

There is such a large volume of light flooding the eye as to cause undue fatigue;

There are light sources so placed as to throw light into the eye without its being properly directed by the lens;

There are shadows so dark as to obscure objects within them, or so sharp as to confuse the shadow with the object.

Insufficient light has undoubtedly been the cause of the large majority of accidents heretofore attributed to artificial lighting. In such cases it has not been lack of light on the work, but in passageways, halls, stairways, and other places not in continuous use, that has produced the casualties. Such conditions can be charged only to gross negligence or parsimony. Electric light is now actually cheaper than daylight for industrial use. It has been found by experience in one of the largest automobile works that it costs more to keep the windows clean and in repair than it does to supply electric light; and the same conclusion has been arrived at by construction engineers from theoretical calculations. There is therefore no sufficient reason why the accident hazard from inadequate lighting should be any greater with artificial than with natural light.

The statutory regulations that have been enacted in many of the States take particular cognizance of this fact, and specify certain minimum intensities of illumination for various factory conditions. Such regulations are subject to the usual difficulties of meeting all possible contingencies. Intensity of illumination measured on some theoretical plane is not the only factor in determining the adequacy of the lighting, as we shall see later.

What is "adequate lighting" in any given case? The answer will depend upon whether the accident hazard or the efficiency of the workman is the basis of judgment. An illumination that reveals all objects that afford possible sources of danger with ample clarity for safety may be by no means sufficient to enable the workman to turn out his maximum product. Herein lies the difficulty of specific regulations. The States undoubtedly have the right under the Federal Constitution to enact laws to promote the general welfare; but this hardly extends to the compulsory practice of thrift. Whether the workman produces much or little is no concern of the State, so long

as his health and safety are not jeopardized—at least, our growing paternalism has not yet reached out this far.

In determining the intensity requisite for safety two factors have been taken into account by those responsible for the decision: The ability of the eye readily to distinguish sources of danger, and to perform its work without undue fatigue. The line between these two conditions is mostly imaginary at the present time, accurate knowledge on the subject being too meager for anything but a good Yankee guess. "Eyestrain," which is a more impressive term than eye fatigue, is somewhat of a bogey in the common treatment of the subject. Where real eyestrain exists the chances are ten to one that it is the result of defective vision due to refractive errors in the eye.

There is a popular impression in regard to fatigue as a contributing cause of accidents that does not altogether square with the facts. In a large rubber works, making a variety of articles, in which an unusually careful record of accidents is kept, it turns out that the majority of casualties occur during the first hour in the morning and in the mid-afternoon hour. In the first of these periods fatigue is at a minimum, and in the second it is surely not at a maximum. While fatigue generally slows down production, it apparently does not increase the accident hazard, at least in all cases.

Setting down a particular intensity of illumination as a minimum by which a certain class of labor can be performed without increasing the accident hazard through eye fatigue is thus a simple game of chance. Establishing a safe minimum for directly avoiding sources of danger is another matter. In view of the cheapness of light it is imposing no unreasonable burden upon industry to require from a quarter to a half foot candle, according to conditions. This is much higher than the specifications of most existing State codes.

A spot of light in the field of vision that is so bright that it dazzles the eye, thus making it impossible to see objects beyond it, or in the field immediately surrounding it, produces the effect commonly known as "glare." So much has been said about glare since the introduction of the electric light, and particularly since the latest forms of metal filament lamps have come into use, that the casual observer might well conclude that this is an incurable evil inherent in all electric illumination. But such is not the case; it is a simple matter to produce artificial illumination quite as free from glare as indoor daylight. In factory lighting the problem is solved by the right choice of the form of light source to be used. To the popular mind "light is light"—just as "pigs is pigs." The most important fact to know about industrial lighting is that there are different *kinds* of light; that is, that lights differing fundamentally in their nature are equally available for purposes of general illumination. The luminous filament of an incandescent electric lamp is of dazzling brilliancy. A good part of "illuminating engineering" has been devoted to the design and use of accessory apparatus for reducing this evil to its mildest form. If you insist on drinking water containing typhoid germs you will do well to be inoculated, so that the disease will not be sufficiently virulent to cause death; but the better course is to choose a drinking water free from dangerous germs. So the simplest and surest way to avoid glare in factory lighting is to use a light source which is entirely

glare-free, without the use of any accessory. This requires nothing more than the recognition of the different kinds of light and the selection of the kind that does not produce glare.

All sources of artificial light, with one exception, produce their light in the same way, viz, by heating a solid up to the temperature at which it emits light. The light thus produced is all of the same general character, its rays containing "all the colors of the rainbow," like sunlight. The one exception mentioned is the mercury vapor lamp, invented by the late Peter Cooper Hewitt. The method of producing light in this lamp is fundamentally different. Instead of heating a solid to the point of incandescence by the passage of an electric current through it, a glass tube some 4 feet long and an inch in diameter is filled with vaporized mercury, which is rendered incandescent by the direct action of electrons upon the molecules of mercury. The mercury vapor lamp is thus the only commercial light source in which the light is produced by the direct action of the electricity; in all other electric lamps the light is really a by-product of heat produced by overcoming electrical resistance. It is thus the nearest approach to "cold light" that science has produced.

Mercury vapor light is as different in its character as it is in its method of production. Instead of containing all of the colors it contains only four—yellow, green, blue, and violet. Of these the yellow produces 90 per cent of the visual effect. The light is thus nearly monochromatic.

The mercury vapor lamp is glare-free for two reasons: The brightness of the luminous surface—the glass tube—is not sufficiently intense to dazzle the eye; and the absence of the red and orange rays makes the light much milder in its action on the visual organism.

The first of these reasons will be appreciated by comparing the surface brightness ("intrinsic brilliancy") of the different types of electric lamps. The brightness is measured by the candlepower intensity of the light emitted by 1 square inch of surface.

Light source:	Candlepower per square inch.
Carbon arc.....	81,000.0
Tungsten filament of nitrogen lamp.....	2,800.0
Tungsten filament of vacuum lamp.....	1,000.0
Frosted bulb of nitrogen lamp.....	49.5
Enamelled bulb of nitrogen lamp.....	14.4
Frosted bulb of vacuum lamp.....	12.5
White glass bulb of vacuum lamp.....	10.8
Cooper Hewitt (mercury vapor) tube.....	15.0

From this it will be seen that the brightness of the mercury vapor tube is practically the same as that of a nitrogen tungsten lamp (the kind used in factory lighting) when the bulb is coated with white enamel. This explains the fact that the mercury lamp can not dazzle the eye, that is, produce an instantaneous blinding effect which incapacitates it for seeing objects in the immediately surrounding field.

Glare, however, is not necessarily an instantaneous effect. The most troublesome glare produces a cumulative effect, which progressively reduces visual efficiency. With this kind of glare, which is one of the chief faults of ordinary artificial lighting, the quality of the light used is the determining factor. On this point we can do no better than to quote the admirably clear and terse explanation

given by Dr. C. P. Steinmetz, in his book on Radiation, Light, and Illumination:

Radiation is a form of energy, and when intercepted and absorbed disappears as radiation by conversion into another form of energy, usually heat. Thus, the light which enters the eye is converted into heat; and if its power is considerable it may be harmful or even destructive, causing inflammation or burns. This harmful effect of excessive radiation is not incident to any particular frequency, but is inherent in radiation as a form of energy. It is, therefore, greatest for the same physiological effect, that is, the same amount of visibility, for these frequencies of light which have the lowest visibility or highest power equivalent, that is, for the red and the violet, and least for the green and the yellow. Hence, green and yellowish light are the most harmless, the least irritating to the eye, as they represent the least power. We feel this effect and express it by speaking of the green light as "cold light" and of the red and orange light as "hot" or "warm." The harmful effect of working very much under artificial illumination is largely due to this energy effect, incident to the large amount of orange, red, and especially ultra-red in the radiation of the incandescent bodies used for illuminants, and this does not exist with "cold light," as the light of the mercury lamp.

From the foregoing explanations the statement that the solution of the glare problem is a simple matter of using the right kind of lamp will be readily understood. There remains only to add that practical experience in factory use fully sustains the theoretical conclusion, that it is possible to produce artificial illumination as free from glare as natural indoor lighting.

Glare, especially of the dazzling sort, undoubtedly increases the accident hazard; to just what extent it is of course impossible to say. But any increase from this source, either directly or indirectly, is not only unnecessary but inexcusable.

An excessive volume of light entering the eye will also produce cumulative glare. Clear sunshine in the open furnishes the best example. The glass walls now extensively used in factory construction constitute the principal source of such glare in indoor lighting. Natural light is thus the chief offender in this respect. In artificial lighting the high-power incandescent lamps, even when diffusing accessories are used, will produce such glare when too near the eye, as frequently happens in factory buildings having fairly low ceilings.

Cumulative glare of this kind is undoubtedly the result of excessive radiant energy acting upon the sensitive surface (retina) of the eye, as Doctor Steinmetz has explained. Yellow and green rays produce a greater visual effect for a given amount of energy than any other rays in the spectrum; that is to say, the eye sees with less power working upon it under yellow or green light than with any other colored light, or with so-called white light, which is a compound of all the colors. Careful psychological investigation¹ has shown that for eye work requiring the maximum focal power (as for reading print, such as this page), all other conditions being of the most favorable character, the relative intensities of different kinds of light required for equal visual efficiency are as follows:

<i>Daylight.</i>	<i>Tungsten light.</i>	<i>Mercury vapor light.</i>
20-foot candles.	Unequal at 50-foot candles.	6-foot candles.
10-foot candles.	Unequal at 50-foot candles.	2-foot candles.
5-foot candles.	9-foot candles.	1-foot candle.

¹ American Journal of Psychology, January, 1922. "Comparative cognitive reaction time with lights of different spectral character and different intensities of illumination," by Martha Elliott.

This brings out the remarkable fact that mercury vapor light surpasses daylight in its ability to produce continuous visual action. The factory properly lighted artificially therefore offers no more liability to cumulative glare than the same factory by daylight; in fact, it offers no liability of this kind whatever; consequently the accident hazard from this source is a minimum.

When there are light sources in the extreme outer limits of the visual field, as at the sides or overhead, they throw a certain amount of light into the eye which is not directed by the lens. This is exactly similar in effect to a leaky bellows in a camera—it produces a more or less foggy picture. This condition is commonly considered as a form of glare, and is of the cumulative order. Like dazzling glare, it is less as the light sources are farther from the eye. This indicates the proper remedy, which is the use of the smallest possible number of light sources, placed as far as possible from the eye, which of course means the use of large units. With the proper selection and placing of the light sources, annoyance from scattered light in the eye can be fully overcome. Daylighted rooms are not always free from this trouble. If they are narrow, the light from both sides reaches the eye at all angles; and windows in adjacent walls of a corner will produce a like effect.

The one quality of daylight that it has been most difficult to equal, or even to approach, with electric light, is its perfect diffusion. In a well-lighted room daylight produces no troublesome or dangerous shadows. It is a familiar fact that the smaller and brighter the light source the sharper and darker the shadows that it casts. With natural light the windows are the light sources, and their area compared with the area of the artificial light sources gives a sufficient explanation of the freedom from obscure shadows in daylighted rooms.

Shadows, however, are absolutely essential to the discrimination of objects. Form is perceived by differences in light and shade. There are many cases in factory lighting where a strong light from a single direction is necessary for the best visual effect. In these cases an electric lamp, which can be placed so as to give the exact direction and intensity of light desired, is manifestly superior to diffuse daylight.

The mercury vapor lamp, by reason of its mechanical construction and the peculiar quality of its light, affords a comparatively easy solution of the shadow problem. The large dimensions of the luminous surface—4 feet by 1 inch—prevents any objectional sharpness; while the much higher visual power of the light renders objects visible at very low intensities, and thus in effect does away with obscurity in the shadows. This is one of the most striking characteristics of mercury vapor illumination.

Shadows probably constitute the largest element of accident hazard in artificial illumination. They may be the direct cause of accidents in two ways—by concealing a source of danger, and by confusing an object with its shadow. Both of these possible causes of accident can be reduced to the daylight average by the proper selection and placing of electric lamps, as indicated.

So much for artificial lighting as a direct cause of industrial accidents. What of it as an indirect or contributory cause? When we leave the road of definitely assignable direct cause and start in

search of contributory causes, we at once find ourselves in the wilderness. Contributory causes are the result of imperfect functioning of the human machine, which we have long since been told is "fearfully and wonderfully made." The close relation between the absence-from-sickness curve and the total-accident curve can hardly be an unrelated coincidence. The state of general health undoubtedly affects the casualty rate. In recent years a great deal has been heard of the dangers of eyestrain, and electric lighting has been charged, on suspicion, with being an accessory before the fact. A general discussion of this subject is far beyond the limits of this paper, and a brief summary must therefore suffice. Eyestrain, like any other "strain," is an excessive muscular fatigue. The optical apparatus of the eye is a moving-picture camera, which has to be directed toward the objects to be seen, and properly focused. The movements necessary in its operation are produced by muscles provided for the purpose. If these muscles are overworked they give warning through the sense of discomfort or pain. When these sensations arise they are familiarly called "eyestrain." Under ordinary conditions, if allowed to rest, the muscles recover. If the fatigue is sufficiently severe and protracted, however, it may result in a condition of disease, or of permanent injury, either of the visual organs or other functions of the body. The cases are so rare as to be negligible in which eyestrain caused by improper lighting has resulted in anything more serious than headache or nausea. The serious effects of eyestrain—and they may be very serious indeed—are the result of defective optical apparatus in the eye, which in nearly all cases can be fully corrected by the use of glasses. Poor lighting will unquestionably cause eye fatigue, which will reduce the speed of vision—for time is an element in vision—and eventually necessitate a complete cessation of the function, in order that the organs may recuperate. Its economic importance is obvious; there is no more exaggerated case of "saving at the spigot and wasting at the bung" in manufacturing economics than the failure to provide an adequate artificial illumination. Adequate artificial illumination means an illumination equal in all respects to the best daylight, for the purposes used. This is the standard, and it is possible of 100 per cent fulfillment, as has been proven in many actual cases. Any menace to the health of the workman, specific or general, on account of artificial light can result only from ignorance or negligence.

1 We come now to the still more speculative proposition—the effect of artificial lighting upon the mental attitude, or "feeling tone," as the psychologists would say. We can sufficiently define this as a feeling either of cheerfulness or of gloom. That proper artificial lighting is not gloomy is amply shown by the fact that by far the larger part of social functions—banquets, balls, receptions, etc., are purposely conducted by artificial light. Light is the emblem of life and activity; gloom is almost synonymous with darkness. A sufficiently lighted factory is no more gloomy than a sufficiently lighted parlor or ballroom. There is no occasion for the night worker to suffer depression of spirits by reason of the light; and in fact this does not occur.

To what extent is artificial lighting a direct or contributory cause of industrial accidents? According to Mr. R. E. Simpson,² of the Travelers Insurance Co., who has given much attention to the question, "there is a widespread belief prevalent to-day [1915] that there are approximately 500,000 avoidable accidents per year in this country, and that about one-quarter of this number are caused directly or indirectly by improper lighting facilities." In a paper presented to the same society in 1918 he states that "there is some foundation for assuming that 18 per cent of our industrial accidents are due to defects in the lighting installation." In a still later paper (1920) he assumes that 15 per cent of accidents are due to this cause. The reduction is attributed to a better understanding of the importance of proper lighting and of the means of securing it. If his assumptions and conclusions are correct, there has been a very decided progress within the past decade, but still much to be done before this wholly unnecessary contribution to accidents is eliminated.

Statistics of this kind, however, must not be taken too literally. For example, the first attempt to ascertain the degree of responsibility of lighting consisted in plotting the occurrence of accidents by months, and showing that the rate varied very closely with the hours in which artificial light is used; i. e., it was greatest in December and January and least in June and July. The inference seemed plain enough until it was later shown that the sickness rate also varied in the same way. The question then arises, Is the sickness rate dependent upon artificial lighting, or is the accident rate dependent upon the condition of general health?

But speculation of this kind is a futile occupation. The one unequivocal and important fact is this: Artificial lighting, when properly carried out, will produce no increase in the accident hazard over that existing in daylight, other conditions being the same.

DISCUSSION.

The CHAIRMAN. We are greatly indebted to Mr. Elliott for a number of very excellent lectures on factory illumination which he has delivered in New York. We have also been greatly indebted to the Illuminating Engineering Society for the establishment of illuminating standards.

Mr. MORLEY. Might I ask Mr. Elliott a question? Has data ever been compiled showing that more accidents really do occur during that period of the day when artificial lighting is needed than at other periods?

Some time ago my office examined a fairly large number of accident reports on which the time of the accident was given, but were unable to get a satisfactory answer to that question. We were also unable to distinguish any appreciable difference in the number of accidents occurring in the summer months, when artificial light is not required, as against other periods of the year when artificial light is used. You quote from statements made by Mr. R. E. Simp-

² Proceedings, Illuminating Engineering Society, 1915. "Illumination and one year's accidents," by R. E. Simpson.

son in your paper. I wonder whether you have any other information on that subject.

Mr. ELLIOTT. While there is quite a mass of statistics with relation to artificial lighting and accidents, it is difficult to draw a final conclusion from them. For instance, several years ago in England a parliamentary commission was appointed which made a very thorough investigation, and attempted to draw some conclusion of value from the number of accidents occurring and a comparison of the time of their occurrence. But in drawing its conclusions it made so many assumptions that were questionable that after all they were of very little value.

In the statistics of Mr. Simpson to which I referred in my paper he figures that 23 per cent of all industrial accidents are due to bad lighting. In making up those statistics, he charged every accident that occurred in a hallway or stairway to bad lighting. That was rather a broad assumption, that when a man slipped on a loose stair and fell down, it was due to bad lighting.

The first statistics of this kind, coming out, I think, in 1920, were by Mr. Calder, the mechanical engineer of the Remington Typewriter Co., and showed that, plotted by months, the accident rate corresponded pretty well with the length of the daylight day. In other words, November and December had the maximum number of accidents. That was generally accepted as proof for several years. Recently the accident department of one of the large rubber companies in Massachusetts, which keeps a very accurate record of its accidents, being a self-insurer, revealed some new light on the subject. It turned out that its sickness record, absence because of sickness, follows the same curve.

Now, what is the answer? Did the artificial lighting produce the sickness? The statistics are confusing. In that same plant the curve of accidents by hours brings out the very astonishing thing to me that the peak of accidents does not occur at the end of the day, when it is dark or when there is fatigue; it is at the very best part of the day, both physically and psychologically—the middle or forenoon.

Statistics gotten out on an examination of the steel industry brought out the same thing. The matter of fatigue causing accidents has been accepted offhand. I saw a popular article in the last issue of the American Magazine, which said that when you get tired accidents occur, but the statistics do not show anything of the kind.

In another plant, a cotton mill, which runs double shifts (one eight-hour shift by artificial light and the other by daylight) 8 per cent of all the accidents happened in one department in the afternoon. What was the answer to that? The answer was that in that particular department the employees had an hour for lunch, while in the other departments they were having intermittent labor—they were not allowed any lunch hour; they simply ate a little lunch while they were working. And the drowsiness from their nerves—it was the pneumogastric nerve that was doing the trick and not the lighting. So that that charge of high accident rates due to lighting, when you analyze the statistics carefully, is not very well borne out.

Mr. GERNON. Following one point of Mr. Elliott's talk, in New York we have made 40,000 actual tests of lighting, and we find that the manufacturer has too much glare. We have done a lot to eliminate the glare, but it is still there. The lights may not be properly adjusted to the work, but the actual fact is that the manufacturer is wasting money in a light bill. That is the result of our experience under the lighting code.

Mr. ELLIOTT. Just a word on that. I am quite ready to believe that to be the case in a lot of individual cases. As a result of the propaganda of those interested in selling lighting apparatus, it has been assumed that the more light you have the better. That is not at all the case. In a series of very careful psychological experiments that we conducted a couple of years ago we found that for close eye work, like reading, where you have to have a sharp focus, 10-foot candles are all you need. That was the limit. The curve began to run down a little after that. You see frequently in literature that it is necessary to have 20 or 40 or 50, but you do not need anything of the kind in most cases.

Mr. McSHANE. Of course, we are all interested to know that the cost of electric light is less than sunlight, and, of course, we have the evidence in the cost of washing Henry Ford's windows as compared with his electric-light bill—as a matter of civic pride, Mr. Ford might wash his windows anyhow. There is another element that enters into this question, and that is the welfare of the employee. I was wondering whether there has been any scientific study made as to the effect of electric lights, when properly installed, upon the sight as compared with the sunlight when the room is properly lighted.

Mr. ELLIOTT. I do not know of any investigations of that kind that would give an answer to your question.

Mr. McSHANE. Would you say, as an engineer, that it was a proper field for study?

Mr. ELLIOTT. Undoubtedly. I have long wanted to make such a study and expect to. That is one of the things that has not been investigated.

The CHAIRMAN. Is there any more discussion on this paper?

Mr. LLOYD. I should not like the impression that a factory or workshop can be easily overlighted to get by without more questioning. It is easy to overlight any working space in one sense; that is, it can be overlighted, in the sense of glare, if the lighting is not properly done. However, assuming that the lighting is well done, it seems to me that it is almost impossible to overlight the working space from any of several viewpoints that are of importance.

Considering the viewpoint of efficiency of work in the factory, some experiments were carried out in Chicago some years ago and it was demonstrated that there is a greater output of better quality when the intensity of the light is several times higher than what is usually prescribed as a minimum in the well-known codes; that the increased expense is entirely overbalanced by the increased value of the product. So that from the standpoint of efficiency, at least in a great many lines of work, it has been established that it pays well to light with high intensities.

From the standpoint of the effect upon the individual, whether physiological or psychological, it would seem that the high intensity would be desirable. For instance, compare the intensities that we are used to in daylight—in other words, the intensities under which the human eye has been developed—and they are many times higher than are ordinarily used in artificial lighting.

When we consider the normal physiological condition for working as to the eye to be one with high intensity of light such as we have outdoors on a day like this, it has an advantage. The eye can see more accurately in high intensity light, for the reason that the eye is stopped down to high intensity, and the eye, being like any camera lens, an imperfect organ, does better work when it can be stopped down to a small opening. That is the condition under which it functions with high intensity. Also from the psychological standpoint the reaction that the light at high intensities has upon the cheerfulness and the mood of the individual must be regarded as an advantage over light at low intensity.

Mr. ELLIOTT. I should like to say just a word in regard to that. As to high intensity, we will have to define what we mean by high intensity. I am ready to admit that, compared with what we used to think of as high intensity, we can go a lot farther.

If you talk 10 or 12 foot candles to manufacturers, many of them will throw up their hands and think that you are getting way beyond anything they need, because they are used to thinking that 2-foot candles are enough. In those experiments in Chicago to which you referred, I think they went up to 25. If you are working with dark-colored goods, that is not a bit too high.

As to daylight, we must not get our ideas of daylight from outside light. You will not willingly read out in the sunlight. If you did you would find it very tiresome. Inside daylight in the ordinary building is not of a very high intensity, as I was surprised to find in that factory in Milwaukee where the artificial lighting was higher in intensity than the daylight.

The CHAIRMAN. We will now have a paper from Dr. S. Dana Hubbard, director of the bureau of public health education, Department of Health of the City of New York, on "Industrial sanitation."

INDUSTRIAL SANITATION.

BY S. DANA HUBBARD, M. D., DIRECTOR BUREAU OF PUBLIC HEALTH EDUCATION AND SUPERINTENDENT DIVISION OF INDUSTRIAL HYGIENE, OF NEW YORK CITY.

A modern up-to-date shop or factory is an institution suitably equipped, located, constructed, organized, managed, and personneled to supply scientifically, economically, efficiently, and unhindered any or all of the recognized parts of the commercial requirements of trade, with functioning facilities for replacing and training new employees, and showing others how production may be performed at the highest speed and in the safest and most economical and satisfactory manner.

A factory that fulfills this definition is the *ideal*.

To expand upon ideal working conditions is "a large order" and one considerably beyond the limits of this paper and the abilities of the speaker.

I will confine myself to *domestic conditions*, because it has been our experience in public-health work, to find that the opinion generally prevalent is that any "old place" which will meet legal requirements is good enough to work in. This is a great and costly error.

As the best home produces the best (healthiest) citizen, so will the best factory produce the best workman.

As the best home is where happiness and contentment are found, so the best factory is one where workers may be both happy and contented.

Happiness is not usually found in hovels, nor is contentment found in factories which approach hovel conditions. Show me the factory with numerous separations from the pay roll and it is not difficult for an investigator to find unfair, unpleasant, and unsatisfactory conditions generally in that establishment. Correct these undesirable conditions and expenses are reduced and production improved correspondingly.

To-day industries are more or less centralized, and by reason of this we find that production is carried on in large factories with many workers. Such a condition causes it to become an increasingly difficult task to safeguard the health, safety, and comfort of these people.

I visited a plant in this city the other day and was astonished to find that the foreman of the factory did not understand English. I told him I was a stranger in the city and wanted to look over his factory, and he sent me to a messenger boy to tell him what I had to say, so that boy could tell it to him. Is it any wonder that the United States Post Office publishes its postal notices in about 40 different languages, when the foreman of a factory in the city of Baltimore can not understand you?

It seems to me that we must Americanize more. If we are going to have better health and longer life and safer factories we must produce Americans, and Americans must speak English.

Where the plant of a business which has been established many years has been permitted to deteriorate, it is extremely difficult to bring that establishment up to date and to make it not only a safe place in which to work but also one that is comfortable and healthy. To do this by force of statute makes owners unhappy and vindictive. Employers forced to comply with reasonable statutes for the protection of workers either do only that which the law compels or resort to some chicanery to circumvent the law. Workmen becoming informed of health and safety requirements and not getting them, instead of being made zealous, loyal, happy workmen, are turned into Bolsheviks and openly or covertly oppose managements.

Managements which try to make their factories healthy places for workers are "*rare birds*"; some folks say "there ain't no such animal."

With this view I most respectfully desire to disagree, for the specific reason that whenever and wherever insanitary conditions are brought to light and the right party seen and the matter properly explained in a friendly light it is the exception to find an adverse reaction.

Lack of information, ignorance, and many other reasons may be given for failure to meet the requirements of sanitation in factory work, but "dumb-bell" stupidity and human hostile antagonism can not be furnished as explaining reasons for noncompliance.

In four years' work in industrial hygiene in a large city, with an immense number of factories and a large number of workers, it has never been necessary to bring an employer into court to secure compliance with a health order. We have found many stupidly uninformed as to physics and health requirements, but when these matters have been brought to light and adequately explained and followed up, even to the use of threats to use the "big stick," it has been universally the custom to get compliance.

On the other hand, as there are two horns to a dilemma there are necessarily two sides to a question. The employer has his side and there is an employees' side. The employees are not always free from blame and criticism. Here, too, working among a large number of foreign-speaking people, we find lack of information, as well as the following of habits which have been in existence from time immemorial, the reason for various insanitary practices.

If a man after finishing his lunch throws the wrapper on the floor or the ground to make trash and become a nuisance and his subordinates or associates see him do this, a practice is established that in time makes the best establishment insanitary.

If managements have rules and live up to them, employees soon learn the regulations and are easily made to follow the management's desires.

Take the simple matter of smoking. Nothing is more insanitary, unhealthy, or dangerous in factory work. I am not a rabid anti-smoker, but there is a time and a place for everything. Smoking is not necessary in our working establishments.

Let the managers and supervisors be seen smoking and throwing their cigar butts and dead matches carelessly about, and any observer—he does not need to be an alien—will likewise become more or less untidy in his habits.

Let the establishment be put in order and rules made that are fair and adequately supervised and lived up to, and it is but natural for them to be followed.

Here we call to mind an establishment which was burned out on three occasions—on one with loss of life. Antismoking rules were adopted at the suggestion of the speaker, and the factory and its toilets are not only clean—free from spittle—but the factory is a safe and comfortable place in which to work. This establishment for self-protection had to look into its insanitation; as a result of a trifling habit it had considerable loss; to-day, so far as regulation can make it, it is an ideal establishment.

But why have fire and unnecessary deaths to make one clean up? Why not use common sense and brains and be foresighted? Prevention is better than cure.

Another simple matter, since health can not be maintained without plenty of fresh air, and air is still *free*, why not give fair and adequate consideration to the ventilation of workrooms? In our opinion this is the first desideratum.

Many workers are positively afraid to have windows open; very many individuals believe an open window is a sure cause of colds. To-day medical science informs us that colds are due to germs planted in proper soil. Fresh air never killed anyone. Poor ventilation is a contributing cause to many diseases and to not a few deaths.

If there is plenty of fresh air and sunlight in a shop the danger of contracting disease—any disease—is greatly lessened. Fresh air tones up the system and reduces susceptibility to germ infection. Sunlight is a natural disinfectant and no germ can or will live under its rays. We here say let in the light. In the Good Book it was said years ago, "Let there be light." Then there was light. To-day, will our injunction be similarly obeyed? Alas, I fear that it will not.

Closed windows, in a shop with many workmen exhausting the oxygen and further vitiating the air by exhaling poisonous gases and various impurities as well as adding intestinal gases, makes some "closed-up shops" too stuffy and stifling for pigs, let alone human beings.

Avoid drafts, yes, by all means, but open the windows so that drafts will not be occasioned. It can be done, and in the interests of efficiency and economy it should be done.

The question of light—natural and artificial—in a shop is a serious question. Many shops have practically no light and in very many the lights are so placed as to make what should be good light a menace to the sight of the workers.

Glare is one of these conditions. Shadows are another. Rarely do we have to complain of too much light but frequently we do have to ask for more light. There are to-day light-testing machines, inexpensive and easily understood, as practical as a gas meter or thermometer. If the temperature is tested, and it always should be, why not test the light? It is just as essential to health and efficiency. Bad lighting causes eyestrain and strains cause inefficiency and disease.

The placing of the lights is another question that needs consideration. Lighting is a scientific study. Lighting engineers are to-day greatly aiding our public health problems by helping establishments economically and efficiently to light their shops.

Efficient housekeeping informs us that lights should be cleaned and kept so, and science tells us that dirty lights are inefficient and expensive. Keep your lights clean.

Toilets and lavatories are places to which health officers give considerable consideration and not without good results.

An establishment that had a plumbing bill of something like \$900 per annum had this unnecessary expense cut 50 per cent by a health inspector's observation. The loss of time of employees—and there were 2,000 of them—was decreased 2 per cent without any expense by simply educating employees, and having a sanitary toilet squad established, with efficiency marks for promotion. Promotion means raise in pay. Hence it is an incentive.

It goes without saying that all factories should be provided with an adequate number of well-ventilated toilets. The toilet question is a serious one not only with health officials but with factory and industrial supervisors as well. It needs more attention.

Our regulations regarding toilets need standardizing. Many of our public toilets show the reaction of gross ignorance even among our most (apparently) aristocratic. The man who helps take care of these public necessities is the exception.

My professor of chemistry once jokingly took his class to the college toilet for an interesting experiment—it was to see if Croton water, the supply of the city, would dissolve match stems, cigarette butts, and stubs of cigars. He very dignifiedly had one of the seniors place a stub in the urinal, another a cigar end, and another a used cigarette; then he stood back, cautioned all to stand back and look sharp, after which he turned on the water and most interestingly observed the whirl of the flush. When it was all over he turned to the class and said: "Just as I had expected. It won't do it." "Won't do what?" one of the classmen asked. "Water will not dissolve tobacco." After that the college toilets were free of these articles and no further complaints of obstructed toilets came from our janitorial service.

The matter of rest rooms, lockers, washing-up places, open-air lunch quarters, and the like are matters which seriously concern numerous workers. All are agreed on the necessity, but on standards and regulations we probably differ widely. No locker should be in a workroom, and no factory should be without a locker system.

The matter of drinking water—an essential health requirement—has not been given sufficient attention. We watch this carefully, and the situation is much improved, but much time is lost by improperly placed drinking places in our shops.

Drinking water should always be provided, when possible, in containers so constructed that the ice chamber is separate from the water supply. Individual cups are also a desideratum. Workmen still believe in the comfort of the tin cup. It will take education to make our workers realize that disease and death lurk in common drinking utensils. In very many of our offices, shops, and factories the common drinking cup is still to be found. It is a menace.

Inclement weather makes the requirement of a recreation hall essential in many establishments. If women are employed, these places may be in connection with the rest room.

Where lunch rooms are not maintained by the management facilities should be afforded for those who bring their lunches to obtain

hot water and to have some place to eat outside of the shop or work-room. This is demanded positively in chemical establishments and should be required in all factories.

Employees should be educated regarding the sanitation of the lunch room, and a health squad should act as kitchen police in tidying up the place after the luncheon meal has been eaten. These places should not be the means of attracting mice, vermin, and such undesirables to an establishment.

The floors, stairways, passages, and other places about a factory or its yard should be kept always in order. Dry sweeping should never be permitted. Cleaning up should be done either before or after working hours, never during the work hour.

A first-aid station should be on every floor and a trained squad should be in charge, to be of service should an accident occur. It is time saving and death preventing.

In any event there should be more than one person versed in the use of first-aid appliance. All injuries, however slight, should be attended to, as we are informed that many factory accidents with serious results were at first simple and insignificant affairs. Neglect often causes loss of life; it is not exceptional in surgery.

Last but not least, *repairs*—parts of the shop out of order, worn or broken steps, exposed nails, damaged floors, broken windows, damaged ceilings, dirty paint, yard out of order—are important matters and should receive immediate attention. Nothing is so dangerous as an exposed nail; a broken step; an obstruction on a broken or damaged floor. These may appear to be trifling details, but when the reckoning is made we find that they have entered into the important events of factory life. Life is made up of small things. Bodies are made up of minute cells, and so health and happiness result from attention to these small things.

It is hoped that in estimating the things worth while and the things that count we have not gone amiss when we call attention to the conditions which, though small, are nearly always with us and which, if righted, will prevent illness, loss of time, and delayed production. Efficient production means economy; economy is thrift, which means success.

DISCUSSION.

The CHAIRMAN. I feel greatly indebted to Doctor Hubbard for the splendid discussion he has given us on industrial sanitation.

I have a great, deep, and lasting interest in the promotion of sanitary practices. I feel that all departments of labor can receive valuable assistance from a close cooperation with local and State boards of health. I have always thought that, and over in New Jersey we work very closely with the local health authorities. We have become convinced that in factory inspection work we are not going to make substantial and lasting progress in the establishment of sanitary conditions and workshops until we invoke all the educational agencies in the State and the community. We feel that workmen who are not taught in their youth certain fundamentals relating to life will not adopt safe or sanitary practices later in life.

The local boards of health have the opportunity of spreading the doctrine of sanitary practices in the school. They have a chance

to meet the young people and to enlighten them on certain things in connection with their persons and life and its responsibilities. If the young people who are in the schools are taught sanitary practices, when, later on in life, they go into the factories and become workmen or assume places of responsibility, they are apt to remember those lessons and we will not have so much complaint later on about machine guards being removed and toilet equipment being broken, and certainly we will not have so much difficulty getting workmen to use proper drinking utensils.

I am glad that Doctor Hubbard brought up that point of proper drinking utensils. Some years ago the University of Minnesota made an investigation into different types of drinking utensils, and they found that great risk was run in the use of the common drinking cup; that a number of types of vertical drinking fountains that were called sanitary were not sanitary at all; that they conveyed disease, that they were a positive menace to the health of persons using them, and that germ life was found in all cases of this old type of vertical drinking fountains investigated.

You find these vertical drinking fountains all over the country. You find them in railroad stations, public places, down by the seashore. Last summer I saw youngsters drinking from them in Ocean Grove, reaching down and sucking the water up with their lips in contact with these foul specimens of so-called sanitary public fountains. Not many people know this. The information has not been spread. Education on the question of proper drinking water has been incomplete. Not many people seem interested in it. But I venture the assertion that more real risk is run from the improper drinking utensil than from unguarded machinery in our industrial plants.

Dr. Thomas Darlington says that a man can go for about 40 days without food, but he can not go long without water—maybe three, or four, or five days—and water, just plain common drinking water, is the commonest thing in the world.

We do not know very much about the value of water. The doctors know it. There was a time when they would not give water to a typhoid patient; now they give plenty of water. In my early youth I was taught that it was very, very dangerous to drink water at mealtime, that serious complications were bound to follow from the use of water with our meals. But nowadays the medical authorities have taken a different stand, and they say that water has an important effect on the gastric juices; that without a plentiful supply of water at mealtimes, food can not be properly assimilated. Without water you can not keep down the bodily heat, the skin can not be moistened. When the body becomes warm, the pores open up, and the moisture flows over the surface of the skin and reduces the heat. Any man that has had any experience with a refrigerating plant knows that is a matter of good engineering. There is not much medicine to it, but still industrialists do not seem to know that.

Go through the factories or workshops or business places of any community, and I venture the assertion that in very few of them will you find an adequate supply of water of good quality. Boards of health have done splendid work everywhere. They keep a close watch on the water supply, as they know more about such things now, but the trouble is that that information is locked up within

them. Once in a while we have an admirable citizen, like Doctor Hubbard or Doctor Darlington, who talks about these things plainly, so that the layman can understand him. Then all of a sudden a great light floods our brains and we see that water plays a most important part in our lives, in the home, in the shop, in the business place, and in the public place.

Air is an important thing. We can not get along very well without air. Sometimes we do not need so much as at other times, but a proper breathing atmosphere is essential to life. You might go four or five days without water and 40 days without food, but if your supply of air is cut off you are not likely to survive more than several minutes.

I know of no one who has done more important work on the question of a proper breathing atmosphere than Hoffman in his "Dusty Trades." He shows the value of good air and, by statistical deductions, that in certain dusty trades the mortality rate for tuberculosis is enormously higher than it is in other occupations where there is no dust created by the occupation itself.

What are we to assume from that condition of things? One trade is dusty. It has a high rate of mortality from tuberculosis, enormous, running up to 50 and nearly 60 per cent. In another occupation, that in certain dusty trades the mortality rate for tuberculosis is about the same, the rate is very much lower. This shows that occupation has a decided influence on health. In some trades where engineers have devised methods for dust elimination, the rate for tuberculosis has gone down. In a certain industry in 1913 tuberculosis in certain groups of workmen was high. After five years of intensive effort to improve working conditions in that industry tuberculosis has dropped, dropped enormously.

Hoffman says that "evidently the decrease in the rate of tuberculosis was due to the elimination of dust and the improvement of the working conditions of the worker." Now that is important to know.

We do not know much about tuberculosis, and we do not yet know much about the effect of air on human health. We can only draw deductions from these statistics. But we do know that in rooms where the air is in motion we feel better. We do not need vast quantities of new air poured into the workroom or the living room. What we need is air in motion.

Pflugge made some experiments as to the effect of air on human life with results that were rather startling. There was a time when we thought air had to be renewed constantly. But the experimenter had himself encased in a glass cabinet, so that he was breathing over and over the same air, and when the air was stagnant he began to feel great discomfort, and at the end of 12 or 15 minutes he began to suffer intensely. Now that same air was stirred into motion, and immediately he began to feel better, and at the end of a few minutes with this air in motion he was quite comfortable.

This shows that what we want in workrooms, basing it on what we know of these things, is to keep the air in motion, keep it stirred up, and not a fresh supply of air from the outside.

The question arises, How are we to popularize this propaganda on safety and sanitation? The doctor says he visited a plant and

that the foreman of the plant could not speak English. Well, he might not know very much English and still he might know a great deal about sanitation and safety. On the other hand, I am inclined to think that if he was not interested enough in the country in which he lives to know something of the language of the country, probably he would not be very much interested in the fundamentals either of safety or of sanitation. So we can not place too much dependence on education by the foreman of the workmen on safety and on sanitation.

After all, it is not entirely a question of the employer educating the workman. The responsibility for this education rests upon the community. The community pays the bill. It pays for the human toll that is taken by industry. The maimed and the broken wrecks that result from accidents due to machinery are paid for by the public, and not by the employer. It is all a waste of time to talk about penalizing the employer. You can fix as high a penalty as you want to for the man who carries on an industry, but he will not pay even a part of it. We know where the burden falls; it falls on the public.

We won't waste time arguing about who pays for workmen's compensation or who pays for this toll that is due to bad sanitary conditions. We pay for it. We always did and we always will pay for it. If the workman is injured and his health is impaired and no provision is made for his family, then society pays a larger debt—loss of opportunity for the little children, the dropping down in the social scale of the family. The debt is greater, but society pays it all.

Now, the burden of education falls on society. That is the thing that ought to be discussed. How are we going to promote safety education? In the schools? Yes. In the colleges? Certainly; where else? Young men coming out of college ought to know it. A young engineer coming out of the training school ought to know more about air than simply about the mechanical power that causes it to move. He ought to know what air is and how valuable it is to people. Then he ought to know something as to why ventilation should be placed in workshops.

It should be understood that all dust is harmful, that we need clean atmospheric conditions, that dust ought to be removed, and that in general it can be removed from almost every dusty process. It should also be understood that the fundamentals of sanitation require a plentiful supply of clean air, a plentiful supply of good drinking water, a clean person, and cheerful working surroundings. And certainly if these things are once established in our industries and in our homes, we will cut down the total of four and a half millions of people that flow through our hospitals annually.

We have one more paper to read before adjournment. It is a paper on "The preparation of safety codes under the auspices of the American Engineering Standards Committee," by Mr. M. G. Lloyd, United States Bureau of Standards.

PREPARATION OF SAFETY CODES UNDER THE AUSPICES OF THE AMERICAN ENGINEERING STANDARDS COMMITTEE.

BY MORTON G. LLOYD, CHIEF OF SAFETY SECTION, U. S. BUREAU OF STANDARDS.

NEED FOR SAFETY CODES.

A discussion of the importance of accident prevention appears to be superfluous before an association of this character whose members are directly concerned with compensation for industrial accidents and are familiar with the extent of casualties in American industries. Much has already been done through the safety-first movement to provide the proper physical conditions and to educate the industrial worker to use practices which will decrease the probability of accidents, but much more remains to be done in this direction.

The principal channel through which the State officials can promote accident prevention is the inspection of factories and other work places, insistence being made that these shall be so constructed and operated as to provide for the safety and health of employees. In making such inspections it is necessary that the inspector should have some standard of comparison by which to judge of the conditions which he encounters. Only by having such a standard of reference is it possible for different inspectors to treat different cases upon a uniform basis or even for a single inspector to be consistent in his decisions with reference to different industrial plants. Such a standard may exist only in the mind of the inspector and be subject to development and change from day to day. Much more satisfactory results, however, can be obtained by having written standards subject to change only by definite action of the administrative authority and capable of being known to factory managers, manufacturers of machinery, and others concerned with them before installations are made. It is then possible for such persons to plan their installations so as to meet the requirements of the State officials. In that way more complete compliance on a more satisfactory basis is obtained.

It must be obvious, then, that the best work of the State factory inspector can be done upon the basis of enforcing a definite set of written rules which have been given full consideration before adoption and which are applied uniformly by all inspectors within a given jurisdiction and which are modified only by definite administrative action after due notice and full consideration. Consequently most of the States which are active in factory inspection work have definite regulations and it is the duty of their inspectors to see that such regulations are complied with.

These regulations may take the form of statute laws or of rules promulgated by some administrative authority. Where the regulations are established by statute it is impossible to alter or amend them except by the same legislative process. Where the regulations are promulgated by administrative authority, changes and amendments

can be made from time to time as experience or progress in the art makes advisable and a system which is more flexible and in general more satisfactory to all parties concerned is obtained.

Whatever legal form the regulations may take, it is desirable that they be as definite as possible, be easily understood, available in printed form, for the guidance of all interests concerned, and be given very thorough consideration by all parties and interests before their mandatory adoption.

Such a code of safety rules is valuable not only for mandatory enforcement by administrative authorities and for authorized inspectors, but as a guide to the industry concerned in improving its methods and modifying its previous practices. Many manufacturers are only too glad to make improvements in the physical condition of their plants when the possibility of such improvements is pointed out to them and many of them are eager to apply any information which will improve the welfare of their employees. The greatest value of the safety code is probably in providing such information as a standard for the guidance of the factory manager, and I consider its usefulness as a regulation for legal enforcement to be secondary to this.

A good illustration of this attitude of factory managers is found in the recent action of the board of directors of the National Association of Dyers and Cleaners which has expressed the need felt by them for a safety code for the industry of dry cleaning.

ADVANTAGES OF NATIONAL CODES.

Most of the safety codes heretofore adopted and enforced by State boards and commissions have been developed locally and usually with the cooperation of a committee representing local interests. In the preparation of such codes, use is frequently made of standards already adopted by other States or by industrial and engineering associations. In some cases such standards already available are adopted without change, but more often changes of greater or less extent are made for the purpose of improvement or of meeting some real or fancied need caused by local conditions. This is well illustrated by the boiler code prepared by the American Society of Mechanical Engineers and the electrical safety code prepared by the Bureau of Standards. If the national codes were generally prepared by processes which would take into consideration local variations and conditions, and which guaranteed the full consideration of the viewpoint of every interest involved and freedom from domination by any one interest, particularly such as might be of a commercial character, it would seem advantageous to adopt such national codes without the introduction of local variations. This would give the advantage of uniformity in requirements in different jurisdictions. The manufacturers of equipment could then supply a single line for use in all States and the work of the contractor and inspector would be simplified. It would also be easier for the insurance companies to harmonize their own requirements with those legally enforced by the State authorities.

To obtain national codes of this character it is necessary that their preparation be accomplished by the widest and most thorough consideration of those familiar with the particular problems of the industry concerned and that full weight be given to the viewpoints of all interests involved. Where codes are prepared by local com-

mittees the same result is usually sought by having represented upon such committees employers, employees, technical experts, casualty insurance organizations, etc., as well as the administrative department concerned. For national codes to be equally or more satisfactory than these local codes, it is necessary that they should be formulated or approved by a body having at least equally wide representation and providing equally wide opportunity for criticism and comment before final adoption.

CONFERENCES OF 1919.

Realizing the importance of safety codes prepared upon a national basis, and as the result of the contacts made by its previous work in this field and the demands for more extensive work of the same character, the Bureau of Standards called a preliminary conference on this subject in Washington in January, 1919, and a second conference in December of the same year. At these conferences the subject was fully discussed, the need for national codes generally recognized, and the best method for preparing them given full consideration. It was finally agreed that the scheme of procedure in establishing national standards which had been inaugurated by the American Engineering Standards Committee would be the most satisfactory to utilize in the preparation of safety codes and it was finally voted by a large majority that they should be prepared under the auspices of this committee. It was realized, however, that in order for this plan to be widely acceptable it would be necessary to enlarge the scope and membership of the American Engineering Standards Committee, and this was done as a direct result of these conferences.

AMERICAN ENGINEERING STANDARDS COMMITTEE.

The American Engineering Standards Committee, after two years of preliminary negotiations, was organized in 1918 by five national engineering societies, who invited three of the United States Government departments to accept membership. These eight bodies named three representatives each, who constituted the original membership of the committee. The purpose of this organization was to serve as a national clearing house for engineering and industrial standardization, to act as the official channel of cooperation in international standardization, and to provide an information service on engineering and industrial standardization matters.

The committee does not itself formulate any standards, but its principal function is to bring about systematic cooperation of the organized bodies, technical, industrial, and governmental, which are concerned with such standards. It has succeeded to such an extent that at the present time more than 160 organizations are actively cooperating in work under the auspices of the committee. Since 1919, when the constitution of the committee was altered, its membership has been enlarged so that it now consists of 53 members representing 5 departments and 1 independent establishment of the Federal Government, 9 national engineering societies, and 14 national industrial associations. This includes the United States Departments of Agriculture, Commerce, Interior, Navy, and War, and the Panama Canal. The application of the United States Department of Labor for membership is now pending.

The method by which the American Engineering Standards Committee functions is as follows: When it is decided that some standard, such as a safety code, should be formulated, a responsible organization, not necessarily holding membership on the committee, is recognized as a sponsor for the work or several such organizations may be designated as joint sponsors. This sponsor is supposed to organize the work and form a representative committee made up of members of all other organizations having an interest in this particular standard, which committee is technically known as a sectional committee. This sectional committee may itself carry out the work of formulating a standard or it may merely pass upon such work when it has already been done; it is free to modify any standard before its adoption. When the sectional committee agrees that a standard or code is in acceptable form for final adoption, it reports to the sponsor and if the sponsor body is satisfied with its work and approves it, it so reports to the Engineering Standards Committee. That committee then approves the standard as an American standard, as a tentative standard, or as a recommended practice.

An essential step in the process, however, is the approval by the Engineering Standards Committee of the make-up of the sectional committee in direct control of the work. To be approved, the sectional committee must be properly representative of the interests concerned and must be well balanced, so that no interest or closely connected group of interests shall be able to dominate the committee. In the case of safety codes it is required that the following groups of interests be represented upon the committee:

- (a) Manufacturers of the equipment.
- (b) Employers.
- (c) Employees.
- (d) Regulatory Government representatives.
- (e) Technical experts.
- (f) Casualty insurance interests.

Up to the beginning of the present calendar year the American Engineering Standards Committee had approved 17 standards, of which 3 may be designated as safety codes. These latter are the National Safety Code for the Protection of the Heads and Eyes of Industrial Workers, the National Electrical (Fire) Code, and the Industrial Lighting Code. During the current year it has approved the Safety Code for Abrasive Wheels, the Safety Code for Foundries, and the National Electrical Safety Code. More than 20 other codes are being actively worked upon and some of them are nearly completed. In addition, almost an equal number have been given preliminary consideration. For several of these codes, including the Safety Code for Abrasive Wheels, the International Association of Industrial Accident Boards and Commissions is a joint sponsor.

The initiation of new projects in the American Engineering Standards Committee usually arises through a demand from some interested organization. Where such an organization has itself carried on standardization work prior to the creation of the American Engineering Standards Committee it may submit its own standards for approval after proper examination as to their general acceptance and worthiness. When a standard has yet to be formulated the American Engineering Standards Committee may designate the interested organization as a sponsor or it may call a general conference of all

parties believed to be interested, to determine whether such a standard should be formulated at the present time, what its scope shall be, and how the work shall be organized. Examples of this are a conference on colors of traffic signals which was held on May 23 of this year; and a combined electrical fire and accident code, a conference upon which subject is contemplated in the early future since a difference of opinion has developed as to the advisability of formulating such a code.

SAFETY CODE CORRELATING COMMITTEE.

In most cases of safety codes, however, the proposals for sponsorship and initiation of the work have arisen through a supplementary committee which is advisory to the American Engineering Standards Committee and is known as the Safety Code Correlating Committee. This committee is made up of representatives of those organizations of a national character considered to be most actively interested in safety codes. The present membership includes representatives of the following:

- American Gas Association.
- American Society of Mechanical Engineers.
- American Society of Safety Engineers.
- Association of Governmental Labor Officials.
- International Association of Industrial Accident Boards and Commissions.
- National Association of Mutual Casualty Companies.
- National Bureau of Casualty & Surety Underwriters.
- National Electric Light Association.
- National Fire Protection Association.
- National Industrial Conference Board.
- National Safety Council.
- United States Bureau of Labor Statistics.
- United States Bureau of Mines.
- United States Bureau of Standards.

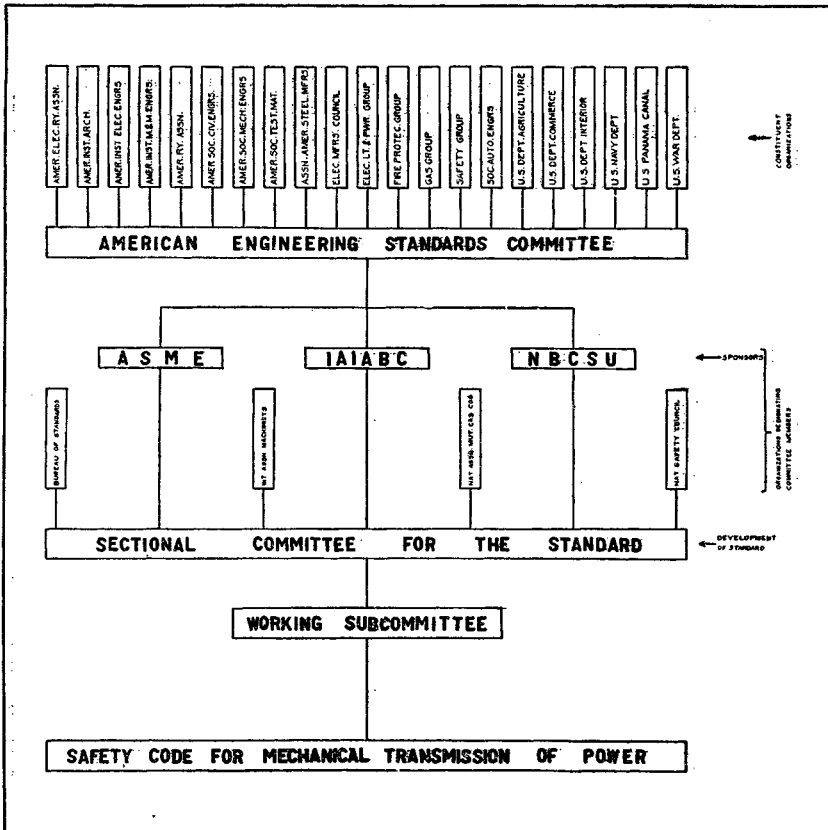
This committee was formerly known as the National Safety Code Committee and had its origin in a joint committee resulting from the conference on industrial safety codes in December, 1919. Its relation to the American Engineering Standards Committee is that of an adviser having direct contact with bodies interested in safety codes so that it can bring to the American Engineering Standards Committee, whose membership is of a more diverse character, the desires and needs of those more intimately concerned with safety. The first report of this committee in 1920 included a list of 37 codes which were considered of the most immediate importance and for which sponsor bodies were recommended. Since that time it has made additional recommendations from time to time and the Engineering Standards Committee has referred to it questions concerning safety codes which required investigation before decision.

The members of the Safety Code Correlating Committee are frequently designated by the chairman of the Engineering Standards Committee to serve upon special committees which investigate the make-up of sectional committees for safety codes or advise the Engineering Standards Committee as to the suitability of approval of standards in this field which have been submitted to it. The committee thus functions in general to advise the Engineering

Standards Committee and keep it informed when necessary of matters relating to the field of safety codes. The present chairman is Mr. S. J. Williams, chief engineer of the National Safety Council, and its secretary is Dr. P. G. Agnew, who is also secretary of the American Engineering Standards Committee.

The following diagram shows the relation of the sponsors and the two committees in the case of the Safety Code for the Mechanical Transmission of Power. The group at the top of the diagram shows the various organizations naming members of the American Engi-

ORGANIZATION OF AGENCIES AND COMMITTEES INVOLVED IN PREPARATION OF SAFETY CODE FOR MECHANICAL TRANSMISSION OF POWER.



neering Standards Committee. The latter appointed as sponsors for this code the American Society of Mechanical Engineers, the International Association of Industrial Accident Boards and Commissions, and the National Bureau of Casualty and Surety Underwriters. The three sponsors named members of the sectional committee representing the casualty underwriters, State commissions, and manufacturers and users of the equipment concerned. They also asked the United States Bureau of Standards, the International Association of Machinists, the National Association of Mutual Casualty Companies, and the National Safety Council to name representatives upon the

sectional committee. A small group of these representatives formed a working subcommittee which put the preliminary draft of the code into form for presentation to the full committee. The sectional committee then discussed it and made such modifications as seemed to it proper in order that the code should be generally satisfactory. This code has reached the stage of a final revision before formal adoption.

CONCLUSION.

It will be apparent from the foregoing that the American Engineering Standards Committee, with the cooperation of the Safety Code Correlating Committee, furnishes the machinery for the formulation of safety codes in a manner which will insure thorough consideration of the merits of proposed rules and thorough consideration of the viewpoint of the various interests which are concerned with safety codes. The actual formulation of such codes may be by a sectional committee, by a working subcommittee of such sectional committee, or by the technical staff of a sponsor body, but in every case the entire sectional committee must pass upon the work and approve the tentative draft of a code before it is submitted to the American Engineering Standards Committee. The sectional committees are made up of representatives from six groups above mentioned, and in the case of safety codes always include some representatives from State departments of labor or industrial commissions. When such codes have been approved by the American Engineering Standards Committee the assurance is given that they have had just as thorough consideration as is ever given locally to the formulation of a State code and in most cases they will have had wider consideration and criticism; in adopting such a code any State authority may feel sure that he is putting into effect as reasonable and as complete a set of rules as it is feasible to formulate at the time. Such codes may consequently be taken as models for local adoption and preferably in the form in which they have been nationally approved. It will generally be desirable to give local hearings upon such codes before adoption by the various States. In case modifications are proposed at such hearings an opportunity should be given to those engaged in the formulation of the national code to answer objections and explain why the provisions in the national code are considered superior to local proposals which will not usually have been subjected to the same wide and careful scrutiny. There may be at times conditions peculiar to local industries which will make modifications of national codes desirable, and it may be feasible in particular States to call for more complete protection than has been considered reasonable in a national code; but in the more general case it will serve all interests more fully if the national code can be adopted by the States without change so as to provide uniform regulations in a given industry throughout the country.

[The meeting adjourned.]

THURSDAY, OCTOBER 12, 1922.—AFTERNOON SESSION.

CHAIRMAN, GEORGE B. CHANDLER, COMMISSIONER CONNECTICUT COMPENSATION COMMISSION.

LEGISLATION AND ADMINISTRATION.

The CHAIRMAN. The first number appearing upon the program is the "Uniform method of computing average weekly wages." The speaker, who is well known to all of us, is Mr. Carl Hookstadt, United States Bureau of Labor Statistics.

UNIFORM METHOD OF COMPUTING AVERAGE WEEKLY WAGES.

BY CARL HOOKSTADT, UNITED STATES BUREAU OF LABOR STATISTICS.

Experience has shown that two of the most potent factors in emasculating compensation laws are (1) the weekly maximums and (2) the method of computing average weekly wages. Since compensation rates are based upon average wages it is apparent that the method of determining such wages becomes of utmost importance. The following example which has come under the writer's personal observation is illustrative of the great injustice which may be done through improper methods of computing average weekly wages: A molder in a certain State sustained burns which disabled him for five weeks. He was paid a compensation rate of \$11.75 a week, which was 50 per cent of the average weekly wages as reported by the employer. When the matter was brought to my attention I was immediately convinced that the workman had received insufficient compensation and that he was entitled to the maximum (\$14), inasmuch as his earnings during the previous three or four years had approximated between \$6 and \$7 a day. I therefore took the matter up with the commission and the insurance carrier, and upon investigation it was found that the workman's daily earnings had exceeded \$6 a day for the past year and that he had worked practically full time. The weekly earnings reported by the employer (\$23.50) were correct, but they covered the week immediately prior to the injury, for which week his earnings happened to be his lowest during the entire year. He was thereupon paid an additional \$11.25—the difference between \$14 and \$11.75, or \$2.25, multiplied by 5, the number of weeks in the disability period. Of course, this is only a small amount. But suppose the accident had been a fatal one. Then the underpayment would have amounted to \$936 (\$2.25 a week for 416 weeks). Again, suppose that the compensation law of this State provided a percentage of 66⅔ instead of 50, and a weekly maximum of \$20 instead of \$14, then the underpayment would have reached the enormous figure of \$3,432 (\$8.25 a week for 416 weeks), and all because of the improper method of computing average weekly wages. An investigation in another State during a high-wage period showed that in nearly 20 per cent of the cases the injured workman received only the weekly minimum, namely, \$5. This was due not to the low wages paid but to the peculiar interpretation of the average weekly wage provision by the compensation commission. The above two illustrations, which no doubt can be duplicated many times in the several States, show how important it is that the method of computing average weekly wages be uniform, proper, and adequate.

It is not my intention in this paper to present a survey or comparison of the various provisions for computing average weekly wages contained in the compensation laws of the United States and Canada. This has already been done and may be found in Bulletin No. 301 of the U. S. Bureau of Labor Statistics (pages 71-88). Rather, I would like to present for the consideration of the associa-

tion a method or methods of computing average weekly wages which seem to me both simple and equitable.

Many laws have specific detailed provisions for determining the wages or rather earnings of the injured employee under practically every conceivable condition, such as full-time employment, part-time employment, casual, seasonal, and concurrent employments, employment in a higher, lower, or the same grade of work, wages of other employees in the same or similar occupations, etc. Many commissions attempt to determine with absolute accuracy the exact earnings of the employee for a considerable period prior to his injury. Such a meticulous practice is apparently predicated upon the assumption that the injured workman will be indemnified for the loss of and to the extent of his earnings, an assumption which is obviously untrue. Probably in no State does the injured workman receive compensation to the extent of even one-half of his wages, and in most States he receives only a small fraction thereof. Why, then, such meticulous accuracy in computing his average wages? To pay compensation in excess of wages earned is repugnant to the idea of justice entertained by many people. Yet these same persons will tolerate with entire complacency and satisfaction a law or system by which the injured workman is indemnified to the extent of only 20 or 30 per cent of his wage loss. I have no objection to the practice of ascertaining the injured employee's actual yearly earnings even to the last penny, if compensation will be paid for the loss of these earnings. In fact, my idea of a model compensation law is one in which industry is charged with the wage loss resulting from industrial injuries, but distribution of this wage loss is according to social need. This principle is already recognized to some extent in many laws in death cases where the amount of compensation varies with the number and kind of dependents. It is also recognized in several States in disability cases.

Greater justice would be done, it seems to me, if the method of computing average wages or earnings were correlated with the type of injury, i. e., if different methods were employed for temporary disabilities, permanent disabilities, and fatalities. The method best suited for one type of injury may not be just if used for another type. The following methods, and reasons therefor, are offered for the association's consideration and criticism:

1. *Temporary disabilities.*—In case of temporary disability injuries the workman's full-time wages at the time of the injury should be used as the basis for computation of compensation. Not only was he *capable* of earning but he actually *was* earning these wages which, by reason of his injury, he and his dependents were deprived of enjoying. The amount of his earnings during the 6-month or 12-month period prior to his injury is therefore immaterial and irrelevant and should be disregarded. The "average weekly wages" would be obtained simply by multiplying the daily wage by the number of days customarily worked in the occupation or industry in the locality, whether this be 4, 5, 5½, 6, or 7. In case of piecework the "average weekly wages" would be the average full-time earnings. If by reason of the shortness of his employment his piecework earnings are below normal, the earnings of the average worker should be used. In the case of casual, intermittent, or concurrent employments the average weekly wages

should be computed exactly as in full-time employment, namely, the hourly or daily wage rate multiplied by the number of hours or days customarily worked in the occupation or industry. A further discussion of the casual or concurrent employment problem will follow later.

2. *Fatalities*.—When death results from an injury it deprives the dependents of the decedent of the wages which he was earning at the time of his death just as it does when he sustains a temporary total disability. The average weekly wages, therefore, should be computed in the same way, namely, by multiplying the daily wage by the number of days per week customarily worked in the occupation or industry. It is true that the widow would be paid compensation for several hundred weeks or for life, during which period the wages of the decedent would probably have varied and might have decreased. It may be argued from this that his average wages at the time of the injury would not represent his average wages during the period compensation is being paid to his dependents. However, a new factor, namely, compensation according to the social need of the dependents, enters into the problem in compensating death cases. Many of the States recognize this principle of social need and vary the percentage of compensation according to number and kind of dependents. These variations in percentages presumably reflect the need of the dependents under varying conditions. Inasmuch, therefore, as the amount of compensation is supposed to take care of the social and economic needs of the decedent's family, the particular method of computing his average weekly wages becomes unimportant. The Industrial Commission of California has recently advocated charging industry with a uniform amount (\$7,000) in every death case, the amount so collected to be distributed in accordance with the social need of the dependents.

3. *Permanent disabilities*.—An entirely new element comes into the problem when the computation of average weekly wages for permanent disability is considered. Compensation for permanent disability, whether partial or total, is supposed to represent the loss of earning capacity resulting from the disability. This earning capacity is spread over the man's entire subsequent life and will undoubtedly vary during the period and eventually decrease with age and cease altogether. It is desirable, therefore, not to compute his average weekly wages upon his wages at the time of the injury, but to take his actual earnings for a considerable period, at least one year. The British Columbia Compensation Board in major permanent disability cases uses a three-year period. It is necessary also to take into account in computing the average weekly wages the age of the workman at the time of the injury. When he is still a young man, say under 25, it can be reliably presumed that his wages will increase. On the other hand, if the workman is over 50 or 60 years at the time of the injury his wages will probably decrease with age. It is desirable, therefore, that these factors be taken into account in determining his earnings upon which his average weekly wages are to be computed. The Wisconsin compensation act recognizes the decreasing earning capacity due to old age and decreases the percentage of compensation 5 per cent if the employee is over 50 years of age, 10 per cent if he is over 60, and 15 per cent if he is over 65 years. A number of States also recognize the fact that the wages

of minors, apprentices, and young men generally are subject to increase and make an allowance therefor in their methods of computing the average weekly wages.

The following table is an attempt to show the effect of the age factor upon the wages earned by the average workman during his industrial life. This table is offered merely as a suggestion as to the method of approaching the problem, and no claim to scientific accuracy is made. It will be noted that the wages increase 3 points annually during the first 10 years of age considered (15 to 25), then 2 points for the next 5 years (25 to 30), followed by 1 point increases up to 40 years, which is assumed to be the highest wage period in the life of the average industrial worker, which is taken as 100. After 40 the wages decrease 1 point annually for the next 10 years (40 to 50), after which they decrease 2 points to the end. In order that the table might be applied automatically to any given case, it would probably be necessary to construct a series of tables in which each year would be used as the base, with an index number of 100. This, however, is merely a mechanical problem which can easily be worked out, once the principle is adopted.

SPECIMEN TABLE OF INDEX NUMBERS SHOWING THE RELATIVE ANNUAL EARNING CAPACITY OF A WORKMAN FROM 15 TO 74 YEARS OF AGE.

[The year of highest earnings, 40, is taken as 100.]

Age (years).	Index number.	Age (years).	Index number.	Age (years).	Index number.	Age (years).	Index number.
15....	50	30....	90	45....	95	60....	70
16....	53	31....	91	46....	94	61....	68
17....	56	32....	92	47....	93	62....	66
18....	59	33....	93	48....	92	63....	64
19....	62	34....	94	49....	91	64....	62
20....	65	35....	95	50....	90	65....	60
21....	68	36....	96	51....	88	66....	58
22....	71	37....	97	52....	86	67....	56
23....	74	38....	98	53....	84	68....	54
24....	77	39....	99	54....	82	69....	52
25....	80	40....	100	55....	80	70....	50
26....	82	41....	99	56....	78	71....	48
27....	84	42....	98	57....	76	72....	46
28....	86	43....	97	58....	74	73....	44
29....	88	44....	96	59....	72	74....	42

The following tabular statement shows the results of the application of the above table in specified cases.

TABLE SHOWING LIFE EXPECTANCY AND PERCENTAGE OF WAGES TO BE USED IN COMPUTING COMPENSATION IN PERMANENT DISABILITY CASES AT SPECIFIED AGES.

Age when injured (years).	Life expectancy (American Experience Table) (years).	Percentages to be applied to average wages received at time of injury to correct wage variations due to age.
20.....	42	121
30.....	35	97
40.....	28	81
50.....	21	80
60.....	14	87

The above percentages are not absolutely correct, because the base upon which the percentages were computed was changed each time. They are, however, sufficiently accurate for the purpose in

hand. It will be noted that the average weekly wages of the workman sustaining a permanent disability at the age of 20 years would be increased by 21 per cent. This 21 per cent is merely the average for the 42 years' life expectancy of the workman at 20 years of age. The index number for this age, instead of being 65, as shown in the preceding table, was raised to 100. This method was used in making the percentage computations in each of the five examples used.

It may be desirable also to introduce a factor to take care of the change in the wage level from year to year. Wage index numbers computed by the U. S. Bureau of Labor Statistics show a gradual increase in the wage level since 1840. If the future can be prognosticated by the past, we may expect a constant wage increase. However, the future is altogether too uncertain for me to forecast. I shall therefore merely reproduce the table of index numbers prepared by the Bureau of Labor Statistics.

INDEX NUMBERS OF WAGES PER HOUR, 1840 TO 1920, PREPARED BY THE U. S. BUREAU OF LABOR STATISTICS.

(Currency basis during Civil War period.)

[1913=100.]

Year.	Index number.	Year.	Index number.	Year.	Index number.	Year.	Index number.
1840..	33	1860...	39	1880...	60	1900...	73
1841..	34	1861...	40	1881...	62	1901...	74
1842..	33	1862...	41	1882...	63	1902...	77
1843..	33	1863...	44	1883...	64	1903...	80
1844..	32	1864...	50	1884...	64	1904...	80
1845..	33	1865...	58	1885...	64	1905...	82
1846..	34	1866...	61	1886...	64	1906...	85
1847..	34	1867...	63	1887...	67	1907...	89
1848..	35	1868...	65	1888...	67	1908...	89
1849..	36	1869...	66	1889...	68	1909...	90
1850..	35	1870...	67	1890...	69	1910...	93
1851..	34	1871...	68	1891...	69	1911...	95
1852..	35	1872...	69	1892...	69	1912...	97
1853..	35	1873...	69	1893...	69	1913...	100
1854..	37	1874...	67	1894...	67	1914...	102
1855..	38	1875...	67	1895...	68	1915...	103
1856..	39	1876...	64	1896...	69	1916...	111
1857..	40	1877...	61	1897...	69	1917...	128
1858..	39	1878...	60	1898...	69	1918...	162
1859..	39	1879...	59	1899...	70	1919 ¹ ...	¹ 184
						1920 ² ...	² 234

¹ This index number applies to the spring of the year. Wage rates advanced during the year.

² This index number applies to the summer of 1920, and probably represents the wage peak of the year.

SEASONAL, CASUAL, OR CONCURRENT EMPLOYMENTS.

The computation of average weekly wages in seasonal, intermittent, casual, or concurrent employments presents special problems. Not only is it difficult to ascertain the actual earnings, especially for a 6-month or 12-month period, but the question of what earnings shall be taken into account must also be settled. Take, for illustration, the following examples:

(1) *Concurrent employments.*—An employee works for two (or more) employers at the same time, devoting part of the day or week to one employer and part to another, or he may be employed by one in the daytime and by the other in the evening, at entirely different occupations and receiving different rates of pay. Shall his total earnings be used as the base or only those from the em-

ployer in whose employ he sustained the injury? Or may still another method be used?

(2) *Intermittent employments.*—Carpenters and all those in the building trades regularly lose a certain proportion of workdays because of the inclemency of the weather and other conditions of employment. Some of these workers are undoubtedly employed at other occupations when they can not be employed in the building trades. What wages shall be used as the basis—full-time wages as a carpenter, actual earnings as a carpenter, or actual total earnings?

(3) *Seasonal employments.*—Certain industries, such as fruit canning, clothing manufacturing, and ice harvesting, are highly seasonal in character and operate only during certain periods of the year. What shall be the basis in computing average weekly wages in these employments? As in the case of intermittent employments, only to a greater extent, workers in these industries are engaged in other occupations during the off season.

(4) *Casual employments.*—A laborer is employed to perform some casual piece of work, say, window cleaning or storing coal, etc., being paid an hourly rate. He has no regular occupation, but works at various jobs with varying wage rates. Under the circumstances it would be almost impossible to ascertain his actual earnings during the year. Upon what basis should his "average weekly wages" be computed?

My suggestion for computing the average weekly wages in the foregoing types of employment would be as follows:

In temporary disability and death cases adopt precisely the same method recommended for regular employments, i. e., multiply the hourly or daily wage rate prevailing in the occupation in which he was injured by the number of hours or days per week customarily worked in the occupation or industry in the locality. The reasons therefor have already been set forth under the heading "Temporary disabilities." It is maintained by some that the employer should pay compensation only upon the wages earned in his employ; that if the employee works part time, say two days a week or three hours a day, only the wages thus earned should form the basis upon which compensation is to be computed. The reason advanced for such an obviously unfair method is that the insurance carrier receives premiums only upon actual wages paid, and consequently it would be unfair to the carrier to pay compensation upon full-time wages. While it is true that the insurance company receives premiums only upon the actual wages paid, on the other hand the probability of an accident occurring decreases directly with the length of time employed and the amount of wages paid. For illustration: An employee works only one day a week. The insurance carrier receives only one-sixth the normal premium. But the working time exposure of the employee and consequently the accident hazard and therefore the compensation liability of the company is also only one-sixth normal. Or, stated in another way: One employee works a year full time, another works six months full time. In the former case the pay roll and the premiums received are double that of the latter, but the liability for accidents would also be twice as great in the former case.

In permanent disability cases ascertain the actual earnings for at least one year as in the case of regular employments. Inasmuch

as it is extremely difficult, and in many cases impossible, to ascertain accurately the employee's earnings in irregular employments, could not the working year be standardized for the various occupations? Sufficient statistical data is probably available which would show the average number of days in the year customarily worked in the various occupations and industries. We know, for example, the average number of days worked in the mining industry. Some allowance, however, must be made for earnings outside of the industry in intermittent employments such as mining and building construction. Suppose, for illustration, the average number of days worked in the mines in a given locality was 275, and the average daily earnings of the injured workman were \$5. His yearly earnings in the mines therefore would be \$1,375. Subtracting 275 days plus 52 Sundays and 8 holidays from 365 days leaves 30 days for other employment. Let us assume that his daily outside earnings are 50 per cent of his daily earnings as a miner. His yearly outside earnings would therefore be \$75 ($\$2.50 \times 30$) and his total earnings \$1,450. His "average weekly wages" upon which compensation is to be based would be \$1,450 divided by 52, or \$27.88. The above is admittedly crude and is offered only as a suggestion for overcoming the difficulty in securing actual earnings over a long period of time. Moreover, this method is intended to apply only in permanent disability cases.

"FULL-TIME WAGES."

Could not full-time wages be adopted as the standard in computing compensation rates? By "full-time wages" is meant the hourly or daily wage rate multiplied by the number of hours or days per week customarily worked in the occupation or industry in the locality. This would exclude overtime earnings unless such overtime was customary and the earnings therefrom constituted a regular part of the employee's wages. On the other hand, it would eliminate the vexed questions resulting from part-time employment. This method would no doubt result in injustice in individual cases, but would probably secure greater average justice than any other method.

DISCUSSION.

The CHAIRMAN. The matter is now open for general discussion.

Mr. McSHANE. This is supposed to be scientific. I can not agree that Mr. Hookstadt's propositions are scientific. In the first proposition he lays down he figures the weekly wages and uses that as a basis, the man's daily wage multiplied by the number of days worked in that employment in the State, and he pays the man according to that.

Well, what are you going to do with the sheepshearer whose shearing season is from 45 to 60 days? What are you going to do with the sugar man who works at most for 90 days? That method certainly can not be applied in a case of that kind. It seems to me that we are going to become involved here in something from which we can not extricate ourselves. We are going to get the whole situation altogether too complicated by getting too much science mixed up in it.

It seems to me that the reasonable thing is to take the number of days that the occupation is pursued in a certain locality, or in the State, and to extend that to full-time employment; then the sugar

man will be taken care of, the sheep-shearing man will be taken care of. I do not see why it is necessary to go to all this trouble.

With reference to the second proposition, the social needs of the dependents of the injured man, I can not see why we should take that into consideration at all. If a metal miner is dead he is dead and that is all there is to it, and that industry owes only for the death of the man; it does not owe for the children or the wife that he leaves. There are other agencies that we, as administrators of the compensation law, must see are given some opportunity to operate.

Mr. HOOKSTADT. What do you pay for a man who leaves no dependents?

Mr. McSHANE. We put the amount into a special fund for the purpose of taking care of men who are injured a second time in industry.

Mr. HOOKSTADT. Do you charge the same amount?

Mr. McSHANE. Twenty per cent.

Mr. HOOKSTADT. Why don't you charge the same amount?

Mr. McSHANE. That is an arbitrary matter that is fixed by statute. I think it should be done, though.

Mr. HOOKSTADT. Did the legislature take the social need into account?

Mr. McSHANE. No; there was no social need there.

Mr. HOOKSTADT. That is precisely my point. Social need, then, was taken into consideration.

Mr. McSHANE. All right; say the next man that is killed has a widow and two children. Now I think that every State should have a widows' pension fund, and that when a woman is widowed the State should pay to her, if she is in needy circumstances, a certain amount of money every month and a certain amount for each dependent child. That is the way we meet the problem in our jurisdiction.

I can not see how all the necessary risk can be taken care of by the workmen's compensation insurance. We have to give other agencies a chance to operate. And the simpler we make this matter I believe the better administration we will get.

Mr. HUBER. For the benefit of our commissioners, I would like to ask Mr. Hookstadt a question. That is, how are they to deviate from the method of computing weekly compensation if it is specified by law?

Mr. HOOKSTADT. Change the law.

Mr. HUBER. I asked that simply for this reason: Other commissioners and I do compute according to the way the report comes in. By some mistake, and to the detriment of the employee, there is this question in our report, "State your daily wage." That daily wage proposition has given me more trouble than anything else. Now, then, here is a man paid by the month. Because he has to give that answer, "so much a day," he computes his daily wages. Then the commission figures it out, and he does not get what he ought to get because a different base is used.

If the workman reports daily wages, I strike it out and say he gets so much a month. If I should report so much a day, what he really gets a day, \$4.40 or \$5.50, as the case might be, he would not receive the compensation he ought to have, because he works seven days a week and compensation is computed on the basis of a six-day week.

Mrs. ROBLIN. I should like to say a word in defense of that case. Our supreme court has said that we can consider only six days a week, no matter if the man works seven days, if he is working on a daily basis. That has been the rule given us to work by since the creation of our commission in 1915. It makes no difference whether a man works four, five, six, or seven days a week if he is employed in day work. The legislature had in mind the six-day week, and that is what we have been using.

Miss MORIARTY. I should like to ask Mr. Hookstadt what he would do under circumstances such as these: In the State of Ohio, where we have certain classes of industries which are not insurable under our law, we find this to be the fact frequently: A man is engaged concurrently in two, three, or four employments, none of which is an insurable employment under our law. What figures would you accept as an average weekly wage in determining his average weekly wages?

Mr. HOOKSTADT. I would take the wages of the occupation in which he was injured. The others I would eliminate entirely. If paid by the hour, I would take the hourly wage rate in that occupation, multiply it by the number of hours per day and by the number of days per week usually worked in that occupation in that locality, disregarding what he received from the other employers.

Judge TAYLOR. Do you think that that is equitable? Now, the whole theory of compensation is based upon a man's earning power, whether he is a sheepshearer, an oil man, or a blacksmith, and he may work at that occupation during all the year, so far as he can. We have to compute on a six-day basis. If a man works seven days, why I count that as six days. Now, that is manifestly unfair. Suppose, under your theory, he was engaged in an occupation paying \$3 a day, but had been working in another occupation that paid him \$6, \$8, or \$10, and he had been working in that occupation for 10 months and only 2 months in the other. Would that be right? Not at all.

Mr. HOOKSTADT. For the same employer or another employer?

Judge TAYLOR. The same man. But no matter what employer, whether he is working for an oil mill or a blacksmith shop, that would be unjust to the worker.

Miss MORIARTY. We have certain farmers in Ohio, men of very large means. They agree to maintain the road in a certain section. They work probably 8 or 10 days a year doing that work. Now, we had before our commission a few weeks ago a death claim growing out of that kind of employment. The maximum number of days worked in a year was 10, and the man made \$3 a day. That is \$30 a year. The rest of his time was spent in his private business. Now, Mr. Hookstadt, would you say that you would pay compensation out of the State insurance fund, and that we should compensate his family to the amount of his other earnings, adding that to his wages, or would you accept his wages in the business in which he was employed?

Mr. HOOKSTADT. I would take his wages in the occupation in which he was injured, computing the average weekly wages upon a full-time basis, however.

Miss MORIARTY. I am glad to hear you say that. I will tell my board.

Mr. KINGSTON. I think Mr. Hookstadt's paper is exceptionally interesting and he has gone into the matter with very great thoroughness.

It may possibly be of interest to embody in the record the practice that we have adopted in Ontario dealing particularly with the casual employer. Just a word, however, regarding the workman who has been employed by the same employer for a year: If he has been employed for the full year without any lost time, of course the average weekly wage is apparent; there is no difficulty in ascertaining it. If there has been a considerable amount of lost time during the year, but he has been engaged with that employer for a whole year, we endeavor to average it in this way: We find how much he has earned during each of the last four weeks, and add those figures together. We then ask the question: "How much have you actually earned during the whole year?" We put that down. Then we divide that by 12 in order to reduce it to months. Then we take the mean between those two and usually determine that as a fair average. Now, that may not be scientific. I do not think it is, but, nevertheless, it strikes what we feel is a fair average for that particular workman.

Mr. HOOKSTADT. In both temporary and permanent disability cases?

Mr. KINGSTON. Yes, we apply it in both temporary and permanent. You can not do that sort of thing with the short-time worker, who, perhaps, has only been engaged a month for that same employer. If he has only been engaged for a month with the employer, we may take the mean between the daily wage he was earning at the time he was hurt and the average daily wage during the month that he was actually employed. We can not always work on exactly the same basis.

Mr. HOOKSTADT. I would like ask Mr. Kingston a question right here. What is your opinion of the justice of the proposition, in temporary disability cases, of taking daily earnings at the time of the injury multiplied by the number of days customarily worked in that employment? He is losing that wage at that time. Why not disregard his earnings during the preceding period? What is the matter with the justice of that?

Mr. KINGSTON. I do not know that I quarrel very much with that proposition. I am not speaking with absolute assurance, because that is a branch of work that I do not see a great deal of, but I think that what is done in a case like you instance is that we take the wage the man was earning on the day he was hurt. We ask the employer in our form: "What does such a man earn per week?" If the answer that the employer makes to that question seems to size up the situation carefully we probably take the mean between the employer's answer and the man's actual wage on the day he was hurt as representing a fair average.

Mr. SENIOR. I have listened with a great deal of interest to Mr. Hookstadt's suggestion. I think that undoubtedly the points he has raised are very useful. But I believe that in the final analysis Mr. Hookstadt's suggestion will result in the unfair treatment of certain workers. As I understand his proposition, in order to arrive at the average earnings of a workman he would follow the custom of the industry and not the wages of the worker. Now what would happen

is this: The worker who works 100 days during the year would benefit at the expense of another worker who works 300 days a year. I think that the suggestion is subject to criticism from that point of view.

I think the simplest way of arriving at the average wages of a workman is to take his average earnings for the preceding year, his average daily wages for the year, treating each case on its particular merits. If you attempt to draw a general rule for the purpose of simplification (which is the very thing that Mr. Hookstadt had in mind, of course) you are going to afford unfair treatment.

The average wage of the workman is not so difficult to ascertain, and if you multiply it by 300 and then divide by 52 you get the average wages for the week. I believe that is the practice that has been followed in New York. I think that is the fair way of getting at the calculation.

Mr. HOOKSTADT. I would like to ask Mr. Senior to give me an example of how unfair my proposition is. I do not know just what he has in mind. Give me a specific example.

Mr. SENIOR. I do not know that I am prepared to give you any specific illustration, but I had in mind the fact that workers differ with respect to their industry. For instance, take that point about how long a man will work in an industry. You will find that one man will spend 300 days in a particular industry and another man will spend only 200 days. Now, I understand that you would ignore the earnings of that worker for the past 12 months and simply follow the custom of the industry?

Mr. HOOKSTADT. In temporary disability cases; yes.

Mr. SENIOR. And with respect to fatal cases?

Mr. HOOKSTADT. With fatal cases the same. My proposition would certainly be not unfavorable to the worker. It may be unfavorable to the employer or the insurance carrier, but, as I see it, it would be favorable to the worker.

Mr. KINGSTON. I wonder if my friend from New York overlooked the fact that if a certain worker works only 200 days a year there is only 200 days' exposure, whereas if a man works 300 days a year he has 300 days' exposure to accident. There is no hardship in dealing with a worker on the basis of the actual time he is exposed to the hazard of the employment.

May I add just this word: Mr. French, in answer to my questionnaire, which I referred to two or three days ago, stated that in California they determine the average wage by taking 95 per cent of the daily wage at the time of the accident. Ninety-five per cent of the daily wage is regarded by California as the average wage.

The CHAIRMAN. The next subject is the "Proper method of computing claim reserves"—rather a technical subject, I suspect, as applied to many of us. This was to be discussed by Mr. R. M. Pennock, of the Department of Labor of New York, but he is unable to be here.

Mr. HATCH. I suggest, in view of the fact that Mr. Pennock's paper is quite technical and that copies of it are available in printed form, that we might pass that subject, as long as Mr. Pennock is not here.

PROPER METHOD OF COMPUTING CLAIM RESERVES.

BY R. M. PENNOCK, ACTUARY, NEW YORK DEPARTMENT OF LABOR.

[Submitted but not read.]

The International Association of Industrial Accident Boards and Commissions is directly interested in the proper determination of claim reserves to exactly the extent that it is interested in the proper operation of workmen's compensation insurance. No carrier of such insurance—neither State fund, mutual association, stock company, nor self-insurer—should be permitted to operate as such unless its claim reserves have been determined to be proper to meet all unpaid claims. In most jurisdictions this interest will be confined to State funds and self-insurers, since a separate State department is responsible for the condition of mutual associations and stock companies. It is also true that in many jurisdictions self-insurance is permitted without the requirement of proper claim reserves. The fact that the officials in these jurisdictions are continuously faced with the likelihood of an insolvency which would leave employees and their dependents without compensation benefits and would create a feeling of grave suspicion against self-insurance throughout the entire country is of importance to all the members of this association but is scarcely pertinent to a discussion of the methods for determining claim reserves.

No general method for arriving at claim reserves applicable to all jurisdictions, or even to all State funds, can arbitrarily be set down as the proper one. In jurisdictions which have competitive funds it will usually be considered desirable to determine the claim reserve, as well as all other items of the financial statement, in the same manner that the insurance department requires of the fund's mutual competitors. A claim reserve so determined will undoubtedly be a proper one, and the resulting statement, being directly comparable with those of mutual competitors, will more clearly set forth the relative condition of the fund. Notwithstanding any limitations of this kind, a presentation of the principles underlying the determination of claim reserves may be of interest to the association.

A workmen's compensation claim reserve may be defined as a sum set aside as of a definite date to meet all future payments on account of liabilities under the compensation law which have been incurred prior to that date. Such a reserve must take into account three types of cases: (1) Those regarding which a final adjudication has been made by award, agreement, or otherwise for a definite number of future payments at a definite rate; (2) those regarding which a similar adjudication has been made, but either the future period or rate is indefinite, since the former is to be terminated or the latter varied upon the occurrence of death, remarriage, recovery from disability, or dependency, or some like event whose date is unknown; (3) those regarding which no final adjudication of liability has been

made, although such liability must be assumed to exist. This type includes recorded cases which have not as yet been adjudicated; but it also embraces an intangible group of cases not yet reported, cases which may be reopened and cases otherwise requiring special consideration.

The only proper general method for determining the reserves for these three types of cases is to review the accident record of every case on which a liability exists on the date as of which the reserve is set up and by this review determine the proper reserve for each case. The summation of the reserves for these individual cases gives the reserve of the fund. Where a large volume of business is handled this procedure involves a considerable amount of detailed work, but if proper reserves are wanted this work must be done at least once each year. This annual individual valuation, necessitating as it does the repeated review of long-time cases, makes certain that the development of these costly claims is properly reflected in the reserve.

Before considering the methods to be used in determining these individual valuations the general principle should be established that the reserve when determined must be adequate but should not be excessive. The reserve must, before everything else, be adequate. It is a sum set aside for future payments, and there must be enough money held in this claim reserve to meet those payments.

Any understatement of this liability will have the immediate effect of indicating a fictitiously favorable experience, which ultimately must be corrected from the premium received in subsequent years. In those jurisdictions in which the net premium is adjusted by means of dividends to policyholders, this favorable indication will lead to excessive dividend rates and if long continued directly to insolvency. In those other jurisdictions in which the initial rate is adjusted in the light of past experience, insolvency may be even more certain, since the premium produced by these rates may be insufficient to carry its own losses without the added burden of restoring the previously incurred underestimate.

This idea has been very aptly expressed by the late E. H. Downey, whose untimely death has removed from the workmen's compensation business one of its clearest thinkers and ablest administrators. In one of his reports he says: "No insurance carrier was ever yet embarrassed by an accumulated surplus, whereas inadequate rates spell ultimate inability to meet accrued obligations."

While it is the prime requisite of the claim reserve that it must be adequate, it is also true that it should not be excessive. The administrators of State funds are under an obligation to their policyholders to operate at the lowest net rates consistent with safety. In a competitive fund this obligation is constantly in the minds of the executives and is not apt to be overlooked. It exists just as truly with the administrators of exclusive funds, although it may not engage their attention so emphatically.

If these reserves are considered with reference to self-insurers, the two tests that they be adequate but not excessive again apply. The reserves required must at all times be sufficient to meet the obligations against which they are set up. They should not, however, place an undue burden on employers by exceeding this requirement. If the former of these points is carefully adhered to by the administrative

authority, it is probable that the latter will not be overlooked by the self-insurer. In fact, those self-insurers who contend most strenuously that their reserve requirements are excessive may be the very ones for whom thoroughly adequate reserves are necessary. This contention may well arise from a weak financial condition and a need for all possible assets rather than from a regard for the interests of compensation beneficiaries.

Bearing in mind, then, that the reserve when determined must be adequate but should not be excessive, the methods to be used for the various types of cases can be considered. With respect to the first type, those regarding which a definite number of future payments at a known rate has been established, it is undoubtedly best to use the full value of these future payments as the reserve. At first thought it might appear that interest earnings should be taken into account and that, also, in those cases in which payments terminate with the death of the claimant during the determined period, the probability of such death should be considered. If the value of the future payments is being computed for the purpose of a lump-sum settlement, considerations such as these are appropriate; when, however, the value is to be used as a reserve for a State fund, they can be neglected. Any excess resulting from this neglect will be absorbed upon revaluation.

The second type of cases—those which have been adjudicated but regarding which either the period or the rate is affected by future events—includes in most jurisdictions death cases and in many permanent total disabilities. Typical benefits are those payable for life, during widowhood, to a child until it reaches a specified age but with the rate subject to increase upon the prior death of its mother, and many others. The reserve for cases of this kind should be the present value of the probable future payments. The derivation of the formulas for determining these present values is a highly technical matter, individual to each jurisdiction and probably of little general interest to the members of the association. There are, however, two or three points, basic to the determination of these present values, which should be considered.

All computations of this character are based on interest earnings at an assumed rate and upon mortality and remarriage tables, if either or both are applicable. The interest rate which is adopted should be on a conservative basis. The investments of most funds are restricted by law to securities of a relatively low interest rate. Throughout a period of years it is doubtful if they will average more than 4 per cent. The assumed rate should not, therefore, exceed this amount unless some peculiar local condition practically guarantees a higher return. The fact that lump-sum settlements are required by many laws to be based on an interest rate of 5 or 6 per cent does not warrant the use of such rates for reserve purposes. Most legislatures very evidently intended to restrict the granting of lump sums and may have intentionally made them less attractive to claimants by specifying a high interest rate with a correspondingly low present value.

In considering the second point common to cases of this type we are confronted with the fact that no mortality table has as yet been prepared using the experience under our compensation laws, so that a table from some other source must be selected. This

table should, as nearly as possible, reflect the experience of compensation beneficiaries. These are in the main American widows and children selected at random from the laboring population and now receiving a small guaranteed income. The American Experience Table, the use of which is required by many laws for lump-sum purposes, is based upon the experience of insured persons, mostly men, selected by medical examination. Since death rates in general are higher for men than for women, it is probable that present values derived from this table will be lower than the actual requirements for compensation cases. The Danish Survivorship Annuitants' Table, which has been adopted by the New York Legislature, is based upon the experience of widows in Denmark. The general death rates of that country are probably lower than the corresponding ones in the United States, so that values from this table may be somewhat higher than the absolute requirements. A comparison of the two tables shows that the present values at $3\frac{1}{2}$ per cent interest are from 6 to 8 per cent lower by the American Experience Table than by the Danish Survivorship Table. Pending a table based on our compensation experience it would seem better to use the latter for reserve purposes.

If mortality computations must be based on some table selected reasonably to represent the exposure, the consideration of remarriage probabilities permits of no such choice. So far as I am aware the Royal Dutch Remarriage Table is the only one based on the rates of remarriage of widows which is at all applicable to workmen's compensation cases. If my information is correct, those jurisdictions which take this point into account are forced to the use of this table. How closely the rates of remarriage of Dutch widows agree with those of American widows is practically unknown. A very few jurisdictions have published some meager information on the subject. That compiled from the Pennsylvania insurance experience is the most comprehensive both as to the number of widows included and as to the analysis presented. This analysis indicates a gross remarriage rate higher than that of the Dutch experience, but shows a rate for the widows of coal miners nearly double that of those of employees in other industries. Since conditions in the coal-mining regions are more or less unique, it seems probable that the noncoal-mining record is more apt to be reproduced in most other States. This record shows a remarriage rate only about three-fourths of the gross rate of the Dutch table. The indications are, therefore, that present values based on the Dutch table are in the aggregate considerably too low for general use in this country. This analysis of Pennsylvania experience also shows that a widow who has not remarried during the first two or three years of widowhood is not apt to do so later. The duration of widowhood has almost as much influence on the remarriage rate as the widow's age, yet this factor is not considered at all in the Dutch table.

A review of this published information on the remarriage of American widows indicates clearly that the Dutch table may represent very far from the true facts regarding the experience in this country. The formation of an American compensation remarriage table is urgently needed in order that both lump-sum settlements and reserves in most of our jurisdictions shall be on the proper basis. This table can not properly be based on the experience of any one

State, but should include all. It would seem that the preparation of this table is a proper function of such an organization as this association and that your statistical committee might, with profit to the entire membership, undertake the collection of remarriage information from the various jurisdictions and determine therefrom an authoritative American table.

The three basic factors of interest rate, mortality, and remarriage tables having been decided upon, the combining of them into a table or tables from which reserve values for individual cases can readily be taken involves extended mathematical operations. Those who care to make a study of these operations as applied to the New York law will find instructive papers in the proceedings of both the Actuarial Society of America and the Casualty Actuarial Society of America.

The third general type of cases entering into the reserve, those regarding which no final adjudication of liability has been made, probably presents the greatest valuation difficulties. The largest item in this part of the reserve is on account of accidents on which reports have been received but regarding which neither the duration nor the ultimate degree of disability is known. The majority of them will appear to be temporary cases, although many will develop into permanent disabilities and an occasional one will have a fatal termination. The total valuation placed on them must represent as nearly as possible their ultimate cost. If necessary, a figure to represent this cost can be arrived at by an experienced person reviewing the records of each case and from the information in hand judging as to the reserve necessary to carry it to completion. This plan is thoroughly unscientific and may easily produce very erratic results.

The proper method to use in valuing these indeterminate cases is by means of an "open table." Accident statistics develop the fact that the longer the past duration of a temporary disability the longer will be its future duration. Based on this premise a table can be prepared showing the total cost of cases for each dollar of weekly compensation depending upon the time elapsed from the date of the accident to that of its valuation. All jurisdictions can be guided in the formation of this table by the same general accident statistics, but the actual values used will vary with the several laws. Values applicable to the Pennsylvania law, which recognizes as permanent partial disabilities only complete loss, or loss of use, of the five major members, would not be appropriate for such a law as that of California, by which the cost of a large number of injuries to the extremities depends upon legal provisions rather than upon the actual duration of disability.

When this open table has been correctly prepared every case whose ultimate status has not been determined should be valued from it. Although these values may not at all represent the final cost for individual cases, their aggregate will closely approximate the total value of all such cases, provided only that the accident records accurately portray the current status of the cases. If a fund is lax in obtaining information regarding the termination of short-time disabilities, it will easily be possible to set up a very large reserve on account of accidents which did not extend beyond the waiting period simply because the records do not show any termination date. and

these cases must be assumed to be open. General appreciation of this situation throughout the fund should quickly correct it.

An open table such as this can not be arrived at by an abstract calculation and thereafter be assumed blindly to represent correct values for all time. Conditions under a compensation law are continuously changing. Amendments become effective, court decisions change its interpretation, the viewpoint of administrators is not inflexible, both employers and employees become more familiar with its operation and its possibilities, so that accident costs which depend on these and many other factors are not a matter of arithmetic and algebra to be calculated in the beginning and then forgotten. A careful analysis of accident costs must be maintained, and facts revealed by this analysis must be reflected in the open table. Much of the analysis recommended by the statistical committee of this association can be directly applied in keeping an open table aligned with current developments.

The foregoing discussion includes reported cases on which there is a known or assumed future liability. The reserve must, however, cover the liability on all cases which occurred during the period for which it is established. If the valuation date is soon after the close of this period there will be a large number of cases on which the accident reports have not been received. An analysis of past experience, showing the elapsed time between the dates of occurrence of accidents and of receipt of reports, should form the basis for an estimate of the number of such unreported cases. Their value can be taken to be the average value of all cases, so that the reserve for them will be this average value multiplied by their estimated number.

Except in those jurisdictions where the closing of a case closed it without possibility of its being reopened and further liability established, some provision for this contingency must be made. If records are not maintained in such a way as to develop the average number and cost of these reopenings, they can probably be satisfactorily covered by slightly increasing the open table values or by adding as a flat amount a percentage of the reserve otherwise determined.

No provision has so far been made in the reserve for unpaid medical costs on account of these various types of accidents. Bills for medical services will be received long after the close of the period and must be charged against the proper premium by creating a reserve for them as part of the total reserve. The amount of these future medical costs can be estimated from past experience in at least two ways. First, the average cost of medical service per case will probably be practically constant or else show a fairly uniform tendency to increase. From the record of these averages a value can be obtained for use in connection with all the cases of the current period. The reserve will then be determined by subtracting the actual payments for medical services from the aggregate of these estimated costs. It is probably desirable to establish averages for the several degrees of disability rather than one general one to apply for all cases.

A second method for determining the reserve for medical expenses is based on an analysis of the past payments for this service. It will probably be discovered that a fairly constant proportion of the ulti-

mate medical cost for any year is actually paid after the end of that year. If this condition exists, a multiplier can be computed which, when applied to the payments already made on account of the accidents of any year, will approximately produce the further payments on account of these same accidents.

Since the reserve must anticipate the full liability on all cases, any special provisions of the various laws not taken into account in this discussion must be considered in the final reserve figure. With the addition of these considerations a reserve computed along the lines suggested should be a proper one.

In order to verify the fact that the reserve is proper, it should be tested in the light of previous experience. While the following tests should indicate the general reasonableness of the reserve or of the valuation on which it is based, they are not expected to reproduce either exactly. The object of applying them is more to discover gross errors or inconsistencies than to prove the exactness of the result. For periods on which a previous valuation has been made the best test is a comparison of the present total valuation with the former ones. Disregarding cases for which the reserve is on a discounted basis, the decrease during any year in the reserve for a previous year should equal the payments made in the same interval on account of these cases, after taking into account the changes in the valuation of individual cases. If this test is somewhat extended, so that an analysis is made of total valuation, reserve, and payments for year of occurrence and type of disability, any serious discrepancies should be readily located.

Approximations may be made in respect to the total cost of the accidents of the current year for which a previous valuation has not been made. The two methods suggested for determining the reserve for medical cost can be applied to test the reserve for compensation cost. The average cost of all cases, and more especially the average of compensable cases, should be quite definitely indicated by the experience of previous years. Also, the payments made in any year on account of the accidents of that year will be found to bear a surprisingly constant relation to their total ultimate cost. It may be that with the smaller funds this relation will be erratic unless fatal and permanent total disability cases are excluded, but with the larger ones this smoothing is scarcely necessary.

Most funds will undoubtedly determine their annual loss ratios and some may determine their aggregate pure premiums. The former is the ratio of total losses to total earned premium; the latter the ratio of total losses to total insured pay roll. While each of these ratios is valuable as an indication of the general trend of the business, neither is apt to be sufficiently constant throughout a series of years to be a reliable indication of the degree of accuracy attained in the loss valuation. The loss ratio is dependent directly upon the rates on which the premium is based, so that any variation in these rates disturbs the ratio just as certainly as does a variation in the accident cost. The aggregate pure premium is independent of rates but is subject to variation with the accident hazard of the industries insured. The 1922 pure premiums for funds in coal-mining States such as Pennsylvania, West Virginia, and Ohio will undoubtedly be very different from the corresponding figures for years of normal

coal production. Notwithstanding the limited use of these ratios for this particular purpose, they are of considerable value in other directions and should be determined.

The proper method for computing claim reserves may be summarized as that method which by a valuation of individual cases produces a reserve which is adequate but not excessive. This valuation is based on the full terminal value of cases regarding which a definite rate for a definite period has been established. For cases on which either or both of these factors is dependent upon death or remarriage suitable mortality and remarriage tables with a comparatively low interest rate are to be used. The basis for valuing unadjudicated cases is an open table derived from the statistics of accident duration and cost. Estimates for unpaid medical expenses, unreported cases, and special contingencies are included. The total reserve thus determined is tested in the light of previous experience and adopted as being proper.

The CHAIRMAN. The next subject is: "Schedule versus experience rating: A critical review of the systems for rating workmen's compensation risks." This will be discussed by Mr. Leon S. Senior, manager of the New York Compensation Inspection Rating Board.

Mr. SENIOR. I want to make it very clear that the paper which I have prepared for this occasion deals only with a certain phase of rating compensation risks. There are three important steps involved. One is the determination of basic rates; the second is the deviation from the basic rate for the purpose of determining the individual rate for the risk on the basis of its physical hazard by the process of inspection; and the third is the determination of the further deviation on the basis of experience. In writing this paper on "Schedule versus experience rating: A critical review of the system for rating workmen's compensation risks," I did not have in mind at all the possibility that it may suggest the idea that it deals with the determination of basic rates. It does not. It deals only with the subject of determining individual rates on the basis of inspection and experience.

The discussion this morning confirms my opinion to the effect that little recognition has been given by the authorities to the systems of schedule and experience rating as a social force in stimulating accident prevention. I can not agree with the gentleman who made the statement this morning (if I correctly understand it) that the only method for preventing accidents is by a system of State inspection and also, perhaps, of penal statutes.

I am very firmly of the opinion that penal statutes do not accomplish accident prevention. You have to go about it in a different way. Nor can I agree with the gentleman from Wisconsin, as regards a penalty for the worker in the way of reduced compensation on account of carelessness, which is provided in the Wisconsin statute. I believe that that provision is opposed to the entire philosophy of workmen's compensation. It is really going back to the days of employers' liability when we penalized the employer and penalized the employee for negligence. Penalizing the employer because of carelessness, penalizing the employee because of carelessness, is a modified form of employers' liability and is not consistent with the theory of workmen's compensation.

SCHEDULE VERSUS EXPERIENCE RATING: A CRITICAL REVIEW OF THE SYSTEMS FOR RATING WORKMEN'S COMPENSATION RISKS.

BY LEON S. SENIOR, MANAGER NEW YORK COMPENSATION INSPECTION RATING BOARD.

Schedule and experience rating have received both praise and criticism as instruments for measuring the hazard of workmen's compensation risks. Recognition has also been given to the system, although at times grudgingly, as a social force in stimulating safety work and preventing industrial accidents. Most of the criticism, however, has been directed to the details rather than to the fundamentals of the scheme.

The general principles underlying schedule and experience rating are undoubtedly familiar to this audience, but in order that the points developed here may receive intelligent discussion, a brief description of the two rating plans may not be inappropriate.

SCHEDULE RATING.

Schedule rating is limited to manufacturing risks and involves the inspection of the structural and mechanical features of the plant on the basis of certain standards described in the industrial compensation rating schedule. Debits and credits are imposed to the extent that the actual conditions found in the plant vary from such standards. The present schedule provides a set of standards established as a result of engineering judgment and experience, with due regard to the legal requirements of the several States. The values resulting in rate charges and rate credits, although based on judgment at present, are now in process of amendment so as to give correct expression to the accident causes and hazards covered by the insurer.

The schedule purports to measure three fundamental elements of hazard—(a) catastrophe, (b) structural and mechanical, and (c) morale. It operates to provide charges for hazardous conditions not found in the average risk; credits are allowed for the standard guarding of hazardous conditions which are commonly unguarded in the average risk.

In dealing with the catastrophe element, attention is given to standards bearing on fire hazard, such as the inadequacy of proper exits, for which a charge is provided; credit is allowed for the elimination of that hazard because of first-floor occupancy or mitigation of the hazard by a sprinkler system. Charge is made where high-pressure boilers are not subject to approved periodical inspection and credit is allowed where the hazard is absent. Standards are provided for hazard due to explosive liquids and processes which are subject to charge in the absence of proper precaution in the handling of such explosives.

The standards cover structural and mechanical conditions such as elevated platforms, floor and wall openings, and stairs; general

equipment such as cranes and elevators; prime movers such as engines and turbines; power-transmission equipment, including belts, gears, shafting and dangerous projections; machinery from the standpoint of control, guarding of drive devices and other moving parts and points of operation.

Consideration is given to so-called morale conditions affecting welfare and health of workmen. This includes general order, light, ventilation, and the use of goggles, foundry leggings, shoes, and respirators; organization of safety committees and the installation of first-aid and emergency hospitals.

The values for catastrophe and structural items are applied in the form of flat charges and credits, regardless of the rate for the risk, on the theory that all employees are exposed to the hazard which affects all classifications in a like manner. A boiler explosion in a low rated risk, such as a clothing factory, is apt to cause a loss just as serious as a similar explosion in a forging shop. The values for power transmission and the guarding of machinery are expressed in percentages of the rate, on the theory that the exposures form functions of the total hazard and should be covered correspondingly in the final rate for the risk. The values for morale conditions are expressed exclusively in the form of credits. Full credit for safety organization in plants subject to experience rating is granted only when supported by a test disclosing a favorable record of accident frequency.

Risks are inspected annually by inspectors of the compensation inspection rating board in advance of the effective insurance date and the assured is given an opportunity to correct defective conditions. When corrected, the rate is amended, corresponding reductions being allowed, and the reduced rate becomes effective from date of application. To illustrate: On a risk that takes effect January 1, the rate having been fixed in advance, the assured may make improvements within 90 days after the effective date of the policy. Such improvements, when verified by an inspection of the board, will result in a reduced rate effective as of April 1.

Through the process of inspection it is also possible to ascertain the proper classification to which the risk is entitled, the inspection report in each case describing raw materials, processes, and products manufactured by the given employer. The rating schedule is now in process of revision in order to simplify it, bring it under statistical control, and establish values which will be based on experience rather than on judgment.

EXPERIENCE RATING.

Under the provisions of the New York experience rating plan all risks that have earned a premium of not less than \$500 during the first 18 months of a two-year period preceding the effective date of the policy to be rated are eligible and must be subjected to the process of experience rating. A risk that has not been insured for the preceding two-year period does not qualify under the plan. All experience incurred during the first 42 months of the maximum four-year period preceding the effective date of the policy to be rated must be reported to the board by the several carriers who have insured the risk. The report is made on a prescribed blank which gives pay roll by classification, and losses by policy years, classified as "D. & P.

T."¹, "All other"² and "Medical." In the process of calculation the losses are translated, by suitable factors of loading, into terms of premium and a comparison is made between the premium calculated at manual rates and the premium indicated by the experience of the risk. By means of a formula³ debits and credits are adjusted on the basis of the difference between the loss ratio of the class and that of the risk, the formula also giving recognition to the size of the risk, more weight being given to the experience of a large risk, the creditability factor increasing in proportion to the increase in premium.

The plan is compulsory for all risks that have produced sufficient premium during the minimum experience period to qualify. The resulting modification, whether debit or credit, is expressed in percentage terms and applied to the manual rates for risks that are rated exclusively by the experience-rating process, as, for example, contracting and public utility risks. As for manufacturing risks subject to schedule rating, the modification obtained by experience rating is applied to the resulting rate obtained after the risk has been subjected to the process of schedule rating.

CASE FOR AND AGAINST SCHEDULE RATING.

The method of schedule rating is applicable to a risk having a definite physical existence and location. With proper statistical information it is comparatively simple to determine and assign values to hazards caused by the moving parts of machinery, elevators, power transmission, the use of molten metals, or through imperfect floors and stairways.

The morale hazard of a given risk is reflected by the interest which the management displays in perfecting physical conditions and by intelligent measures to arouse a spirit of safety and prevention of accidents through organization of safety committees and proper medical equipment. It is possible to reach the hazard referred to as "morale" by application of values to safety organization, inspection, and educational service, first-aid and hospital equipment. It is possible to determine the rate on the basis of existing conditions, affording to the assured an opportunity to correct and make improvements therein. When corrections and improvements are made, the risk may secure the benefit of a lower rate for the greater portion of the insurance term. Rate changes quickly follow the changes in the hazard. The application of schedule rating is not obstructed by artificial conditions due to change in ownership or corporate reorganization. The plan stimulates the promotion of safety work and prevention of accidents in manufacturing plants.

Against schedule rating it is argued that it can not give accurate expression to morale hazard. Guards may be provided by the employer but are of no effect in preventing accidents unless the management enforces their proper use. Safety committees may exist on paper but are wholly useless and ineffective unless they succeed in inculcating a spirit of enthusiasm and cooperation. Application must be limited to manufacturing risks. The plan does not reach the large number of risks engaged in contracting and public utility work.

¹ Death and permanent total disability.

² Includes permanent partial and temporary disability.

³ Known as Formula Z.

CASE FOR AND AGAINST EXPERIENCE RATING.

The principal argument in support of experience rating is that it discloses the morale of the risk, something which schedule rating is unable to accomplish with any degree of accuracy. A sound experience-rating plan will disclose the morale of the risk by taking into account the frequency of accidents and their corresponding cost to the insurer. The plan may be applied without exception to all industrial risks—manufacturing, contracting, and public service. The plan provides a method for rewarding the employer for a low rate of accidents and low loss ratio, thus stimulating measures for accident prevention.

The argument against the experience-rating plan is that it does not disclose the morale of the risk from the standpoint of accident frequency. As applied, the experience exhibit includes the cost of indemnity for all accidents without discrimination and regardless of the employer's moral responsibility for such accidents.

The experience on which the rate is predicated represents past conditions. It has been incurred during a period antedating the effective insurance term. Since then many changes have taken place in the industrial life of the nation and of the particular plant. Temporary periods of prosperity and adversity have had their effect upon both pay roll and losses, with the consequence that the loss ratios then sustained are not a proper index of present and future morale.⁴ The application of charges for bad experience may be avoided through artificial changes in control and operation and through combinations of experience on several units managed by a single promoter, operating under several corporate titles.

The plan is subject to competitive use and manipulation for the reason that the experience data are not under proper control and may be prepared in a way to make the situation most pleasing to the insurer.

The title of this paper conveys the idea that the two plans for rating workmen's compensation risks are opposed to each other. There is a modicum of truth in this assumption, although the conflict between the two forms is not entirely irreconcilable. As a matter of fact, in actual practice the two plans have been combined to bring about a common result.

MORALE.

It is claimed that in the process of physical appraisal by means of inspection and schedule rating we are unable to give a proper value to the morale of the risk.

What is the meaning of this term which we have borrowed from the French? It has been defined as something intangible that can not be measured in money or material worth, but the fate of every great movement—industrial, social, religious, or patriotic—rests to great extent on the spirit of those who fight for its success. Morale is the mental and spiritual pulse of a certain group of human beings under observation. It is the mental condition which prevails in this group with regard to their degree of submission to discipline, their zeal, enthusiasm, loyalty, and cooperation with their fellows working for

⁴ Mr. Charles G. Smith, of the New York insurance department, has offered a remedy on this point by proposing a system of weights, so that the experience of the earlier years may not receive the same creditability as the latest experience of the risk.

the same cause. This is true in both the positive and negative sense. As the enthusiasm, courage, and loyalty of the group ebb, so with these qualities goes the morale.

The accident frequency in an industrial plant can be tremendously affected by the morale of the proprietary interest, the management, and the workmen. Underwriters schooled in the traditions of liability insurance in defining morale are wont to illustrate their point by citing the case of an antiquated plant with ramshackle buildings, unguarded machinery, poor light and ventilation, and lacking all other characteristics of good order and intelligent supervision, but showing notwithstanding a satisfactory record of experience; and its opposite, a modern well-equipped plant producing an unwarrantable loss ratio because of its number of accidents. These illustrations may be fantastic in conception, but they have been used rather effectively by those who have an abiding faith in experience as the means for determining the probable hazard of the risk. The cases cited are perhaps anomalous and may not serve as criteria in decisions for or against schedule or experience rating. They do present, however, a reason for combining the two rating schemes in order to produce one that will approximately measure the true hazard. Shall the employer operating the ill-equipped plant be penalized for its poor physical condition or rewarded for the good experience? An answer in the affirmative to both parts of the question may sound paradoxical, and yet this solution is not unsound in theory nor unattainable in practice, provided of course that we have selected the proper instruments to value physical as well as morale conditions. Investigation will probably disclose that the freedom from accidents in the ill-equipped plant is due to high morale among the workmen, even though it may not be discernible in the management.

It may well be asked, What is the justification for a charge on account of poor physical conditions in view of the good experience of the risk? In answer it may be urged that conditions that contribute to satisfactory morale are not sufficiently static to justify a belief in their indefinite continuance. Nor should the employer be encouraged in the maintenance of an unsafe plant on the ground of past favorable experience. The extra charge resulting from inspection and schedule rating will serve as a warning that the plant has a potential accident hazard and may act as a spur to convert a reactionary proprietary interest to the safety idea.

As to the perfect plant with poor experience, is schedule rating to be condemned because an appraisal of the purely physical characteristics of the plant will produce a high credit? I think not. There is evidently something wrong with the morale, either on part of management or on part of workmen, which is discernible only to a limited extent by inspection. I know there are enthusiasts who hold that experience rating gives the only formula for the true rate on the risk. Experience rating may serve as an auxiliary, but not as an exclusive, index to determine the morale of the risk. What physical rating fails to reach may be reached by use of experience. But it is my belief that neither system is complete in itself and the examples recited are submitted in support of this belief.

PROBLEMS OF ADMINISTRATION.

Many difficult and complicated problems present themselves in the administration of experience rating. The administrator, if conscientious, is naturally guided by a desire to do justice to the policyholder, with due regard to the rules and equities that may be involved. Very often the barriers are insurmountable and the results apparently abortive. As experience follows the person or proprietor who is the risk in question, and not the fixed plant as in schedule rating, application of results due to unfavorable experience may be avoided by a change in name or legal title. It is true that the rules contemplate that a nominal change in ownership shall not preclude the acceptance of experience incurred prior to such change, and that in the case of a material change affecting ownership and control the experience of the risk incurred prior to the change shall be included. Equitable as this rule appears to be, its enforcement is not possible in cases where employer A refuses to accept the rate which is based on the experience of B, although the risk may be the same in all respects except for the proprietary title.

Quite often several corporations owned and operated under common control desire to have their experience combined for rating purposes. It was ruled, however, recently that each corporate entity must be rated on its own experience on the ground that the plan is compulsory in its scope, that you can not compel two corporations to combine their experience, and that combinations made only by selection on part of the assured makes the plan optional and discriminatory in practice. It is possible that this rule will necessarily become subject to exceptions in cases where a single enterprise is conducted under several corporate titles with an interchange of pay roll and with the maintenance of departments common to several corporations that play a part in the enterprise. The absence of a fixed plan and the fact that the rate is predicated on past experience opens up numerous questions in the treatment of individual risks which have no counterpart in the administration of the schedule-rating plan. A firm of copartners dissolves, splitting up into two parts. If the experience of the past is favorable, both parties promptly file a claim to be rated on the basis of such experience. If past experience is unfavorable there is no doubt but that the new firms are quite willing to be treated as new risks. Pleas are presented for the elimination of experience incurred under unfavorable war conditions, business depression, and poor management; appeals are made for the exclusion of particular experience sustained in a line of work not normally prevailing in the enterprise conducted by the assured. The board is asked to eliminate particular losses because of fraud on the part of claimants, because of the claimant's election to sue a third party for damages, because the accident is due to an "act of God," because the accident occurred through the negligence of a workman not obeying the rules of the establishment, or because of the act of a foreman in removing safeguards while experimenting in the hope of improving the process.

What must be the guiding principle in determining appeals of this kind? If we accept the idea that the hazard of the risk can be determined by weighing the difference between the loss experience of the risk and the loss experience of the class to which the risk has been assigned, then it would be improper to exclude any part of the

loss incurred by the risk during the experience period, regardless of any changes in operations, industrial conditions, fraud on part of claimants, or negligence on part of personnel. If, however, we use as our guide the principle that experience is an index to the "morale," then the road is open for the consideration of each case on its merits, the admission or exclusion of certain experience depending on whether such experience may be attributed to causes over which the establishment has no control. The difficulty of making decisions on the "morale" test is so obvious that the administrators of the plan have not looked with favor upon proposals for its use in cases described. And yet the application of the plan without such test often produces results not wholly satisfactory to the assured or to the insurer or to the conscience of the administrator.

It is true that in a general way attempts have been made to limit the effect of the plan so as to bring the net results more or less in harmony with the "morale" idea. Efforts in this direction have found expression in the rule limiting the value of death cases to the amount of \$4,000, the value of single accidents to an amount not exceeding 20 per cent of the premium, and defining catastrophe as a loss involving five death and permanent total disability cases, or a limitation of cost to \$20,000. Beyond these general measures the administrator of the plan would meet with a difficult task if he decided to apply the morale test in order to ascertain whether to admit or exclude certain parts of the experience. For example, take the case previously referred to, where the workman was injured because the foreman removed the guard while experimenting in an effort to improve the process. Opinion may widely differ as to whether the accident was caused by "poor morale." A carpenter installing interior trim in an office building is killed in an elevator of the building operated by the owner of the building. This accident can not be described by any stretch of imagination to "poor morale." The employer is not morally responsible for this accident and an action against a third party—the owner of the building—could probably be maintained with success. The same may be said in the case of a driver who is injured in a collision caused by the negligence of a third party. There are many other types of accidents the causes of which are inherent in the industry and for which it seems to be wholly inequitable to charge the employer in experience rating, if we accept unreservedly the assumption that experience rating is an index to the morale of the risk. Under the scheme of valuation which takes into account the cost of indemnity and not the rate of accident frequency, it is altogether impossible to apply as a measure of the hazard any other standard than that which gives the difference between the losses of the risk and the losses of the class to which the risk has been assigned expressed in terms which may be applied as a charge or a credit to the basic rate.

Difficult questions arise with respect to risks formerly covered by self-insurance or covered by several companies under several policies or terminated by cancellation, thus changing the anniversary date of the policy. With respect to self-insured risks it is the practice of the board to accept applications provided sufficient definite information is given covering pay roll and losses, with detailed statements as to the date of accident, name of injured employees, nature of injury, amounts paid and outstanding, and the date of return to work.

When a risk is covered by several policies differing as to expiration dates, a single experience modification must be computed once each year on an anniversary date determined by the board; this is applied to all policies during the ensuing year.

Where a policy is terminated by cancellation the experience rates determined for that policy also apply to the new policy until the rate has been in force for a period of one year. An exception is made in the case of a policy canceled within three months after the effective date. In that case the experience rate that has been determined for that policy is applied to the entire term of the new policy.

The principal criticism which has been aimed at the plan is due to the fact that, in practice, debits on small risks are out of proportion to the premium, and that too much weight is given to the experience of the individual risk. Plans for a revision are under way. It is safe to predict that the new experience-rating plan, which may come into being during 1923, will be corrected so as to overcome this criticism. The application of larger debits on small risks is not only unfair and out of harmony with the general principles of insurance but unwieldy from an administrative standpoint under competitive conditions. We would welcome a formula that would automatically limit debits to a point not exceeding, say, 25 per cent, and credits to 40 per cent. It may be difficult to defend such a formula from the technical viewpoint of the actuary. Thought must be given to the practical viewpoints of the situation and to the logic that the class experience deserves more important consideration than the individual experience of the risk.

EFFECT ON PREMIUMS.

Theoretically it is expected that the application of the system will not disturb the general premium level and that the debits imposed for inferior physical conditions and poor experience will equal the amount granted by way of credit for superior equipment and favorable experience. In practice, however, the system has resulted in reducing the total expected premiums to the following extent:

A statistical analysis of 6,805 risks rated in New York during the period June 30, 1920, to June 30, 1921, involving a pay roll of \$356,000,000 and a premium at manual rates of \$5,379,000, has resulted in a general reduction of 4.3 per cent. Of the 6,805 risks, 72 per cent were given reduced rates, 8 per cent normal and 20 per cent increased rates.

An analysis of 7,000 risks which were subjected to the experience-rating plan, involving an annual pay roll of \$853,000,000 with a premium at manual rates of \$16,000,000, show a general rate reduction on account of experience of 8.8 per cent. Of the total number of risks, 75 per cent were given reduced rates and 25 per cent increased rates. The effect of the plan on the total premiums written in New York is estimated to amount to a reduction of 6.2 per cent.

A plan that will in practice be absolutely balanced seems impossible because of natural resistance to the acceptance of debits on part of policyholders and those who represent them, and because the improvements of risks precede in point of time corrections of the general rate level.

SUMMARY.

I do not think it was intended, in assigning to me the task of writing this brief, that I should appear either as an advocate for plaintiff or defendant in the case of schedule versus experience rating. I rather conceive my duty to be that of an impartial observer who has watched the operations of both parties and who has been able to reach certain conclusions drawn from observations and experience.

Schedule rating is notable for simplicity in operation and comparative freedom from disputes with the assured. All controversies are easily disposed of on the basis of ascertainable facts. The employer generally is not concerned so very much about the value assigned to a given item as to the existence of the hazard for which a charge has been made. The paucity of such disputes—a sure indication of the practicability of the plan—tends immensely to simplify its administration. The value of the items for which charges are imposed and credits allowed is subject to statistical control by correlating the accident to its cause, and the method of inspecting the risk is subject to control from a central office. The practice of central inspections as against company inspections has fully justified itself in the course of the past eight years. The superiority of the system lies in the fact that it does away with competitive abuses and permits each risk to be rated on its merits in accordance with the nonpartisan views of the central office.

After a review of the merits and defects of both plans, one is forced to the conclusion—inevitable it seems to me—that greater progress has been made in the rating of factory risks because of the ability to obtain a blending of both rating schemes, one supplementing the deficiencies and imperfections of the other, and the composite result representing with approximate accuracy the probable hazard. Where experience rating exclusively has been used for the rating of contracting and public service risks it has proven so far but a feeble instrument in determining the probable hazard. The weakness of the plan is due in a large measure to the fact that too much weight has been given to the experience of the risk as against the experience of the class. And the valuation of losses in terms of indemnity cost is not entirely in harmony with the purpose of disclosing and rating the “morale” hazard.

I gladly invite a full and free discussion so as to bring out the good points and the defects of our rating scheme, for it is only through just criticism that perfection may be attained.

Personally I feel that the experience rating plan is subject to correction in three important details: (1) A change in the Z formula so as to give less weight to the individual experience of the risk and more to the class experience, (2) a change in the method of valuing losses so as to reflect more closely the accident frequency of the risk, avoiding capricious fluctuations in reserve values from year to year, and (3) introduction of a method for grading the past experience so that it may reflect more clearly the present and future hazard of the risk.

DISCUSSION.

The CHAIRMAN. The discussion of Mr. Senior's paper will be opened by Mr. Kingston, of Ontario.

Mr. KINGSTON. I protested against my name going on the program as leading this discussion, for the reason that a year ago at Chicago I presented a paper on "Merit rating" which involved a discussion of this whole subject of schedule rating as well as experience rating, and that discussion or paper appears in the report of the Chicago convention; so that anyone who may be interested in what I have to say on the general subject of rating will find it in that report.

I do not consider it my duty here to uphold any plan because we adopt it or to condemn any plan because we condemn it. We are all endeavoring to see if we can ascertain what is the best method of rating. This presents a lot of difficulties. I noted with a good deal of interest the statement made by Mr. Senior that schedule rating was so simple that it presented practically no difficulties at all. The expression that he uses is: "Schedule rating is notable for simplicity in operation and comparative freedom from disputes with the assured." If I felt that that was absolutely right, I would feel like recommending schedule rating. But I can not conceive of any of us seeking to adopt schedule rating without preparing for an enormous amount of controversy. It would be impossible and impracticable for any jurisdiction to have its whole industrial system rated by one man, particularly in a far-flung constituency like ours where the remotest districts are about 1,500 miles apart. We would have to have perhaps a dozen or two dozen rating men to cover the whole district. Now with a dozen men rating in various parts of the Province, I do not believe, even if you do have a schedule, or a key, or some sort of system to unify their ideas, that you can find two men who, going into the same factory independently or at different times, will make like reports.

Then again you are going to find, it seems to me, an employer saying, "I have been reported with such and such a rating against my factory, and I know I have a better factory than my neighbor, Mr. So-and-so," while the rating officer will have reported quite the opposite situation.

We have felt that experience rating from a compensation board's point of view is the soundest and simplest method of operation. I feel that if the best schedule-rated factory in the country produces a bad experience, it should pay for it in its rating. The small factory, even though it has a poor morale and would therefore stand a poor test in schedule rating, if it has only a comparatively small exposure, may run for 10 years without an accident.

The system of experience rating, it seems to me (I am speaking now from the point of view purely of the compensation board administration), is the one that should be the most acceptable and the one that is most practicable and simple in administration.

We have in our statute a special provision dealing with accident frequency. If a firm has an unusually large number of accidents, so many as to lead to the inference that there is rank carelessness somewhere, by this special provision that firm can be charged a much higher rate. I would hesitate very much to enforce that provision, and we do not enforce it unless we find very strong and convincing facts to warrant it. But, added to our provision for experience rating, that provision helps to cover the situation as regards accident frequency.

I might say a word regarding our system of rating. At the end of each year we adjust all our rates. At the beginning of the year the rate which we charge is a provisional rate—nothing final about it. Following the close of the year we ascertain as quickly as we can what the experience of the year has been in every class, so that about the third or fourth month of the succeeding year we are able to adjust all of the rates, and then it is that we send out our assessment statement. That assessment statement, which is sent out about the latter part of March or April, embodies the adjusted rate for the previous year, based upon the actual experience of the class. The statement also includes the provisional rate for the current year.

Merit rating, however, is not dealt with until toward the end of the year following. That is to say, merit rating for the year 1921 will not be dealt with until a month or two from now, because it takes very nearly a year for the composite experience of the previous year fully to develop in our accident record. So that about November, then, of 1922 we will size up the experience of the employers in 1921 and merit rate them.

Merit rating, however, does not enter into our rate book. Merit rating is an individual matter. Experience rating is a matter that enters into our published manual rating.

I do not know that I have anything more that I can add to the discussion at the moment.

Mr. HOOKSTADT. Mr. Kingston, I do not understand what you mean by merit rating and experience rating. I wish you would explain the difference. Experience rating is a part of merit rating. Merit rating implies two parts, experience rating and schedule rating.

Mr. KINGSTON. Perhaps it is a little complicated and I may not have made it clear. Experience rating is the rating which applies not so much to the individual as to the class or group of employers. All employers in a group doing a like business are charged the same rate; that is, initially they are charged the same rate.

Mr. DUXBURY. You do not apply experience rating to individuals but you apply it to a class?

Mr. KINGSTON. That is the idea. Experience rating is the class experience.

Mr. HOOKSTADT. Then what you call merit rating is individual experience rating?

Mr. KINGSTON. Merit rating is the rating of the individual in the class.

Mr. DUXBURY. Those are the terms which you use in your jurisdiction. That is quite contrary to those in use in the others.

Mr. KINGSTON. Merit rating has nothing to do with class experience. I mean, as we understand it and as I explained it. Merit rating is purely individual treatment in accordance with the individual experience.

Mr. SENIOR. I think there is one point that needs to be made clear to this audience, so that we can know what we are talking about. I think the difficulty between Mr. Kingston and myself is that we do not use the same terms; we do not speak the same language; we do not use the same definitions.

When I speak of experience rating, I speak of individual rating of risks. I am not talking at all about class experience. In my plan in my paper I stated, I think, very clearly that I did not intend to go into the question of making rates on the basis of class experience. What my paper covered was the subject of deviations for individual risks, not the class experience, on the basis of their physical conditions, not on the basis of their individual experience.

Now that is merit rating. Merit rating means the deviation of the individual risk from the class by certain methods. And those are our methods. There are two methods: One is schedule rating by an examination of the risk, the ascertainment of its physical characteristics; and the other an examination of its experience. The two combined are known in New York and in this country, if you please, as merit rating. That is merit rating.

There is another distinction as between Mr. Kingston and myself, and that is the fundamental distinction in the system. When we sell our insurance we sell our merchandise just the same as it is sold here in the store across the way. We sell it in advance; that is, we fix the price in advance. We tell the purchaser before he buys our insurance just what his price will be. And his price is fixed by three methods, as I have explained: First, the assignment of the risk to a particular classification. If he is a boot and shoe manufacturer we assign him to the boot and shoe classification and he is entitled to the rate of that classification. Then we examine his plant before his policy goes into effect. We examine his plant and ascertain the physical conditions of that plant and determine what the schedule rate is for that plant. We also examine the experience for that plant before the policy goes into effect. So that when a policy goes into effect on January 1, the purchaser of that insurance knows 60 days in advance what his rate will be, and there will be no subsequent assessments on that rate; that is, no subsequent assessments from the standpoint of the rating office. We will make no assessments. There may be an assessment, you say, in the case of certain companies that become defunct, but that is a different proposition. When the purchaser purchases his insurance he ought to know, or he does know, what the rate will be. Now that is another fundamental distinction between our system and the system that Mr. Kingston discusses.

The third proposition is with respect to the practicability of the plan. Mr. Kingston, I understand, is somewhat skeptical about the fact that we are able to determine the rate without much controversy with the assured. Well, that is a fact. No matter what theories Mr. Kingston may entertain on the subject, we have behind us the experience of at least eight years in the State of New York and we know what we are talking about. We have been dealing with policyholders. We have been dealing with agents. We have been dealing with insurance companies. We have been dealing with a far more complicated situation, I think, than the one that exists in Mr. Kingston's jurisdiction, because we have a competitive situation where 48 companies are involved and something more than 20,000 policyholders, whose risks are subject to inspection in experience rating.

Mr. KINGSTON. Perhaps the situation may be better understood if I state in just a few words the different situation which we

represent. We are not selling insurance. Our fund is created by an assessment on all employers—a compulsory system, collective liability. Every workman engaged in industries which come under the act in our Province is protected whether or not the employer has paid an assessment. That is a fundamental idea of our system. The workman is protected, regardless of whether the employer has paid his assessment to the board.

Perhaps I did not make myself clear at the outset. I see that in your discussion experience rating or schedule rating is like our system of merit rating. That is individual. My idea as to experience rating as against schedule rating has to do with the make-up of our manual rates, which are applicable to our various classes or groups.

Just to show how fair and how practical our system is, I might cite this example: For years we carried (this was during the war) our manufacturers of explosives and we charged them provisionally a \$5 rate. I think none of you will say that \$5 per hundred is too high a rate for the manufacture of explosives. Your manual rates are much higher than this. Yet the accident experience of that group of manufacturers (this has nothing to do with merit rating; this has to do with our actual class experience) was so good that in the adjustment at the end of the year we refunded \$4 on that rate. So that the actual cost of carrying our manufacturers of explosives during practically all of the war period was a 1 per cent rate.

The CHAIRMAN. Mr. Kelly, general manager of the Pennsylvania Compensation Rating and Inspection Bureau, will continue the discussion.

Mr. KELLY. Both schedule rating and experience rating are many-sided matters. Both plans are used, singly or together, to determine premium rates for individual working places. Both plans are used also as instruments of accident prevention. Mr. Senior has pointed out that schedule rating is chiefly applied to manufacturing establishments while experience rating is applied to all industries. Coal mines and quarries as well as factories are schedule rated in Pennsylvania, however, and coal mines are schedule rated also in a number of other States. Mr. Senior indicates but does not stress the fact that schedule rating may reasonably be applied to places of smaller size than the experience plan can equitably rate. The former of the merit-rating plans thus provides the only method of rate deviation for small factories, of which there are very many. Experience rating, on the other hand, applies with greater effect to large plants; in fact, there are establishments so large that their rates are almost wholly made from their own experience. To schedule rate these large places is obviously a waste of energy.

Mr. Senior has touched lightly on the competitive uses of merit-rating plans. The detail of administration, the size of establishments treated by the plans, the very form of the plans themselves, were developed from the standpoint of competitive use. Indeed, the natural growth of the plans has been practically arrested, since the present systems have well served the competition needs of insurers. Adjustment in nearly every detail of both plans is only now in progress. It will be remembered that both schedule and experience rating of compensation risks were originated by a group of insurers who desired an offset for mutual dividends. Recently published correspondence,

moreover, upholds experience rating as a competitive weapon. Non-participating insurers are there stated to desire a liberalized experience rating plan—presumably a plan producing greater credits for a greater number of plants, and applying to smaller working places. Such liberalized plans will not serve the desired purpose unless they are liberalized for nonparticipating insurers alone. They would grant great credits to a majority of the places rated by them, but at the expense of establishments too small to qualify⁶ for experience rating. High rates must be maintained to permit such credits, and also to permit a profit for insurance carriers. Fewer small plants, moreover, are insured by participating than by nonparticipating insurers. The smaller working places now qualifying by their size for experience rating are too small for treatment of that sort if the rating plan is regarded as a logical method of rate making. The fact is that for such smaller places experience rating merely provides a selling argument. The small establishments which qualify under the Pennsylvania experience rating plan, and a similar condition obtains in New York and in other States, may reasonably expect to have one workman killed and one permanently disabled in 70 years, and one temporarily disabled workman in 2 years.⁷ Such plants have no experience. To increase or to decrease the premium rate of such a place in any amount whatever, for the chance occurrence of an accident, is subversive of the principle of insurance.

In States where claim settlements are loosely supervised, the experience rating of large establishments offers a direct incentive to avoid compensation to injured workmen. This, however, is an argument for proper supervision rather than a criticism of experience rating. Nevertheless, such supervision is at the present time inefficient,⁸ and experience rating adds its quota to the denial of claims and "short-changing" of injured workmen.

⁶ New York Joint Legislative Committee on Housing (Lockwood Committee). Correspondence presented in evidence in investigation of casualty insurance. New York, 1922.
⁷ The following tabulation is taken from an analysis of experience rating in New York State, published in the report of the New York Compensation Inspection Rating Board for 1920. It is here shown to illustrate the effect of experience rating applied to high classification rates.

Annual premium.	Number of risks.	Aggregate premium.	Experience rating credit.
			<i>Per cent.</i>
Under \$1,000.....	228	\$187,000	1
\$1,000 and under \$5,000.....	2,049	4,583,000	3
\$5,000 and under \$10,000.....	377	2,678,000	7
\$10,000 and under \$20,000.....	193	2,723,000	11
\$20,000 and under \$50,000.....	101	3,111,000	18
\$50,000 and over.....	52	6,917,000	29
Total.....	3,000	23,199,000	16

⁷ A risk qualifies for experience rating in Pennsylvania if it has as much as \$1,000 premium in five years. This is equivalent to \$200 of annual premium or \$125 of accident loss cost. In the proportion of Pennsylvania benefits, this would provide some \$38 annually for death and permanent total disability expectation and \$25 each for major permanent and temporary expectation. Death and permanent total disabilities taken together average \$2,500, major permanents \$1,700, and temporary disabilities \$44. A \$200 annual premium plant would therefore expect one death or permanent total disability in 66 years, one major permanent in 68 years, and not over one temporary disability annually.

⁸ See reports of the Connor Investigation in New York, and papers and criticism by E. H. Downey, Carl Hookstadt, and others, at the thirty-fourth annual meeting of the American Economic Association at Pittsburgh, December, 1921, in the American Economic Review, supplement, March, 1922.

The insurance rates of some large establishments are governed largely by their own experience; they are insured on that account. The premiums of these places bulk largely in the total premium income and reduce the ratio of insurance administration expense in like proportion. Insurance costs are thus lowered, not only for them, but for all others as well.

Under a scale of compensation for work accidents which would bear a reasonable relation to the economic loss of the injured workman, close scrutiny of compensation payments would still be necessary—perhaps even more necessary. With such a system, experience rating would, indeed, become a cogent argument for the prevention of industrial accidents.

When applied to small and moderate sized factories, which experience rating affects in a proportionally small degree, the value of schedule rating is undiminished. Mr. Senior points out that the schedule measures facts and may be applied without discrimination. The current plan is faulty, empirical, overprecise, and too extended. Intricacies introduced more nearly to measure hazards have failed of that purpose and added much confusion. It is to be hoped that benefit will result, however, from the changes now in progress.

Catastrophe items are mentioned by Mr. Senior as having an important part in the rating schedule. Unfortunately this is true. Yet, save in coal mines, catastrophies play a small part in the aggregate of work accidents. Opportunities for accidents involving several deaths are present in many places. Such accidents, nevertheless, are rare occurrences. To a smaller degree is this true of all accidents. Surprise should not attend the occurrence of a single accident, but should rather attend the fact that with so many opportunities there are but few accidents. Some curious combination of circumstances, some slight variation of routine, fatigue, a moment's distraction, some deficiency of human nature—any or all of these must be present at the danger point and contribute to the casualty. The importance of safeguarding is in no way lessened by this complicity but is increased thereby. Industry requires workmen. Human weaknesses, as well as mechanical and structural weaknesses, call for precautions against mishap. There are many gaseous mines. Poor or inaccessible fire escapes exist. Gasoline is but one of the many explosive solvents used in industry. Molten metal, iron, steel, or brass, is the basis of all metal working. Poorly supported water tanks, frayed elevator cables, leaning chimneys, and insecure balconies are not unknown. Boilers are commonly present in factories. Potential calamities are present in all these things. Catastrophies themselves, however, are so infrequent^a that the premium value is small, too small to warrant recognition in a rating schedule.

A single schedule is applied with doubtful equity to the many kinds of manufacture. Values assigned to accident causes in such a schedule should represent the average accident value of that cause. Here, as

^a Insured employers in Pennsylvania expended \$4,403,000,000 of pay roll in 1916, 1917, 1918, and 1919. In the establishments covered during that period 122,851 compensable (over two weeks) accidents occurred in the following proportion: Deaths, 3,831; permanent total, 439; major permanent, 2,680; temporary, 115,901. Among these there were 121 accidents involving more than a single death, 27 of these accidents occurring in manufacturing industries. These 27 accidents involved 61 deaths and 6 major permanent. Twenty of the accidents caused injury to two workmen, 5 to three workmen, 1 to four workmen, and 1 to eight workmen. While this is a small exposure from which to draw general conclusions, it nevertheless indicates the infrequency of catastrophe.

often occurs, the average is misleading. Power transmission in textile mills has little relation to the roller table shafts and gears of steel mills, or the differential pulleys of a paper mill. Certain industries, notably cement manufacture,¹⁰ have large repair and yard forces, who are only infrequently subjected to the hazards of the manufacturing process. Plate glass, brick, and terra cotta industries are other examples of this condition. Only by undesirable intricacies of rating calculation can a single schedule take cognizance of these differences.

Accident prevention is after all largely a matter of process. Many of the mechanical devices for handling materials are safer than manual means of doing the same thing, though the resulting lower standard of workmen, greater weights handled at any one time, and the increased speed of production tend to obscure the prevention of accidents by such devices. Blast furnaces with a pig-casting machine are safer blast furnaces than those with the old-fashioned cast house. A bar rolling mill with automatic guides is safer than the old merchant mill. A quarry operated with steam shovels is safer than a quarry in which the rock is loaded by hand. Schedule rating can and should regard the characteristics of specific industries. This can only be, however, when the schedule itself becomes specific. At least the more important groups of industries deserve a separate schedule, one which may be adapted to their individual accident causes. Contrasted with the present schedule, which has not been very effective in reducing the number of accidents, these specific schedules would become potent instruments of accident prevention.

[The president, Robert E. Lee, of Maryland, here took the chair.]

The CHAIRMAN. I am going to ask Mr. Clark to give his paper at this time. Mr. Clark represents the United States Bureau of Labor Statistics.

¹⁰ Sixteen cement mills schedule rated in Pennsylvania have an aggregate annual pay roll of \$2,611,721 and are comparable in size. Schedule rating applied to these risks produced an aggregate premium 35 per cent greater than the classification rate would produce. Yet it was the experience of these 16 mills, without reference to any other experience, which made the classification rate. To offset so obvious an injustice a rating expedient was adopted. The resulting schedule adjusted rates about balanced with the class manual rate and provided a range of individual rates from 60 per cent to 118 per cent of the manual rate.

UNIFORM EXTRATERRITORIALITY PROVISIONS IN WORKMEN'S COMPENSATION LAWS.

BY LINDLEY D. CLARK, UNITED STATES BUREAU OF LABOR STATISTICS.

The question of the extraterritorial effect of workmen's compensation laws is one that concerns only a small minority of wage earners, but if the number affected is relatively small it is nevertheless numerically considerable, and the matter is none the less essential to that number and to a correct application of the laws of the various States. Obviously, the employment relation per se is unaffected by the passage of the workman beyond the invisible line that divides one State from another. But what of that incident of the relation formerly known as the employer's liability for injury to his employees?

There is little to be gained by a study of the cases under the common law or the older statutes, all of which were based on negligence. Such statutes were in effect within the boundaries of the State and not beyond, though they might be enforced in the courts of a sister State.¹ These laws and the suits brought under them, being based on tort, are of an entirely different nature from workmen's compensation laws and procedure under them.

The question is no longer one of fault or tort, but of status. "In excluding the question of fault as a cause of the injury, the act in effect disregards the proximate cause and looks to one more remote—the primary cause, as it may be deemed—and that is the employment itself." (*New York Central R. Co. v. White* (1917), 243 U. S. 188 (205), 37 Sup. Ct. 247.)

The natural and inevitable effect of this position is to do away with the greater part of the pleadings and defenses of the old system. To allege negligence and deny contributory negligence is no longer an essential part of the injured man's declaration. To be sure, many of the laws retain a limitation to the effect that injuries due to willful negligence or attempts to injure one's self or another or to serious or willful misconduct or the like are excluded. This is obviously a survival of the old attitude with regard to fault. Fortunately, the courts are as a rule very slow to charge willful misconduct, and I have run across no case in which intentional self-injury was offered as a bar to a claim.

No reform can quite break completely with the past; otherwise we would doubtless be spared the discussion of this question of geographical restrictions on the employer's responsibility, as prescribed by the law governing his customary and principal operations. The employee is none the less his employee because in the prosecution of

¹ "The statute of another State has, of course, no extraterritorial force, but rights acquired under it will always, in comity, be enforced, if not against the public policy of the law of the State where the action is brought." (*Herrick v. Minneapolis etc. R. Co.* (1883), 31 Minn. 11, 16 N. W. 413, quoted with approval in *Northern Pacific R. Co. v. Babcock* (1894), 154 U. S. 190, 14 Sup. Ct. 978.)

the employer's business he is sent beyond the State boundary. The wage contract is unchanged, the obligation to carry out instructions remains the same, and he is his employer's agent in behalf of the undertaking intrusted to him, regardless of State boundaries. Since the question of fault is eliminated, the question of the employer's control of the immediate surroundings loses its significance; and, in passing, attention may be directed to this point, likewise an inheritance from the old liability statutes, appearing as a provision in some compensation laws, making a distinction with regard to injuries received at and away from the plant of the employer. Such distinctions, whether thus localized, or affected by State boundaries, are out of place in a system that is based purely on status, the question of fault being left one side. As stated by Justice Pitney in the *White* case, "It is evident that the consequences of a disabling or fatal injury are precisely the same to the parties immediately affected and to the community, whether the proximate cause be culpable or innocent." What he called the "primary cause"—the employment itself—remains unchanged; and if there had been a whole-hearted acceptance of the principle of status as controlling, no question would have arisen with regard to extraterritoriality or of nearness to or distance from the plant of the employer.

This principle is clearly recognized in the well-reasoned opinion of the New York Court of Appeals (*Post v. Burger & Gohlke* (1916), 216 N. Y. 544, 111 N. E. 351) in a case in which the employer, a New York corporation, sent one of its workmen to Jersey City to do work on a building for which it had a contract for the sheet-metal work. It was pointed out that the compensation liability covered every accidental personal injury to the employee "arising out of and in the course of his employment, without regard to fault as a cause of such injury." Construing the act as a whole, and literally, it was found to "expressly include the employee in this case, as he was engaged in his employment in New Jersey, away from the plant of his employer, and under the employer's express direction. * * * The purpose of the legislature would seem to require that the act be read into every contract of employment and provide compensation for every injury incurred while engaged in such employment without limitation." So in a New Jersey case considering an accident to an employee while in the State of Pennsylvania. (*Rounsaville v. Cent. R. Co.* (1915) 87 N. J. L. 371, 94 Atl. 392.) It was said that "the place where the accident occurs is of no more relevance than is the place of accident to the assured in an action on a contract of accident insurance, or the place of death of the assured in an action on a contract of life insurance."

STATUTORY PROVISIONS.

In neither of the States whose laws were thus construed was there a specific provision with regard to the point of extraterritorial application of the law, the conclusion of the courts being drawn from the conceived principles of this type of legislation. The laws of 23 States² as they now stand include the workman who is injured beyond the

² Alabama, California, Connecticut, Georgia, Hawaii, Idaho, Indiana, Iowa, Kentucky, Maine, Maryland, Michigan, Missouri, Nevada, North Dakota, Ohio, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, and West Virginia.

State boundary, either specifically or by clear implication, though in a few there is some qualification. Thus in Maryland the law applies if the absence is casual and incidental to regular employment in the State, while the West Virginia limitation is much the same. On the other hand two States specifically limit the coverage to accidents within the State, the laws of Delaware being applicable to such accidents regardless of the place of contract if occurring within the State but to no accident occurring outside its boundaries. The provision of the Pennsylvania law on this subject is of identical effect.

The Alaska statute was construed by a Federal court (*Martin v. Kennecott Copper Corp.* (1918), 252 Fed. 207), the court saying that "the provisions of the law enter as fully into and become part of the contract [of employment] as though stipulated therein." It seems rather anomalous, therefore, that this court recognized as valid a provision of the statute which directs that proceedings for recovery shall be within the jurisdictional division in which the injury occurred, no court having jurisdiction outside this area except in cases where service can not be had on the employer in such jurisdictional division. The statute provides: "Any attempt to bring such action in any court outside of the Territory of Alaska shall work a forfeiture of the right of the plaintiff in such action to compensation under this act." To hold that this provision is effective seems a contradiction to the holding that the right is contractual, and seems also to run contrary to the declaration of the Supreme Court in passing upon an employers' liability statute that "it would be a very dangerous doctrine to establish that, in all cases where the several States have substituted the statute for the common law, the liability can be enforced in no other State but that where the statute was enacted and the transaction occurred." (*Dennick v. R. Co.* (1881), 103 U. S. 11; see also *Slater v. Mexican National R. Co.* (1904), 194 U. S. 120, 24 Sup. Ct. 581.)

In this connection may also be cited a case (*Atchison, Topeka & S. F. R. Co. v. Sowers* (1909), 213 U. S. 55, 29 Sup. Ct. 397) in which the Supreme Court declared invalid a provision of a statute of New Mexico limiting to its own courts the place of bringing suits for personal injuries occurring within its boundaries. "An action for personal injuries is universally held to be transitory, and maintainable wherever a court may be found that has jurisdiction of the parties and the subject matter." By analogy it would seem that the limitation in the Alaska law as to place of action is invalid; but as the law declares that the action can be brought only in the district where the injury occurs, and no action can be brought outside the Territory, the intent to limit the statute to injuries within the Territory is apparently established, even though the limitation as to the place of action should itself be declared void.

DECISIONS AND CONSTRUCTION.

The remaining States³ and the Federal law as to employees of the United States are without specific provision in the text of the law, and the subject is variously disposed of. The courts of 7 States

³ In this discussion Alaska, Hawaii, and Porto Rico are included under the same heading as States; the law of Missouri is also included, though its operation is suspended awaiting the results of a referendum vote in November, 1922.

whose provisions are open to construction have definitely declared the law applicable to injuries occurring without the boundaries of the State.

Decisions of the courts of New York and New Jersey including extraterritorial injuries have already been adverted to. Other States in this group are Colorado (*Industrial Commission v. Aetna Life Ins. Co.* (1918), — Colo. —, 174 Pac. 589); Minnesota (*State ex rel. Chambers v. District Court* (1918), 139 Minn. 205, 166 N. W. 185); Nebraska (*Venuto v. Carter Lake Club* (1920), — Nebr. —, 178 N. W. 760); Rhode Island (*Grinnell v. Wilkinson* (1916), 39 R. I. 447, 98 Atl. 103), and Wisconsin (*Anderson v. Miller Scrap Iron Co.* (1914), 169 Wis. 106, 170 N. W. 275).

The Wisconsin decision goes at length into the principles involved in compensation legislation. The statute under consideration is elective, but once being accepted by the parties it "is so far a part of every contract of employment that the rights and liabilities of the parties thereto, in case of injury to the employee, must be determined in accordance with its provisions, whether such injuries occur within or without the State." Formerly the right of recovery for injury to an employee was not *ex contractu* but *ex delicto*—i. e., was based not on contract but on fault, and the principles governing tort actions were applied. The present system was not adopted "merely as a substitute for the common-law liability of the employer," but it "rests upon an entirely different basis. * * * Injuries to employees are regarded as necessarily incidental to the conduct of industry, and not the result of a wrong committed by the employer." It is this view of the situation that led to a rejection of Gould's case (below) as a precedent, the Massachusetts court disclosing a tendency to retain certain viewpoints which developed under the liability system. The Wisconsin court, however, is insistent on the point that the liability of the employer under the compensation act, while not tortious, is nevertheless "not contractual in the sense that it should be considered as a covenant or part of the contract; but it is purely statutory," and therefore not subject to modification by contract.

Over against this list of decisions that are favorable to the inclusion of extraterritorial injuries must be set three that are adverse. The earliest of these was by the Massachusetts Supreme Court in 1913. (In *re American Mutual Liability Ins. Co.* (Gould's case), 215 Mass. 480, 102 N. E. 693.) A Massachusetts workman under contract with a Massachusetts employer and principally employed within the State, was injured while incidentally engaged in New York, his employment occasioning such service in that and other States. The industrial accident board awarded compensation, noting that the employer was insured for injuries to its employees in the course of their employment, whether within or without the commonwealth. This was said by the court to be without much significance, the question being as to the provisions of the act itself. It was assumed that the State had power to enact a law of extraterritorial application, but the court found an absence of language disclosing "any plain intention to that end," while several provisions were held to "indicate solely intrastate operations." Considerable weight was given to the construction of the British workmen's compensation act, which is limited by the British courts to territorial boundaries. In the course of this opinion it was said that "most of the compensation acts of

the States of the Union contain no provision respecting injuries received in a foreign jurisdiction, * * * while some expressly limit the operation to employment within the State." This statement, made in 1913, as to the attitude of the majority of the States is incorrect at the present time; while of the three laws cited as containing express limitations, one, that of Wyoming, has been amended so as expressly to include extrastate operations, while the reference in another (Wisconsin) was to the liability section and not to the compensation provisions, which have been held by the courts to cover employment outside the State. The third citation (Washington), though not based on definite terminology, is in accord with the interpretation put upon its law by the administrative authorities of the State. The courts of Connecticut and New York, as well as the courts of other States, took the Massachusetts decision under consideration, but rejected its conclusions.

The Supreme Court of Illinois in passing upon the constitutionality of its law (*Deibeikis v. Link-Belt Co.* (1915), 261 Ill. 454, 104 N. E. 211) held that as the statute was elective it "became a part of the contract of employment, and can be enforced as between the parties as such"; and when a case was before it in which a claimant was injured outside the boundaries of the State it was said that "the statute does not in terms limit the right to an award for accidental injuries occurring in this State," and affirmed a judgment on an award for an extrastate accident, refusing to consider the question of geographical limitations, since no application for a review had been timely made (*Friedman Mfg. Co. v. Industrial Commission* (1918), 284 Ill. 554, 120 N. E. 460). The matter was fairly presented in a still later case (*Union Bridge & Construction Co. v. Industrial Commission* (1919), 287 Ill. 396, 122 N. E. 609), in which an award on behalf of a workman drowned on the Kentucky side of the Ohio River was reversed, the court holding that "no law of this State has any effect as law by its own force beyond the territorial limits of the State. * * * The act being elective in nature, every provision of the act became a part of the contract, and the employer became bound to pay according to the terms of the act; * * * but there is no provision of the act which can be construed to authorize compensation for an injury occurring outside of the State."

The Kansas statute is limited by its terms to "employment in the course of the employer's trade or business on, in, or about" the establishment of the employer. Construing this phraseology the court denied to a deliveryman for a packing house the right of recovery for an injury sustained across the State line. (*Hicks v. Swift & Co.* (1917), 101 Kans. 760, 168 Pac. 905.)

In some nine or ten jurisdictions the question seems never to have been considered by the courts. Indeed, in one State (Montana), it was said in response to an inquiry that no case involving the point had yet come before the board, but the opinion was expressed that "it is questionable" whether the law of Montana would be available otherwise than for "employees within the State"; and a like situation and attitude are reported from Arizona. A similarly restrictive view was expressed in regard to the law of Louisiana, though without indicating whether or not the question had been actually presented in a case of injury. In the list of excluding interpretations must also be

placed the ruling by the Department of Labor and Industries of the State of Washington, which seems to express actual practice and not merely a moot interpretation.

On the other hand, the administrative officials of Oregon and Wyoming report that workmen sent out of the State for short periods in connection with their employment are regarded as entitled to the protection of their laws, though if the absence is protracted the coverage ceases, according to the specific statement of the Oregon commission and by implication from the statement from Wyoming. The Oklahoma commission states that coverage continues without distinction between temporary service and that for longer periods. No decision seems ever to have been made in New Hampshire, but the provisions of the guaranty required by the commissioner of labor are said to be "probably broad enough to take care of any controversy on the subject." In New Mexico, also, the question has never been actually passed upon, but the attorney general is of the opinion that service outside the State, if within the scope and term of the contract of employment, would be covered by the law. The Federal statute provides compensation for personal injury to an employee "sustained while in the performance of his duty," and the commission considers no question as to place, but only whether the injury was incurred "while in the performance of duty."

CANADIAN LAWS.

The Canadian Provinces, few and mainly large, have almost as varied provisions as the States, though none specifically excludes all accidents outside its bounds. Quebec makes no provision; New Brunswick likewise omits a definite statement, but its law provides for a reciprocal treatment of beneficiaries under its own and other laws that may be taken to imply a restriction to Provincial boundaries. Manitoba limits extraterritorial coverage to work on boats, vessels, and railways, and to workmen resident in Manitoba whose work is both within and without the Province and who elect to claim compensation. On account of its maritime position Nova Scotia has an elaborate system of provisions for seamen and fishermen, but makes the general rule one of inclusion of extraprovincial injuries in the absence of an express agreement to the contrary.

Alberta, Ontario, and British Columbia practically agree in making their laws apply in cases outside the Province if the employer's business is mainly within the Province and the employee has been employed within it and was not absent therefrom as much as six months prior to the injury for which compensation is claimed; or, generally if the workman resides within the Province and his employment is both within and without.

TREND.

Such in brief is the state of the laws at present. The trend of legislation, as shown by both the later enactments and by amendments, is toward the application of the theory of contract following the employee in the performance of his duties wherever they may carry him. The restrictive decisions that are based on implications are without logical appeal, and the Industrial Commission of Illinois

and the Industrial Accident Board of Massachusetts have alike declared themselves in favor of the inclusion of extraterritorial injuries; while the Industrial Court of Kansas, though not touching upon this specific point, urges a full revision of the law of that State, which, in view of the tendency in favor of complete coverage for the workers of the State, would at least encourage the hope that the present barrier would be removed by the new legislation.

Administrative construction is much more evenly balanced than either legislative provisions or court decisions, but the preponderance of all statements, whether of laws or otherwise, is in favor of extraterritoriality, as appears from the following summary: By the laws, in terms, 23 jurisdictions; by court decisions, 7; by administrative rulings and opinions, 6; total, 36. Exclusions are, by the laws, in terms, 2, or 3 if Alaska is included; by court decisions, 3; by administrative rulings and opinions, 4; total, 10.

COMITY IN ADMINISTRATION.

Another phase of the question of extraterritoriality that has already been casually touched upon requires some attention, and that is as to the enforceability in one State of the compensation law of a sister State. Under the old system of liability for torts, proceedings were uniformly by suits at law, involving court procedure, according to rules and forms that were generally recognized. As pointed out above, the law of the State of the injury fixed the right, but it might be enforced in any appropriate forum if not contrary to its policy.

Under compensation legislation, contractual or quasi-contractual, the right to recover will normally depend on the law of the place of contract. Will the courts of another State administer the law of the State of contract when the injury occurred either within its own area or within the area of the latter State? The cases on this point are few in number and can not be said of themselves to establish a rule. The question of enforcement is of course complicated by the differences that exist as to coverage. If the Massachusetts employer is no longer obligated under the compensation law of his State when his employee goes into New York in his service, what is the recourse of the injured employee? It is inconceivable that he is without legal protection; the employer has presumably taken no steps to comply with the New York law as to compulsory insurance or otherwise to conform to the requirements of the compensation statute. Liability in a suit for damages is the remaining alternative, since the courts of New York must recognize the limitation placed on the Massachusetts law by the courts of that State. As said in *Anderson v. Miller Scrap Iron Co.* (169 Wis. 106, 170 N. W. 275): "If accidents occurring without the State are to be in one class, and accidents occurring within the State are to be in another class, every State might have a workmen's compensation act, and yet both the old and the new systems would still be in force, and the legislative purpose would not be accomplished."

The courts of Connecticut and New Jersey have met this situation by awarding compensation under their own laws where workmen under contracts made elsewhere were injured within these States. Thus in *Douthwright v. Champlin* (1917), 91 Conn. 524, 100 Atl. 97,

a workman injured in Connecticut while at work under a Massachusetts contract was given compensation under the Connecticut law. Here the court said, "We can enforce only such contracts as are enforceable in the jurisdiction of their origin." Any contract made in Connecticut involves the idea of compensation unless rejected. A contract made elsewhere and entered upon in Connecticut would have incorporated in it the additional term as to compensation if the field is open. A contract made in New Jersey would import the terms of the compensation law of that State, which would be enforced "unless the special terms of the act made its enforcement in this jurisdiction impracticable."

In the instant case the act had been expressly accepted, but, as the court held, would have attached automatically in absence of rejection. If the Massachusetts law had not been limited "we would have attempted to give it effect, the same as in that State." In support of its position the court quoted from a decision of the Supreme Court (*Tennessee Coal etc. Co. v. George* (1914), 233 U. S. 354, 34 Sup. Ct. 587) in which an action had been brought in a Georgia court to enforce a right given by an Alabama law, the injury sued on having been received in Alabama. The statute giving the right limited the place of action to the courts of the State, and this fact was offered in opposition to the suit. However, the Supreme Court held that: "The venue is no part of the right; and a State can not create a transitory cause of action and at the same time destroy the right to sue on that transitory cause of action in any court having jurisdiction," citing *Atchison, Topeka & S. F. R. Co. v. Sowers* (1909), 213 U. S. 55, 29 Sup. Ct. 397. An exception would exist "where right and remedy are so united that the right can not be enforced except in the manner and before the tribunal designated by the act." Practically this language was used in a somewhat earlier case (*Galveston, H. & S. A. R. Co. v. Wallace* (1912), 223 U. S. 481, 32 Sup. Ct. 205), the court adding: "But jurisdiction is not defeated by implication."

The New Jersey courts also gave compensation under the New Jersey law for a New York workman killed in New Jersey while at work for a New York employer, that State at the time of the injury having no compensation law. (*American Radiator Co. v. Rogge* (1914), 86 N. J. L. 436, 92 Atl. 85.) The New Jersey law provides that "every contract of hiring" entered into after the act takes effect "shall be presumed to have been made with reference to the provisions" of the act; and the court held that it was the legislative intent to provide for all workmen in the State, wherever hired. However, a resident of New Jersey can not ask compensation under the law of that State where the injury occurred outside, while at work under a contract made outside. (*Hanna v. Rockwood Sprinkler Co.* (1916), 88 N. J. L. 564, 97 Atl. 730.) In this case the New Jersey court gave judgment under the law of the State of contract in a suit for damages, there being no compensation law at the date of the injury.

Will the State of New Jersey follow the rule of Connecticut in administering the compensation benefits provided by the State of contract if such benefits are extraterritorially available? Or will it cover its own workmen, wherever they may go outside the State, and also all other workmen who may come into the State? That

would be to assume that the courts of New Jersey will apply the rule of extraterritoriality and the principles of contract to their own law but will refuse to administer the law of another State involving the same principles. I do not know of a case where this was in issue, and perhaps the language in the Rogge case should not be pressed too far when it says: "The right of recovery rests, not upon the New York contract, but upon the New Jersey statute." The New York employer can give notice, if he wishes to be clear of the New Jersey law; otherwise, "he voluntarily subjects himself to our law and is governed thereby."

In the later (1915) Rounsaville case (*Rounsaville v. Cent. R. Co.*, 87 N. J. L. 371, 94 Atl. 392), where the New Jersey workman was allowed an award for injury in Pennsylvania, it was said: "We are dealing with the question whether a New Jersey court will enforce a New Jersey contract according to the terms of a New Jersey statute. * * * If it be said that the Pennsylvania law may provide a different scheme of compensation, and that the effect of our decision may be to allow a double recovery, we can only say that questions of that kind had better be dealt with as they arise, and in the light of the exact scheme of compensation that may be involved." Obviously this is not a final answer, but does seem to imply an inclination to apply the New Jersey law to all workers within as well as to its own workers without the State. The court even went so far as to say that "recovery of compensation in two States is no more illegal, and it is not necessarily more unjust, than recovery upon two policies of accident or life insurance"—an analogy that seems to me neither correct in principle nor justifiable in its implications. Some light is given by a very recent decision (June 1, 1922) by the State compensation bureau, in which it refused compensation to a man hired and paid in New York but injured while at work incidentally in New Jersey (*Brennert case*). It was said that it was a New York case, governed by the law of that State, and that the New Jersey bureau lacked jurisdiction. This agrees with the position of the Connecticut court as to the law that applies, but disagrees in its refusal to pass on the actual right to recover. However, it did not appear from the account at hand whether there was any attempt to secure benefits in accordance with the law of New York.

It may be said in passing that several States undertake to provide against or limit double recovery, as by making compensation the exclusive relief for extraterritorial no less than for other injuries (Alabama, Kentucky, Maine, etc.), or by providing that combined recoveries shall not exceed the amount fixed by the State law for injuries within the State (Georgia, Virginia).

Other points of administration have been considered in the New York courts, as whether a widow living in New York may secure the compensation proposed by the New Jersey law for the death of her husband in New Jersey under a New Jersey contract? This question arose in a case (*Pensabene v. F. & J. Auditore Co.* (1912), 78 Misc. Rep. 538, 138 N. Y. Supp. 947), the employee having been a citizen and resident of New York, but working under a contract made in New Jersey. In proceedings to obtain a judgment for the amount fixed by the New Jersey compensation act, the New York court held that the law of the place of contract controlled, that the

action was transitory, and that a finding based on the compensation law of New Jersey was the only relief, no suit for damages being permissible because repugnant to the law of New Jersey. Similar views were expressed in other cases. (*Albanese v. Stewart* (1912), 78 Misc. Rep. 581, 138 N. Y. Supp. 942; *Wasilewski v. Warner Sugar Refining Co.* (1914), 87 Misc. Rep. 156, 149 N. Y. Supp. 1035.) But a judge in a somewhat later case (*Lehmann v. Ramo Films, Inc.* (1915), 92 Misc. Rep. 418, 155 N. Y. Supp. 1032) refused to hear a case in which a judgment was sought to recover an award already made under the New Jersey act against an employer who had removed to New York, so that process could not be served on him in New Jersey. This judge held that the law of New Jersey designated a particular court of that State before which compensation proceedings must be had and that the action being statutory the law must be strictly construed. "A mere allegation that personal service can not be obtained on the defendant is no ground for an action in the New York courts." The same judge ruled in favor of the defendant employer where a resident of New York was killed in New Jersey while at work for a New York corporation under a contract made in New Jersey, the decision being that no recovery could be had in the absence of a full compliance with the procedure prescribed by the New Jersey statute. (*McCarthy v. McAllister Steamboat Co.* (1916), 94 Misc. Rep. 692, 158 N. Y. Supp. 563.)

These decisions seem in conflict with the earlier ones noted above, and more directly with a later one by the highest court of the State. (*Barnhart v. American Concrete Co.* (1920), 227 N. Y. 531, 125 N. E. 675.) Here it was said that while the New York law was only quasi-contractual (*Smith v. Heine Safety Boiler Co.* (1918), 224 N. Y. 9, 119 N. E. 878), that of New Jersey was contractual, being optional, and entering fully into the employment contract when accepted. Being contractual, it may be enforced in the New York courts unless repugnant to the public policy of the State. As no repugnance is apparent, it follows that no action for damages contrary to the provisions of the New Jersey law can be brought in the courts of the State of New York.

This is, of course, only a negative result, so far as the case itself is concerned. The same situation developed in a considerably earlier case (*Schweitzer v. Hamburg Am. Line* (1912), 149 App. Div. 900, 134 N. Y. Supp. 812), in which a seaman on a German vessel was held to be bound by his contract in Germany to accept the provisions of the German seamen's compensation act, no other form of recovery being permitted, since the court recognized the foreign law was not opposed to the public policy of the State. Similarly, Missouri, without a compensation law, recognized the force and effect of the law of Kansas and refused to entertain in its courts a suit for damages by a Kansas workman against his employer, the reason being that the Kansas compensation act controlled. (*Piatt v. Swift & Co.* (1915), 188 Mo. App. 584, 176 S. W. 434.) Minnesota, with a compensation law, likewise refused to entertain a suit for damages against a Minnesota employer who had sent his workman into Wisconsin, after a period of employment in Minnesota, to carry on work there, at the same time electing to operate, as to his undertakings in Wisconsin, under the compensation law of that State. (*Johnson v. Nelson* (1915), 128 Minn. 158, 150 N. W. 620.)

Admitting, as is necessary, that these decisions are only negative in their effect and do not declare in positive terms that the courts will consider and pass upon claims submitted in accordance with the provisions of the compensation acts of the sister States, they do recognize the contractual nature of such acts and their practical harmony with the public policy of the State in which the action was begun. A few States embody in their laws specific provisions as to the administration of claims based on the compensation legislation of other States. Thus in Idaho a workman claiming under the law of another State "shall be entitled to enforce against his employer his rights in this State if his rights are such that they can reasonably be determined and dealt with by the board and the courts in this State." Identical provisions exist in the laws of Hawaii, Utah, and Vermont.

Such provisions are at least a friendly gesture; how much more, I do not feel able to state. However, no objection to a general adoption of such a declaration is apparent to me, and it would at least open a door of hope in such a case as that of the claimant, *Lehmann* (*Lehmann v. Ramo Films, Inc.* (1915), 92 Misc. Rep. 418, 155 N. Y. Supp. 1032), whose employer had removed from one State to another, thus going beyond the reach of ordinary process. It is poor comfort that is offered by the Kansas statute, which limits proceedings to State tribunals but provides that notice may be given non-residents by publication, the effectiveness of which is, to say the least, problematical. (*Pennoyer v. Neff* (1877), 95 U. S. 714; *Breon v. Miller Lumber Co.* (1909), 83 S. C. 221, 65 S. E. 214).

The situation is complicated by the particularity of provisions found in the various compensation statutes as to notice, claim, the power of commissions, and procedure generally. Indeed, it would almost seem that many of these statutes create the situation described in the quotation from the *George* case above, "Where right and remedy are so united that the right can not be enforced except in the manner and before the tribunal designated by the act."

Naturally, local administration will be most convenient for the vast majority of claimants; but the occasional exception will arise, and some status of comity would seem to be feasible as well as desirable, at least to the extent of entertaining such claims as may be properly presented, if only for a correct formulation of statements and reports, to be transmitted, if necessary, to the State of the domicile of the employer for final determination. This would carry out the spirit and, in whatever measure should appear practicable, the letter as well, of the provision of law found in the four States last named as to a workman enforcing "his rights in this State if his rights are such that they can reasonably be determined and dealt with by the board and the courts of this State."

UNIFORM INCLUSION.

The matter of the extraterritorial effect of the laws is of much wider incidence and more frequent concern than that of comity in administration; but while thus more important it seems to me to be the phase capable of simpler solution. Accepting the principle laid down by the Supreme Court that the right to compensation is fundamentally determined by the fact of status, being an incident of the

employment relation, the course seems plain and direct. Even though the path is not free from obstacles, still, as pointed out by the New York Court of Appeals, "the difficulties that will be met with in administering the statute construed as requiring a contract binding upon both parties without limitation will be less burdensome than the difficulties that would be experienced with a contrary construction of the statute." The principle is embodied in a variety of forms in the statutes of the 23 States earlier listed. Some of them embody conditions as to residence of the workman, usual and customary place of employment, express exceptions, etc. It would seem enough if an employer resident or doing business in a State hires work people in connection with that business within the coverage of the State law. Wherever he may send them under their contract of employment, for longer or shorter periods, as long as the employment status continues, equally persistent should be the incident of compensation. The Canadian laws limit the life of this incident to six months of absence; others exclude employment largely or exclusively outside the State. On the other hand, the Michigan courts allowed compensation for a traveling salesman whose sole field of operations was the Pacific Coast States. (*Hulswit v. Escanaba Mfg. Co.* (1922), — Mich. —, 188 N. W. 411.) The Indiana law covers whether the "injury occurs within the State or in some other State or a foreign country." Attention has been called to the laws of a few States that take the precaution to say that recovery under the State law shall exclude all other; or that joint recoveries shall not exceed in value the amount fixed by the law of the place of contract. This seems a reasonable provision; but I would submit as a brief and adequate uniform coverage clause the following:

"The fact that the injury for which compensation is claimed occurred outside the State shall not affect the rights of claimants under this act."

This eliminates what is fundamentally an extraneous consideration, if the right to compensation be regarded as an incident of the contract of employment, fixed by the status of the employee as such, and leaves the matter of determination of the claims arising out of extraterritorial injuries to the exact footing of other claims, which seems to me to be the desired consummation.

DISCUSSION.

The CHAIRMAN. The first on the program to lead this discussion is Mr. Ralph Young, of the Workmen's Compensation Service of Iowa.

Mr. YOUNG. I am really not prepared to discuss Mr. Clark's paper. However, I would like to say that in Iowa we have had no trouble at all with the extraterritorial question. The Iowa statute early in its history was held to have extraterritorial effect, and since that time we have been concerned simply in determining in individual cases whether or not the contract of employment was made in Iowa. If made in Iowa, compensation would ensue even though the injury occurred elsewhere.

The CHAIRMAN. Mr. Frederic M. Williams, chairman of the Board of Compensation Commissioners of Connecticut.

Mr. WILLIAMS. We reached the conclusion very early in Connecticut that certain provisions about filing reports and copies of awards and all that sort of thing were a direct obligation, and that if a man had been hired in Connecticut to do work which took him outside of the State and he was killed or hurt outside of the State, our act applied. Our supreme court so held in *Kennerson v. Towboat Co.*, 89 Conn. 367; 94 Atl. 372.

We had the other aspect of the case presented very soon. A Massachusetts corporation made in Massachusetts a contract with a man to go to Connecticut to do some work, where he got hurt. We held that it did not make any special difference where the contract was made. The man was in Connecticut and his rights were determined by that fact.

In the course of the opinion of our supreme court on that subject there was what appeared to me to be an obiter dictum to the effect that possibly if the court of Massachusetts had not already held that its act had no extraterritorial force there might have been a different problem before the court. There is one recent case, *Banks v. Howlett*, 92 Conn. 368, 102 Atl. 822 (1918), where still another aspect of the same proposition came up. It happened to be the same insurance company involved in *Douthwright v. Champlin*, 91 Conn. 524, 101 Atl. 97. The facts there were somewhat different. A man who was employed by a Massachusetts corporation, which had a New York office, was working under a regular contract of employment in New York. During the war the firm had an emergency call for some painters to go to Waterbury and paint a new ammunition factory, and it asked this man if he was willing to go to Connecticut and work there a little while. It told him that if he would it would pay him the regular union wages of \$5 a day and also his traveling expenses there and back and his board while he was there. The third day he was there he tumbled off a ladder and was killed. His sister was his sole dependent. She came to see me about it, and I communicated with the insurance carrier, which said that the matter would be adjusted through its New York office. Now, happening to know that the New York law did not consider a sister a dependent if she was over 18, I suggested that we settle it through the Connecticut courts, and our supreme court held that our law applied.

I very early reached the conclusion (which I believe will ultimately be found to be true) that a very large number of cases will arise from time to time where it will be found that there is concurrent jurisdiction. I do not think we will have any great trouble in defining concurrent jurisdiction as between the States in workmen's compensation cases. For instance, I have a case which I will not discuss in any great detail because I have not yet had a hearing of it, but I know some of the things involved. A man was employed by a New Jersey concern to work in Connecticut, and in Connecticut he met with an injury which resulted in the loss of his eye. So much seems to be conceded. The respondent suggests that the man adjudicate his rights in New Jersey, but I am informed he does not want to do that because New Jersey, while having a compensation scale of 66½ per cent, has a weekly maximum of \$12, whereas Connecticut, though having a compensation scale of 50 per cent, has a weekly maximum of \$18; also in New Jersey 100 weeks' compensation are allowed for

the loss of an eye, while in Connecticut 104 weeks' compensation are allowed. So that man wants to come up and discuss the matter before me.

Now you see that very likely that is a matter where Connecticut might take jurisdiction, and it seems to me that the reasoning adopted by the United States Supreme Court in *Tennessee Coal & Iron Co. v. George*, 223 U. S. 354, 34 Sup. Ct. 587, applies. I think that we shall ultimately find that in a lot of those cases the claimant can elect his forum.

Mr. WEHE. As I came here from North Dakota we had a case pending in the supreme court on the problem of extraterritoriality of our act. Our situation is something like that in other States. The law is very indefinite and indistinct as to whether it gives extraterritorial power and effect to the provisions of the workmen's compensation act. But following the liberal idea (they called it the liberal idea about 3½ years ago), when the proposition was put up to me, I followed in line with Ohio—without mature consideration, as I find now—and construed it as having extraterritorial force and effect.

We have been operating under that opinion for some three years. We ran up against a snag. We have an ice-harvesting concern, the proprietor of which has a summer residence in Lamoure, N. Dak. He harvests ice for the Northern Pacific and also for the Great Northern in Minnesota, North Dakota, South Dakota, Montana, Washington, Oregon, and Idaho. He paid for compensation insurance in our State. He submitted his pay roll and we collected the premium—without knowing anything about his other pay rolls. We had no trouble until a party from Lamoure, who had been sent out from the State of Washington, put in a claim for the loss of an arm at the shoulder socket. In due course we allowed him compensation in the sum of \$6,200. There was nothing in the application that disclosed that this man had put in a claim in the State of Washington and had received \$2,000 and his medical expenses, and then had come back to North Dakota and filed his claim from Lamoure, and got an award from us of \$6,200. Fraud? Yes. That is just what is against this law—fraud. We had a trial in the district court. We lost in the district court, but we took it up to the supreme court.

Now, that is what you are up against with such an inequitable, unjust, and unenforceable rule as that—relying upon a sister State to give your law comity, extraterritorial force and effect, when it comes in direct conflict with positive laws of that State. We can't enforce our factory laws in Washington, nor any of our other laws that in conjunction with the compensation law help to safeguard the man against injury. Therefore, after experiencing the results of such an illogical rule I say that I am against it.

How was this theory of giving a statute extraterritorial force and effect, when the statute itself did not explicitly say so, adopted in the first place? Why did the courts adopt that theory? They did it from a humanitarian point of view, because there were only a few States at that time which had compensation laws, and they wanted to give the workman protection wherever he was. But to-day that

theory has outgrown its usefulness. Why? Because practically all States now have workmen's compensation laws, and there is no longer any need of such a rule, even if it was good when adopted. When a man goes into another State to work let him have coverage in that State; put it up to the employer to see that the man is protected.

The CHAIRMAN. That concludes the discussion of that paper.

[The report of the auditing committee, stating that, so far as the data in the hands of the committee was concerned the financial report presented by the secretary-treasurer was correct, was accepted. The matter of investing a portion of the cash on hand, suggested by the committee, was referred to the incoming executive committee.]

The committee on nominations and place of meeting of the next convention presented its report, which was adopted. The list of officers elected will be found on page 329. St. Paul was selected as the place of meeting of the 1923 convention.

A motion that the expenses of the members of the executive committee in attending meetings of the committee in the interim between conventions, at the call of the president, be paid out of the funds of the association as heretofore, was carried.]

REPORT OF THE COMMITTEE ON RESOLUTIONS.

Your committee on resolutions recommend that this association hereby express its most cordial appreciation and thanks to the Governor of Maryland and mayor of the city of Baltimore and the members of the Maryland delegation, and particularly to its chairman, Hon. Robert E. Lee, for the distinguished courtesy and typical southern hospitality which they have extended to us. We also desire to express our sense of obligation to the distinguished specialists who have taken time from their busy professional careers to enlighten us on questions of medical jurisprudence continually coming before us for decision. [Adopted.]

We express our special gratification for the care and time spent by the various committees who have reported, and assure them of our thankfulness for their work, and our expression of hope that at the next meeting they may so far achieve the impossible as to present a report which will be acceptable to everybody. [Adopted.]

We recommend that the secretary be requested to send to the Hon. Fred W. Armstrong, of Nova Scotia, our regrets that the sudden illness of his mother has caused us to miss his presence and our hope for her speedy recovery. [Adopted.]

We further recommend that the secretary be requested to convey to the family of the late E. H. Downey, of Pennsylvania, our sense of loss from the death of Mr. Downey and our appreciation of the valuable services which he has rendered this organization. [Adopted.]

We recommend as a subject for discussion by the entire convention the advisability of shortening our meetings to perhaps three or four days, one day of which might be given to subjects of general interest to us all, and the meetings of the other days more or less subdivided into sections, in order that persons who have made a special study and have a special interest in a particular line of work might devote their time to that particular line. [Referred to the incoming executive committee.]

[Continuance of existing arrangements as to payment of the honorarium of the secretary-treasurer and of clerical and stenographic help for the secretary's office was authorized.]

The minutes of the annual meeting held at Chicago, as published in Bulletin No. 304 of the Bureau of Labor Statistics, were adopted.]

[Meeting adjourned].

FRIDAY, OCTOBER 13.—MORNING SESSION.

CHAIRMAN, O. F. McSHANE, COMMISSIONER UTAH INDUSTRIAL COMMISSION.

LEGISLATION AND ADMINISTRATION.

The CHAIRMAN. The Hon. Will J. French, of the California Commission, not being present, his paper, which has been submitted, will not be read, but will be inserted in the record.

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AN ADEQUATE DEATH-BENEFIT SCHEDULE.

BY WILL J. FRENCH, CHAIRMAN CALIFORNIA INDUSTRIAL ACCIDENT COMMISSION.

[This paper was submitted but not read.]

The student of workmen's compensation finds it difficult to restrain himself when he considers the totally inadequate provision made for widows and children left destitute as the result of industrial accidents. The Federal Government and several of the States have pioneered the way to a fuller measure of financial relief, but the majority of the compensation laws, California's included, simply allow a definite amount of money for a given period. A widow with several minor children may still be a widow with several minor children long after compensation checks have ceased coming to her. The next step for such a widow is to ask for public or private charity, or to accept it when tendered, or else to witness the deplorable catastrophe of a home broken up and the children scattered, perhaps never to meet again permanently under one roof.

There is pronounced failure to realize the value and importance of human life. In the hustle and bustle of business its loss is taken for granted; and totally inadequate steps for its preservation are taken, as a rule. A shrug of the shoulder, solicitude at funeral time, and then forgetfulness of those facing a dark future constitute the three main factors in a partial picture of an industrial death.

Why is there this failure to perform a solemn duty that rightfully belongs to industry? A damaged machine is replaced if it can not be repaired. This course is considered necessary and it is necessary. Such replacements and betterments are part of the ordinary routine of business operations. State agencies regulative over public utilities allow for new equipment in the rates issued. Private employers are obliged to provide for the contingency in different ways. It may be said truthfully that human society has not as yet appreciated the full importance of life and its superiority over a mass of steel or iron. And the legacy of the evil days when employers' liability held sway remains with us. Then, if carelessness on the employer's part directly or indirectly caused a death, a quick settlement with small compensation was considered good business. If carelessness was the other way about, or if the death resulted from a hazard of the employment, there was no legal obligation to pay any amount, and usually none was paid.

At first glance the award of the equivalent of three years' annual earnings looked large compared to the preceding method or want of method. That day is now a decade old. We need to take stock, and then we shall soon find out how totally inadequate the average compensation death benefit is and how industry has failed to meet what should be its first obligation. The worker who gives his life in order that the employment in which he is engaged may proceed has indeed made the supreme sacrifice. He has done more than that if

his life was taken needlessly. It is apparent there can be no replacement of such a life. The only thing that can be done is to make sure that industry does the least it should do, namely, keep the home intact and the dependent mouths filled.

This simple obligation on industry's part, diffused over the community by means of insurance, would seem to the layman who is not a compensation student as one that would meet with little or no opposition. The compensation student, however, knows otherwise. He has appeared before legislative committees and has noted the actions of others there. He has heard the wail that business can not stand a higher requirement. He has observed the telegrams and letters massed on legislative desks against the increase. He has noted the hired man, usually with a background as an alleged friend of humanity, whisper into legislative ears the appeal for negative votes because this or the other business must succumb if it has to bear an additional financial burden. Against such organization the widow and her children are helpless; in fact, they know naught of the devious ways of political life. They know the husband and father no longer returns each night from his work, and the little ones are informed by their mother that food is scarce and comforts have disappeared.

There is one main question that can be answered in only one way by thinking men and women. Is business or a small group of widows and children best able to stand part of the financial loss that follows industrial deaths? Organized business frequently takes the position that the loss should be borne by the widows and the children. The latter know they are utterly unable to do so, and there should arise a righteous public indignation against the position of business. A reasonable death benefit for each widow and each dependent child would be so infinitesimal as to add practically nothing to the cost of doing business in any of the States, especially when the cost is reflected in insurance rates and the latter are included in charges for the finished articles of commerce and trade.

The failure to treat dependents fairly is shown by the average allowance of \$100 for funeral expenses. This rate was set, as a rule, years ago. Times have changed and costs are higher. Usually the breadwinner is in the prime of life when he dies from an industrial accident. The burial expenses, the purchase of a lot in the cemetery, varying costs of funeral services, and the other incidentals at such a time can not possibly be met out of an allowance of \$100. It must be conceded there should be a maximum allowance, else at times there would be unreasonable expenditures, but the point made here is that \$100 is too low for that maximum, and the outcome is a financial burden placed upon the bereaved at a most distressing time, and an adequate death-benefit schedule should first replace an inadequate burial allowance.

It is not the intention of the writer to delve into percentages and estimates of how much money certain workers would have earned if they had lived normal lives and had not changed their occupations. These figures delight the statistical mind. They are necessary, in part at least, but a human life placed in an opposite column to dollars and cents lacks the sacredness and warmth and importance that it really possesses and which can not be computed on any adding machine yet devised or to be devised. There are so many elements to

be considered in estimating what should be an adequate death payment that the effort is made in this contribution to leave statistics to those more familiar with them.

An adequate death-benefit schedule should take into consideration these constituent parts:

First. A realization that human life is the true wealth of a community and that its loss must not be treated lightly.

Second. When a worker loses his life he gives his all, and there is an imperative duty devolving upon industry to see that his dependents are cared for; included in this duty should be a determination to see that want never hovers around the door of the home from which he has been ruthlessly taken.

Third. A process of education that will enable employers especially to see that a death benefit is not a tax on them, but a compensation cost to be distributed over the community by means of insurance and without which no compensation system begins to be adequate.

Fourth. A payment of a sufficient amount to provide burial expenses based upon reasonable needs, taking into consideration the fact that a large number of the existing laws were passed years ago when costs were lower and there was evidently an impression in some quarters that workmen's compensation was a form of charity.

Fifth. An income for each widow as long as she lives or until she remarries, with provision for a lump-sum payment in the latter event, such income to be sufficient for living needs and not confined to a limited percentage of the husband's wage if such wage was inadequate to provide a reasonable living standard at the time of his death.

Sixth. An income for each dependent child, to the end that the home life shall be conserved, with provision that there be full opportunity for the education of such child and a fair, average chance in life, the payments to cease only after a wage-earning status has been acquired, and to continue indefinitely if sickness or accident or other good cause keeps such child dependent, and all such payments to be independent of the mother's remarriage.

Seventh. Careful supervision of each dependent home by a compensation agent, to the end that each family may face the future with the knowledge that the State is a friend and will assist with the problems that relate to living, to education, to health, to planning the future of the children, to finding employment, and to all the other factors that make up a well-rounded home life; the agent to be a woman of heart and brain who can secure the results that will make a success of the home that at the time of the husband's death seemed to be irreparably broken.

The CHAIRMAN. The next paper, "An adequate weekly maximum," is by Mr. Gregory C. Kelly, general manager of the Pennsylvania Compensation Rating and Inspection Bureau.

AN ADEQUATE WEEKLY MAXIMUM.

BY GREGORY C. KELLY, GENERAL MANAGER PENNSYLVANIA COMPENSATION
RATING AND INSPECTION BUREAU.

Like other legislation affecting the living conditions of wage-workers, compensation acts have been and still are subjected to diverse opinion. To meet the view of those who believed that the burden of work accidents should be shared by the injured and his employer¹ because of uncertainty as to the amount of the burden, proponents of compensation acts accepted compromises in order to secure any relief from the evils of the common law.² Of such origin is the weekly maximum, a limitation of benefits which is part of every compensation act extant.

From their universality and from their limiting effect, weekly maximums assume the appearance of a fundamental of compensation for work accidents. It is, therefore, profitable to consider such fundamentals and the ways in which maximums are essential to the purposes of the compensation system.

Industry, in the present-day meaning of that word, is the growth of a single generation.³ Change in mechanism,⁴ in process, in weight of materials, in size of establishments,⁵ and in methods of employment⁶ is constantly increasing. Legal systems, derived from precedent, change but slowly.⁷ Compensation acts, by virtue of their administration through commissions, are more responsive than other laws to the needs of the individuals whom they affect. Commissions must constantly fit statutory provision to the varied circumstances of cases brought before them for award. Elasticity in

¹ "When laws to establish the compensation system were first considered—and as a matter of fact, for too long a time thereafter—the employer assumed an attitude of benevolence in proposing to share the burden of the workmen's loss on a basis of equality, and then, on the hypothesis that he was the party who paid the bills, demanded a controlling voice in the formation and administration of the laws."—U. S. Bureau Labor Statistics Bul. No. 273, p. 191. "Defects in workmen's compensation laws," by John Mitchell.

² Monthly Labor Review, December, 1920, p. 1. "A plea for more adequate accident compensation rates," by Ethelbert Stewart.

³ James Watt died in 1819. His adaptation of Newcomen's engine was used almost wholly for mine pumping. Prior to the adaptation of the steam engine to power generation, industry depended on water wheels and treadmills.

⁴ Horsepower per employee in manufactures of the United States is given by census report to be: 2.1 in 1899, 2.5 in 1904, 2.8 in 1909, and 3.2 in 1914. Later figures are not available. The dynamic state is proclaimed by these quantities. However, the size and character of establishments included in the averages hides much useful information.

⁵ Several Pennsylvania characteristic industries have undergone marked change in the 40 years prior to the war disturbance. Even more marked, and in the same direction, is the rate of change in the war period. This is shown in the following table taken from the Census of Manufactures:

Industry.	1870		1909	
	Number of establishments.	Average number of employees.	Number of establishments.	Average number of employees.
Blast furnaces.....	832	53	66	250
Rolling mills.....	25	75	189	730
Shoe manufacture.....	322	7	140	80

⁶ See Monthly Labor Review, under headings Cooperation, Welfare, etc.

⁷ "In all cases of divergence between the standard of the common law and the standard of the public, it goes without saying that the latter will prevail in the end. Sooner or later what public opinion demands will be recognized and enforced by the courts. A bench and bar trained in individualist theories and firm in the persuasion that the so-called legal justice is an absolute and a necessary standard, from which there may be no departure without the destruction of the legal order, may retard but can not prevent progress to the newer standard recognized by the sociologist."—The Green Bag, Vol. XIX, 1907. "The need of a sociological jurisprudence," by Roscoe Pound.

the interpretation of compensation laws is essential for avoidance of legal delay and technicality, both of which subvert the purposes of justice. The decisions and awards of commissions evidence, by contrast, that such elasticity exists. In one State, compensation principles are constantly being extended to a greater number of workers; in another State, accidents are excluded from compensation on purely technical reasoning. Thus, the Workmen's Compensation Board of Pennsylvania has been able to bring cases of anthrax, lead poisoning, and toluiol and other poisonings and infections under the provisions of a compensation act which excludes industrial disease. The Industrial Accident Board of Delaware, on the other hand, has persisted in a strict and legal view of the phrase "arising out of employment," denying compensation for injuries incurred in working hours, on the employers' premises and by apparatus of the working place, e. g., a boy run over by a switching engine while going to his locker for lunch with his foreman's permission. Commissions may not, however, liberalize the statutory rate of compensation even if they see hardship and inequity result therefrom.⁸ Expressed as a percentage of wages, the rate of compensation is a definite quantity, limited, however, by the weekly maximum.

As was stated by Mr. E. H. Downey (U. S. Bureau of Labor Statistics Bul. No. 276, p. 84):

State officials, employers, legislators, and the public have been very complacent with respect to the American compensation system. The public press, as also most discussions of the subject, leave the impression that the nominal percentage of wages expressed in the compensation acts represent the actual relationship between compensation and wage loss. So in the legislative hearings in Pennsylvania it was repeatedly emphasized that the act of 1915 aimed to divide the cost of industrial accidents equally as between employers and employees, and the amendments of 1919 were objected to on the ground that the nominal 60 per cent would increase the employer's share to three-fifths. The bold fact is that on any reasonable estimate of wage loss the benefits payable under the Pennsylvania compensation act of 1919 will amount to not more than 20 per cent of the economic cost of industrial accidents, to say nothing of occupational diseases. The individual wage earner and his family in Pennsylvania still bears, not one-half, but four-fifths of the wage loss incident to industrial injuries. Even in New York industry pays much less than half of the direct economic loss imposed by work injuries upon wage earners. These facts should be brought forcibly before the public, and nothing will make the facts so vivid as a tabulation of compensation in relationship to wage loss.

It has become obvious in the past few years of rapid change in wages that inelasticity of compensation rates is defeating the intent of the statutes. This is shown by the table below:

COMPARISON OF COMPENSATION WITH WAGES.¹

Item.	1916	1917	1918	1919	1920
Effective rate of compensation (per cent) ²	0.478	0.448	0.409	0.396	0.406
Average weekly wage	\$15.52	\$18.60	\$22.16	\$24.38	\$28.48
Average weekly compensation	\$7.42	\$8.33	\$9.06	\$9.41	\$11.55
Number of accidents reported	10,933	12,801	10,345	11,321	17,915

¹ The above table is a summary of special reports made by insurance carriers to the Pennsylvania Insurance Department. Detailed report by wage intervals will be found in the Statistical Analysis of Workmen's Compensation Insurance in Pennsylvania, compiled by the statistical department of the Pennsylvania Compensation Rating and Inspection Bureau.

² Ratio of compensation to wages: 1916, 1917, 1918, and 1919, a nominal 50 per cent act with \$10 weekly maximum; 1920, a nominal 60 per cent act with \$12 weekly maximum.

A progressive decrease in the ratio of compensation to wages has occurred. It is true that over this same period there has been an unprecedented increase of wages, which has been offset, however, by

⁸ The Pennsylvania act provides less compensation for a dependent mother than for a widow, without regard for age or circumstance.

a parallel rise in the cost of necessities. This negation of the law results from the operation of weekly maximums.

The compensation laws enacted in 32 States in the period from 1911 to 1916 have weekly maximums ranging from \$6 to \$20. Two States started with a \$6 and 15 States with a \$10 maximum. Amendments have increased these amounts. None of the 32 States now has a maximum of less than \$10; indeed, one State, New York, has a maximum of \$20 and five States have gone up to \$18. Of the States which have more recently adopted compensation acts, three adopted a \$10 maximum, one \$11, two \$20, and the rest amounts between \$10 and \$20. Some progress is indicated by these maximums, not sufficient, however, to be indicative of a change of view on the part of lawmakers or employers. The meager increases point rather to the fact that legislators are satisfied with the pretense of much-heralded increases in benefits.

This bald statement of amounts does more than evidence the immobility of law. In itself it confirms the statement that compensation benefits are not 50, 60, or 66 $\frac{2}{3}$ per cent of wages, but are really \$10, \$12, or \$15 per week, irrespective of the wage loss or the economic needs of the injured workman.

To review the effect of the benefit sections of compensation acts, a study of individual accidents is desirable. It is from such study that the fairness, for example, of 300 weeks' compensation to a widow may be determined. A widow, 30 years old and without the encumbrance of children, may become self-supporting in six years. The woman of 40, with children who should be kept in school until 18, will be in difficulty after the six-year period of compensation has ended. To the permanently disabled workman who dies within 175 or 215 weeks, there is little distress from the termination of compensation. The workman, however, who is totally blind and lives beyond the period of 400 weeks will have difficulty in finding gainful employment through the remaining years of his life. In a similar way the effect of maximums is apparent. A maximum of \$10 may not appear too unreasonable in times when average wages are under \$20 if the compensation rate is 50 per cent. When, however, the distribution of wages in this \$20 average is analyzed it becomes clear that the economic circumstance of the many has been lost in the general conclusion.

From a characteristic distribution of wage rates the limiting effect of maximums becomes obvious and may be exhibited for analysis.

DISTRIBUTION OF WAGE RATES.

Wage group.	Number of accidents at each wage.	Wage group.	Number of accidents at each wage.
Under \$8.....	99	\$32 and under \$34.....	1,058
\$8 and under \$10.....	217	\$34 and under \$36.....	820
\$10 and under \$12.....	297	\$36 and under \$38.....	758
\$12 and under \$14.....	386	\$38 and under \$40.....	531
\$14 and under \$16.....	605	\$40 and under \$42.....	487
\$16 and under \$18.....	457	\$42 and under \$44.....	358
\$18 and under \$20.....	784	\$44 and under \$46.....	362
\$20 and under \$22.....	1,433	\$46 and under \$48.....	118
\$22 and under \$24.....	1,282	\$48 and under \$50.....	255
\$24 and under \$26.....	2,107	\$50 and over.....	787
\$26 and under \$28.....	1,464		
\$28 and under \$30.....	1,496	All accidents reported.....	17,915
\$30 and under \$32.....	1,754		

The tabulation should include a greater number of cases for any dependable deduction. Claim adjusters use less care in determining wages of cases where the maximum, in this case \$20 or over, comes into play. A disposition to concentrate at even \$5 intervals is evident in the reports. The table, however, is sufficiently characteristic for the present purpose. It was compiled from reports of insurance carriers to the Pennsylvania Insurance Department.

DISTRIBUTION OF EFFECTIVE RATE OF COMPENSATION.

Per cent compensation forms of wages.	Accidents compensated at each rate.	
	Number.	Per cent.
All (40.6 per cent).....	17,915	100
60 per cent.....	2,845	16
50 and under 60 per cent.....	2,715	15
40 and under 50 per cent.....	5,067	28
30 and under 40 per cent.....	4,921	27
Under 30 per cent.....	2,367	13

That practically all of those injured receive the same weekly amount of compensation may be defended only if the economic need of all is nearly the same. This, however, is not the case. Even our courts recognize that higher standards of living are accompanied by increased needs. Orders for support, alimony, and assignment of income to minor heirs all have regard to the accustomed expenditures of the individuals. Landlords will not reduce rentals because an injured workman who has been earning \$50 per week is compensated at the rate of a \$20 a week income.

Certain industries maintain low levels of wages and, curiously enough, wages not proportioned to the skill of the workman. The table below, taken from the Industrial Bulletin (Albany) for June, 1922, brings out this fact:

AVERAGE WEEKLY EARNINGS IN MAY IN REPRESENTATIVE NEW YORK STATE FACTORIES.

Industry.	1922	• 1921	1920	1918	1916
Metals and machinery.....	\$26.07	\$28.16	\$31.50	\$23.36	\$16.48
Wood manufacture.....	24.73	24.54	27.49	18.14	13.38
Textiles.....	20.00	20.80	23.10	15.51	11.03
Clothing.....	21.57	23.21	25.09	15.46	11.52
All.....	24.59	25.86	28.43	19.91	14.24

The exhibit is interesting in that difference in wage levels of the several industries is maintained throughout the period and during both increase and decrease of wages. Textile industries are still operated in an empirical way, with mechanical devices similar to those used some years ago, and by processes which are conducted through the skill and knowledge of the workers. Much less ability is exhibited by the steel and cement mill workers, whose wages are perceptibly higher. Investigators of living conditions have found that the families of workers in low-paid occupations must find more than a single source of income to meet the family budget. Contributions from the wages of the sons and daughters are customary. If employ-

ment outside of the home is not available for the wife or mother, it is not unusual to find boarders contributing to the income. Under such circumstances, an accident which is compensated at 60 or at 75 per cent of wages may not seriously interrupt the family means of livelihood. How different is the circumstance of a family wholly dependent upon the earnings of a single worker when he is incapacitated by an accident compensated at but 30 per cent of his accustomed wage. A too early return to work is the natural result. Fractures and dislocations resulting needlessly in permanent impairment⁹ because of such necessity point to the waste resulting from penuriously meager benefits.

The study of individual accidents, furthermore, leads to general as well as to specific conclusions. For example, the fact that accidents occur from causes characteristic of the specific industries is at once apparent. Molten metal is the cause of many accidents and yet there are relatively few occupations in which workers are exposed to it. Falls of persons and falling objects are frequent causes of injury in building construction, though there are comparatively few such accidents in manufacturing. Circular saws and jointers do not injure the hands of weavers nor are men killed by falling rocks in silk mills. There are many accidents in which the frailty of human nature has an important part. Such accidents are commonly attributed to carelessness, whereas in fact they will result as long as machines and mechanical devices require operatives and operatives continue in turn to be human beings.

The following tabulation, from the Statistical Analysis of Workmen's Compensation Insurance in Pennsylvania, is far from conclusive and yet it agrees so completely with the expected causes of accident in the separate industries that it serves for comparison.

Cause of accident.	Per cent of cost of all deaths and permanent disabilities (Pennsylvania benefits).		
	Manufacture.	Trucking.	Construction.
Machinery.....	49.3	10.3	20.9
Handling of objects.....	6.4	6.3	4.2
Hand tools.....	7.9	2.4	7.1
Falling objects.....	3.5	3.4	11.7
Falls of persons.....	9.1	5.7	29.7
Vehicles.....	9.2	62.8	15.6

Since work accidents are inherent in the present organization of industry, compensation systems attempt to distribute this burden as a part of the cost of production. In this way, the financial loss is apportioned among the users of commodities as an insignificant part of the total cost of goods and no one individual, either employer

⁹ The following cases are deemed self-explanatory:

A. *Loss of use of leg.*—Original injury: "Left ankle dislocated, left fibula shattered." Report on loss of use: "Claimant's foot shows slight deformity due to injury. Unable to carry on former class of work. Case was closed and reopened."

B. *Loss of use of leg.*—Original injury: "His right leg was broken between knee and ankle." Report on loss of use: "Case was reopened."

Under the heading "Recurrences," page 143 of the Fourth Annual Report of the United States Employees' Compensation Commission, it is stated:

"The table entitled 'Recurrences' refers to cases that have been closed because disability had terminated, but in which some later condition of disability developed * * *. The number, which is 13 thus far, has been exceedingly small * * *. It is to be expected, however, that experience will show an increase in the number of cases because of the accumulation of permanent partial disability cases."

or employee, feels the weight of compensation. Even with an adequate scale of benefits, the cost of compensation would probably be met by an addition of 5 mills to every dollar of manufacturing cost, or, from the consumer's point of view, 5 cents to every \$10 purchase.

The United States Census of Manufactures, which gives the aggregate of wages and the value of manufactured products, evidences a progressive decrease in the wage ratio. The percentage that wages (excluding those of office and executive employees) formed of the value of the manufactured product from 1849 to 1914 is shown below:

	Per cent.
1849.....	23
1859.....	20
1869.....	18
1879.....	18
1889.....	20
1899.....	18
1904.....	18
1909.....	17
1914.....	17

A more detailed study from the same source shows the relation of wages and value of products for several important groups of industries.

WAGES AND VALUE OF PRODUCTS IN THE UNITED STATES, 1914.

Industry.	Value of products.	Wages.	
		Amount.	Per cent of value of products.
Food.....	\$4,817,000,000	\$278,000,000	6
Textile.....	3,415,000,000	672,000,000	20
Iron and steel.....	3,223,000,000	723,000,000	22
Lumber and woodworking.....	1,600,000,000	440,000,000	28
Leather.....	1,105,000,000	169,000,000	15
Paper and printing.....	1,456,000,000	296,000,000	20
Stone, clay, and glass.....	614,000,000	205,000,000	33
All industries.....	24,246,000,000	4,078,000,000	17

The assumption that an adequate scale of benefits can be administered for 3 per cent of pay roll rests on a calculation from the distribution of Pennsylvania accidents by kind of injury. Adequate benefits in that calculation were in excess of those specified by any compensation act now in effect.

From the foregoing consideration of fundamentals, it is apparent that the cost of compensation would be increased but slightly by the absence of any maximum. For example, in the State of Pennsylvania, which has a 60 per cent act reduced to 40 per cent by the operation of the maximum, the difference in cost would be the difference between these two per cents. In other words, there would be an increase of 20 per cent or some two-tenths of 1 per cent of pay roll. This trivial cost is the only argument that has been advanced for the existence of maximums. Injustice and hardship have been the inevitable result of such limitation of compensation. The logical conclusion, therefore, is that the only adequate maximum is no maximum at all.

Mr. KINGSTON. Before going to the next paper, I think we ought to take some action on Mr. Kelly's paper, as there may not be much

discussion. I suggest that inasmuch as this matter is so closely associated with the discussion on Tuesday on the question of permanent disability rating, that the subject matter of Mr. Kelly's paper be referred to Mr. Hatch's committee. I make that as a motion in order that that committee may deal with it and possibly bring in a recommendation next year, the idea being that the scope of the committee's work should be broadened. I think it should be broadened to take in not only the subject matter of this paper, but also the subject of the waiting period, which is a companion subject. I move that those two matters be referred to that committee and that the scope of the committee's work be broadened to include them. [The motion was seconded and carried.]

The CHAIRMAN. Our next paper will be "Workmen's compensation insurance in Porto Rico." It is written by L. Santiago Carmona, chairman of the Workmen's Relief Commission of Porto Rico, and will be read by the president.

Mr. CARMONA. I want to say a few words about this paper. When I wrote the paper I did not know the situation in this country with regard to social insurance. When I arrived in the United States I went to see Mr. Hatch and Mr. Stewart, and I discovered that the situation was very different from what I had thought it was. My paper was written with the belief that everybody was in favor of State insurance. Now I know that many of my colleagues in the convention are not in favor of State insurance but are in favor of competition by private insurance companies. This being so, several paragraphs of my paper have been eliminated. We really have no compensation experience in Porto Rico because our law was approved in 1918, and in four years no country can have much experience in this problem.

WORKMEN'S COMPENSATION INSURANCE IN PORTO RICO.

BY L. SANTIAGO CARMONA, CHAIRMAN PORTO RICO WORKMEN'S RELIEF COMMISSION.

[Read by Robert E. Lee, president, I. A. I. A. B. C.]

Our participation in this assembly is of importance despite the fact that I represent one of the smallest American possessions. We have had in Porto Rico since the year 1918 a system of compulsory accident insurance, with an exclusive State fund. On a territory 100 miles in length by 30 miles in width there live 1,300,000 inhabitants. Over 1,000,000 of them belong to the class of peasants and laborers covered by our system of insurance against accidents. The women, the children, the aged, those who have in all countries been the cause of most profound concern, scattered through the 72 towns in the small industrial centers of the island, are now receiving the blessings of this modern protection of the State. The purposes and efforts of this important social movement have attained great success in Porto Rico.

The Congress of the United States has changed my little island from a colony to a free and sovereign territory with the same fundamental rights and duties enjoyed by the States of the Union. In 1917 Congress passed the Jones Bill, which placed in our hands the complete management of our legislative affairs, but above all this, it made us citizens of the United States of America. This act not only established the rights of these new American citizens, but contains an acknowledgment of the highest principle of charity, the protection of the health, life, and safety of the laboring class. "Nothing contained in this act shall be construed to limit the power of the legislature to enact laws to protect the life, health, and security of employers and workmen."

Our first compensation law was molded on the ancient and repugnant principle of the common law; it established the obsolete juridical rules of "fellow servants," "contributory negligence," and "assumption of risk."

The classic aphorisms of Roman law, "*Sic utero tuo ut alienum non laedas*" and "*Salus populi suprema lex esto*" have not been, nor could they be, forgotten during the progress of the twentieth century, but the civil law seems to have suffered an unusual revolution in the establishment in the United States of social insurance in its modern compulsory form. Those who considered themselves prejudiced by this new measure protest: "It is an onset against private interests." "It means death unto individual enterprise. It is a violation of the fourteenth amendment to the Constitution." All these questions have been taken to the courts, with negative results for the complainants. The tribunals have honored the lofty principles of liberty and justice embodied in the Constitution.

It is impossible for me to assure you that the State fund of Porto Rico has reached the highest degree of success. The law has been

amended so many times and in such fundamentals that it is impossible to present a comparison, but I think that the conclusions of the Porto Rico commission as to its economical development will be useful and relevant.

All the basis for rapid success in the administration of the funds have to be established upon the medical service. The general average of expenses during the year 1921-22 and by the old medical plan was \$48 per case; and the general average of all expenses in each case during the new system has been \$16.26.

This new system of medical service has been in force since January 1, 1922, and up to date we have received no complaints from any of the injured laborers treated by our physicians. We have received complaints from a few employers, mostly sugar factories, but we have sufficient data to demonstrate the advantages which several of the companies had derived from the previous system of medical service, by which the commission was paying to a few companies all the cost of medical and hospital services and medicines.

SOCIAL INSURANCE.

Public welfare demanded from society compensation for injury to the man who toils and produces, and so came social insurance against accidents, created as an essential to the life of the workman and the development of industry, in the same manner as in the economic order had come the necessity for equipping industry with modern implements and machinery. The life, the health, and the welfare of the workman must be protected—so it was asserted by all the wise legislatures of the world. Our legislature has solved the problem of insurance against accidents, approving a compulsory law with an exclusive State fund.

Since 1916, when our first workmen's compensation act was approved, in which the outworn defense of contributory negligence was eliminated, and we entered the field of social insurance, experience has shown the great mistake made in laws establishing the competitive insurance system: (1) State insurance; (2) insurance by mutual or stock companies; and (3) self-insurance, or insurance provided by the employer.

Private insurance companies have suffered great failures in the last eight years in the United States. About four years have gone by since the failures of the Guardian Casualty & Guaranty Co. of Utah, the Casualty Co. of America, and the Commonwealth Bonding & Insurance Co. of Texas. The first of these companies operated in 15 States, and the claims which were left unpaid amounted to more than \$75,000. In those States in which there is no responsibility by the employer if he is insured, the unhappy workmen suffer the bitter consequences of such failures.

The danger hidden in the competitive system is shown by the fact that the legislature of California appropriated \$60,000 to defray the larger claims resulting from the failure of the Commonwealth Bonding & Insurance Co. of Texas. This example, cited by Mr. Carl Hookstadt, in his address at the convention of the I. A. I. A. B. C. at Toronto, Canada, gives us an idea of what our future would be should we adopt that system.

An idea of what the system of insurance in commercial companies in Porto Rico was may be gathered from the following extract from

the annual report of the commission to the Governor of the island in 1916:

They do not prescribe the fundamental changes that would be necessary if the legislature should make the law compulsory or if it wanted to introduce any basic change in the system of insurance now prevailing. The evils of litigation or of a particular agreement without litigation, with frequent inadequate indemnity to the injured workman as a result of said litigation or agreement, can not apparently be remedied in its entirety by means of an optional law.

At the present time the workmen subject to the benefits of the law are only a little minority of the total number of workmen of the island, which should be protected by its benefits. However, the extension of the radius of action of the law, the adoption of the compulsory principle or the modification of the clauses in force relative to the insurance are all the basic questions that this commission believe our legislature should resolve.

Fortunately, our commission is formed of enthusiastic members who have read very carefully the tendential questions of Mr. Hookstadt in his article on "Tests of efficiency in workmen's compensation administration" in the *Monthly Labor Review* for December, 1919, (p. 318):

Workmen's compensation laws have been in effect in the United States for eight years. The time is now ripe for a careful examination into the merits and alleged beneficent results of these laws. Are they having the effect anticipated? Have they reduced accidents? Have they restored the industrial efficiency of injured workers and increased their opportunities for employment? Have they bettered the social and economic conditions of the dependents of those killed through industrial employment? By what means has this been accomplished? What type of administration and insurance has proved most efficient?

Unfortunately few of the compensation commissions have made an intelligent study of their own laws. They do not know not only what other States are doing, but even what they themselves are accomplishing. Most of the commissioners' time and energy is consumed in hearing and deciding cases. Have accidents been reduced? They don't know and apparently don't care. Are injured employees receiving the compensation benefits provided for in the law? They don't know. Are employees receiving their payments promptly? They don't know. What becomes of the permanently crippled workers? They don't know. How long are such workers disabled? They don't know. What disposition is ultimately made of the commutations and lump-sum settlements? They don't know. What becomes of the widows and other dependents? They don't know. What type of insurance carrier furnishes the best service? They don't know.

The aim of social insurance, as the most eminent authors on the subject recognize, is to protect the workmen. From the instant the employer secures insurance in a private company his responsibility ceases, and only the protection of the laborer is left pending. In all cases covered by private insurance companies, the workman must make his claim immediately; he must act before 30 days to fulfill certain requisites that limit his rights, and afterwards, if there is any controversy, he must go before the courts and wait.

To obtain an exact and scientific statistical base for all labor legislation; to fix just and reasonable compensation for injured workmen or persons dependent upon them for subsistence; to obtain rapid payment of compensation; to establish the best proportional system of pensions for widows and orphan children; to determine with scientific exactness the expenses which may be incurred in establishing the State fund system, in all its integrity; to avoid charging the workmen with the insurance cost; to give an efficient, honest, and just service to all workmen; to protect employers against

failures and bankruptcies; to establish efficient methods to return to industry the injured and crippled, using the best industrial surgery and schools for rehabilitation; to maintain, as we now maintain, a body of industrial physicians for the use of all workmen, this system being approved and indorsed by expert economists and men learned in social science—these are the aims of the State fund, the exclusive fund with the guaranty of the State.

EXCLUSIVE INSURANCE BY THE STATE.

This is the form of insurance that has been adopted in Porto Rico, and I consider it the best for the prompt and due protection of the worker. Once this system is studied, all opposing systems must be discarded. Social insurance with an exclusive State fund administered by the State has not and can not have at any time any speculative ends. Its resources are administered by a public commission. The State creates a medical corps, paid by the State, in order to protect, in every case and under all circumstances, promptly and efficaciously, all workmen injured at work. The State provides charitable asylums and hospitals for men no longer able to work and for decrepit old men; schools for the rebuilding of men who have been made useless for a given work and to fit them for doing some other kind of work suitable to their physical condition, whereby they can earn their living comfortably and without danger.

The State pays promptly an indemnity to all injured workmen, thus avoiding poverty, hunger, and need in the homes of such workers; it protects the widow and the dependents of a worker who dies; fixes pensions for the benefit of orphan children and unprotected widows; protects all beneficiaries. The State, guided by its own experience, is able to modify and improve the rules for the protection of workmen in the shops, and to impose penalties upon such industries as do not comply with such rules or do not afford sufficient guarantees for the protection of their workmen. It is the State which looks after the legitimate means of avoiding accidents. In a word, the State is the constant protector of workmen. Now will you tell me how an employer, or an industry, or a private insurance company can do this splendidly constructive and regenerating social work? Tell me, please, what company or industry in the world has established a school for the rebuilding of men who through accident have been deprived of their usual means of earning a livelihood? These sacred interests can not be intrusted to the private initiative of a few persons. The State has the duty and the exclusive right to attend to all these needs.

In the State fund system it is the duty of the State to insure all employers, whether they operate mines or quarries, whether they are engaged in industries utilizing modern machinery of the most dangerous sort, or whether their energies are devoted to sea, land, or even air transportation. Wherever man is engaged in producing something for his employer, there arises the duty of the State to insure him. Private insurance companies do not do this, are not obliged to do this. They are absolutely free to insure or not to insure employers whose business is hazardous to life or limb. Since

every employer is forced to protect his employees, if the employer were allowed to insure his employees with private insurance companies when the business is not dangerous, but to come to the State for protection for his men in case the work is hazardous, then the State would be arranging a first-class business for private insurance companies. Also, if the State imposes a fixed rate, the private companies can fix a sliding scale. Public opinion has forced employers to insure their men, and this duty imposed upon employers would serve to benefit the interests of private insurance concerns competing with the State, whose interests are those of the public at large. I do not believe that a state of affairs which compels employers to be insured and to pay monetary tribute to some person, natural or artificial, to help him fulfill his duty to the public, should be tolerated. If such an expense is to be incurred by the employer, the money should go to some governmental agency to be disbursed for the benefit of those concerned. The payment of such funds to a private insurance concern will always be illogical, unjust, and contrary to the very principle of workmen's insurance through governmental agency.

The workmen's compensation act becomes a most charitable instrument, nobly exercised, when handled by the State. A worker does not need to feel ashamed when he makes his claim to the Government in pursuance of the rights granted to him by the legislature. He can, with head held high, receive the amount of compensation allowed him by the law; but if the compensation is forced from an employer, in case the employer is self-insured, or is handed to him by some private insurance concern, it will always partake of the nature of alms.

The above are the arguments on which our compulsory State insurance system is founded. In our judgment there can not exist a different system that will prove successful.

The CHAIRMAN. The next paper will be the "Status of farm labor under workmen's compensation in the United States and in foreign countries," by our honored secretary-treasurer, Ethelbert Stewart, United States Commissioner of Labor Statistics.

Mr. STEWART. My object in preparing this paper was to put in brief space all the material readily available for use by members of State legislatures who may be interested in extending this legislation to any of the States of our Union or the Provinces of Canada. I have noted in passing some of the decisions of State supreme courts extending the provisions of the workmen's compensation laws to the operation of threshing machines, and a few other special occupations. I wish to call your attention to the fact that the introduction of the silo has added considerably to the hazards of agricultural labor, and that the occupations of silo filling and corn shredding are regarded as hazardous occupations. I have noted that the State grange associations are taking considerable interest in this general subject and have organized an insurance company in Pennsylvania and are making investigations in other States. The United States Bureau of Labor Statistics will in the near future bring together the result of this activity of the grange. Your attention is called to the recent law enacted in Italy where the basis of the insurance premiums is the

acreage under cultivation and not the pay rolls. I wish to add that the Italian law protects the farmer in case of accident upon his own land, as well as his employees. The report of the first year's operation of the Italian law has been received, and such translation and digest of it as will give a comprehensive view is now being made and will be published in the Monthly Labor Review.

I am informed by Mr. Carmona that the Porto Rican law covers practically all farm labor, whether or not using motor-driven machinery.

As stated, the object of the paper is to have available a document which condenses the present information, and it was written more as a record than with an idea of bringing the subject up for general discussion at this time.

STATUS OF FARM LABOR UNDER WORKMEN'S COMPENSATION IN THE UNITED STATES AND IN FOREIGN COUNTRIES.

BY ETHELBERT STEWART, U. S. COMMISSIONER OF LABOR STATISTICS.

It is the purpose of this paper to restate the facts concerning agricultural labor, with some data as to its comparative hazards, and the extent to which it is covered in compensation legislation. The term "farm labor" as here used does not include farmers or home farm laborers, but relates only to wage workers engaged in agricultural labor. Well over 12 per cent of all wage earners in the United States are farm laborers. Of the six and one-half or seven millions of employees in the 45 compensation States, excluded from the benefits of compensation laws, 2,600,000, or about 40 per cent, are farm laborers. In only two jurisdictions—Hawaii and New Jersey—is farm labor covered by the compensation law. Twelve States specifically exclude such labor. Eighteen States exempt the employing farmer but permit voluntary acceptance of the act. In six States (column 5 of table) the application of the law is limited to enumerated hazardous industries, in which farming is not named. The following table shows in a crude, but perhaps adequate, way the legal status of farm laborers in the various States:

LEGAL STATUS OF FARM LABORERS IN THE STATES HAVING COMPENSATION LAWS.

Included.	Specifically excluded.	Exempted but voluntary acceptance permitted.	Exempted.	Not covered.	No specific provision—employers having less than specified number of employees exempted from act.
1	2	3	4	5	6
Hawaii. New Jersey.	Alabama. Delaware. Iowa. Maine. Maryland. New York. Oklahoma. Pennsylvania. Rhode Island. Tennessee. Texas. West Virginia.	California. Colorado. Georgia. Idaho. Illinois. Indiana. Kansas. Kentucky. Massachusetts. Minnesota. Nebraska. Nevada. New Mexico. North Dakota. Oregon. South Dakota. ⁵ Utah. Virginia.	Michigan. Montana. Porto Rico. ³ Wisconsin.	Alaska. Arizona. ² Louisiana. ² New Hampshire. Washington. ² Wyoming.	Connecticut. ¹ Ohio. ¹ Vermont. ⁴
2 States.	12 States.	18 States.	4 States.	6 States.	3 States.

¹ Less than 5.

² Voluntary acceptance permitted.

³ Not working with mechanical or animal power machinery or dangerous tools.

⁴ Less than 10.

⁵ Since 1919 amended to cover contract threshing, etc.

Interest centers around the extent of voluntary acceptance of compensation laws by farmers in the States providing for such acceptance. Unfortunately adequate information on this point is not available.

In California some 17,000 farmers, approximately one-third of the total number, although exempted by the law, have accepted the act voluntarily.

In Oregon, of the approximately 9,000 subscribers to the State fund about 600 are farmers who have voluntarily subscribed. However, of the \$236,778,618 total pay roll covered by the Oregon fund for the four years ending June 30, 1919, only \$2,578,010, or about 1.1 per cent, was agricultural pay roll.

In 1918 the Nevada Industrial Commission assured the legislature "that farmers are not unanimous in desiring exclusion from the benefits of the Nevada industrial insurance act." Of the farmers who responded to a questionnaire sent to them by the Nevada commission, 55 per cent were in favor of permissive insurance and 42 per cent in favor of compulsory insurance. Upon this showing the legislature amended the law to permit of agricultural labor insurance coverage. The report for 1920 states, however, that up to that time very few farmers had availed themselves of the provision.

Particularly significant, however, is the fact that in Pennsylvania, where farm labor is specifically excluded from the law, farmers are insuring their liability by carrying compensation insurance on farm hands. An insurance company organized by the State Grange Association and called the Grange Mutual makes a specialty of these cases, and during the four-year period 1916 to 1919 reported a total agricultural pay roll of \$16,950,000 of farmers insured under the compensation act. True, this was but three-tenths of 1 per cent of the total pay roll of the industries reporting for the same period; but in a State which specifically excludes farm labor it is significant. The company carries some 2,000 farm policies. The Bureau of Labor Statistics will endeavor to ascertain how widespread the activities of the Grange Mutual or similar insurance companies really are.

Under State supreme court interpretation of the law some of the more obvious hazards of agricultural work have been brought under the compensation laws. Indiana, for instance, exempts farm labor though providing for voluntary acceptance. The State court, however, decided that threshing was covered by the act.

The New York act specifically excludes farm labor; but the State supreme court decided that threshing is not farm labor, hence was covered by the act.

The Porto Rico compensation act follows European rather than American lines, and while broadly exempting farm labor does cover such labor when working with mechanical or animal power machinery or with hazardous tools.

In a few instances State courts have decided that while threshing was exempt under the law when done by the farmer for himself, it was included when done on a commercial basis or by contract. The compensation commissioners of South Dakota in their first annual report recommended the inclusion of farm labor. The report says:

Most compensation laws are based on the old English law which exempted farm labor as practically all farm work was done by hand labor. With modern machinery, farm operations are just as hazardous as are many other indus-

trial occupations, and the men who work with such machinery should, in the opinion of this department, have the same protection as those working with machinery in industrial plants.

As a result of the commission's efforts the South Dakota act was amended in 1919 and its provisions now apply to the occupation of operating threshing machines, including traction engines and separators; provided, however, that the act shall only apply to the operation of threshing machines for profit and not to the operation of threshing machines by the owner for the threshing of his own grain crops or by those who are not generally engaged in the operation of threshing machines for commercial purposes.

It will be seen, therefore, that notwithstanding a number of ultra-conservative court decisions in some States, there has been a noticeable liberalization of views tending to favor at least a limited extension of compensation provisions to agricultural labor.

THE AGRICULTURAL LABOR HAZARD.

The fears of the farmer, amounting in some States almost to a panic when it was proposed to include agriculture in the workmen's compensation laws, arose from the total absence of information as to the absolute or relative hazards of the industry. The first plea was that there were no accidents worth considering, hence there should be no burden of insurance to carry. The answer here should have been that if there was a negligible accident rate the premium rate would be correspondingly low and hence no burden. But since the "embattled farmer" stood with his vote in his hand, his voice was heard round the legislative hall and there was no answer. That the old agriculture was an exceptionally nonhazardous industry is not believed by many who remember when the meadows were cut by gangs of haymakers with scythes, when grain was reaped with cradles and sickles, and threshed with flails; who remember the accidents from runaway teams of horses, from wood chopping, corn cutting with a corn knife, the hog killing, the horse breaking and training, and the etceteras that only old men recall. The fact probably is that modern farming is less hazardous than the old. Very little conclusive information exists to-day as to the extent of this hazard. The best data in this country come from California, and I will have to introduce a table covering the experience of that State for 1919.

NUMBER OF ACCIDENTS IN CALIFORNIA IN 1919, CLASSIFIED BY INDUSTRY AND EXTENT OF DISABILITY.

Industry.	Total accidents.	Deaths.	Perma- nent dis- abili- ty.	Inde- termi- nate.	Temporary disability.		
					Over 2 weeks.	Over 1 to 2 weeks.	1 week and under.
Agriculture.....	3,594	40	129	77	1,527	576	1,245
Mining and quarrying.....	1,886	25	70	25	649	284	833
Oil producing.....	2,213	16	52	27	594	441	1,083
Food and beverages.....	5,403	19	125	36	1,457	933	2,833
Lumber and wood manufacturing.....	3,859	42	238	49	1,309	623	1,598
Metal and machinery manufacturing.....	5,499	17	179	27	1,438	647	3,191
Chemical manufacturing.....	1,656	8	38	10	436	287	877
All other manufacturing.....	2,718	9	97	23	866	383	1,340
Engineering construction.....	1,857	40	47	35	633	280	822

NUMBER OF ACCIDENTS IN CALIFORNIA IN 1919. CLASSIFIED BY INDUSTRY AND EXTENT OF DISABILITY—Concluded.

Industry.	Total accidents.	Deaths.	Perma- nent disabili- ty.	Inde- termi- nate.	Temporary disability.		
					Over 2 weeks.	Over 1 to 2 weeks.	1 week and under.
Building construction.....	3,554	41	124	90	1,400	482	1,417
Boat building.....	4,742	38	213	42	2,196	710	1,543
Vessel operation and stevedoring.....	1,747	76	40	26	767	229	599
Railroad operation.....	5,777	73	94	29	1,569	971	3,041
Public utilities.....	1,972	45	42	32	669	298	886
Cartage and storage.....	2,851	32	54	49	1,137	450	1,129
Commercial enterprise, clerical and professional.....	6,535	34	107	76	2,200	994	3,124
Care and custody.....	1,654	20	43	23	653	281	634
Miscellaneous.....	1,060	11	22	19	430	165	413
All industries.....	58,577	586	1,714	695	19,930	9,044	26,608

Although all employers in California must report their accidents to the industrial commission, only about one-third of the farmers (who are exempt under the law) have accepted the act. It is probable that most of the farmers who are not under the compensation law do not report accidents with any degree of completeness. The number of accidents in agriculture, as shown in the above table, therefore understates the situation. Even so, of the 18 industries the number of deaths in agriculture is exceeded only by lumber manufacturing, building construction, vessel operation and stevedoring, railroad operation, and public utilities. Agriculture accounts for 6.8 per cent of the total industrial fatalities.

In New Jersey during the year ending June 30, 1922, 9 fatal and 155 nonfatal agricultural accidents were reported.

The Pennsylvania experience shows that farm labor has the same hazard as the combined industries in the State and has a greater hazard than general manufacturing and a majority of manufacturing industries. Of the 297 industrial classifications in the Pennsylvania Manual, threshing ranks sixth from the standpoint of hazard. It is more hazardous than sawmills, logging, bituminous coal mining, steam railroad operation, blast furnaces, and stevedoring. Oregon corroborates the experience in Pennsylvania. General farming is more hazardous than general manufacturing, while threshing and ensilage cutting are exceeded in hazard only by mining and logging. The California table does not give rates, but it will be seen again that agriculture is a highly hazardous industry.

CANADA.

One of my purposes in this paper is to cover as adequately as time will permit what we know about agricultural labor coverage in foreign compensation laws. Before coming to that, and because Canadian legislation can never be referred to as "foreign" in this convention, I will pause to say that of the eight Canadian Provinces having compensation laws, six (British Columbia, Manitoba, Nova Scotia, Ontario, Quebec, and Saskatchewan) specifically exclude farm labor. New Brunswick exempts agriculture but permits voluntary acceptance. In Alberta the application of the law is limited

to enumerated hazardous employments, and agriculture is not mentioned as one of these employments. Consequently farm labor is exempted in that Province.

EUROPEAN COUNTRIES.

As for European countries, the subjoined table shows that nine countries cover all agricultural workers in their workmen's compensation laws. These are Belgium, Bulgaria, Denmark, Germany, Great Britain, Italy, Luxemburg, Sweden, and Russia.

In the case of Italy radical revision of the law was made in 1917, and a separate commission created to administer the compensation law as it related to agricultural labor. The first Italian report on workmen's compensation of agricultural laborers, just received, shows that there were 32,858 agricultural accidents reported during the year 1919. Of compensable accidents there were 563 deaths, 17 permanent total disabilities, 1,651 permanent partial disabilities, and 21,913 temporary disabilities. It is interesting to note that the Italian law classifies the various hazards (as grape culture, olive culture, wheat raising, etc.) and then bases the insurance premiums upon the acreage under cultivation and not upon pay rolls.

Ten of the countries appearing in the table cover agricultural workers only when mechanical power is used. These are Austria, Czechoslovakia, Finland, France, Greece, Hungary, Norway, Portugal, Rumania, and Spain.

However, any classification so broad as this creates a rather too liberal impression of European legislation along these lines. With the exception of Bulgaria, Germany, Great Britain, Italy, and the reported recent legislation of Russia, the workmen's compensation laws of Europe as regards agricultural labor have not been broad nor on the whole humanitarian. Some explanatory notes have therefore been added to this table.

AGRICULTURAL LABOR UNDER THE WORKMEN'S COMPENSATION LAWS OF EUROPEAN COUNTRIES.

Agricultural workers covered only where mechanical power is used.		All agricultural workers covered.	
Country.	Date enacted.	Country.	Date enacted.
Austria.....	1887	Belgium.....	1903
Czechoslovakia.....	1887	Bulgaria.....	1918
Finland.....	1917	Denmark.....	1908
France.....	1899	Germany.....	1886
Greece.....	1914	Great Britain.....	1900
Hungary.....	1907	Italy.....	1917
Norway.....	1915	Luxemburg.....	1903
Portugal.....	1913	Sweden.....	1916
Rumania.....	1912	Russia.....	
Spain.....	1900		

The following is a more detailed statement of the action taken by European countries with regard to bringing agricultural labor under the protection of workmen's compensation acts:¹

¹ U. S. Bureau of Labor Statistics Bul. No. 203: Workmen's compensation laws of the United States and foreign countries; International Labor Office, Technical Survey of Agricultural Questions, Geneva, 1921.

Austria.—An act of 1887 provided for insurance against industrial accidents and included agricultural undertakings provided steam boilers were used or machinery was used which was moved by either natural or mechanical power or by animals. The use of this motive power must form a part of the undertaking itself. If only a limited proportion of the persons employed in an agricultural undertaking are exposed to the dangers involved in the use of the machinery compulsory insurance applies only to such persons.

Belgium.—An act of 1903 covers agricultural undertakings employing not less than three workers.

Bulgaria.—All workers are insured by an act of 1918.

Czechoslovakia.—Apparently the law effective in this country is based on, and is a development of, the Austrian law. It covers agricultural undertakings which use animal or natural power (wind and water) or other kinds of motive power (steam, hot air, electricity).

Denmark.—The act of 1898 included agricultural workers using machinery moved by mechanical power. By the act of 1908 compulsory insurance was provided for workers engaged in agricultural undertakings on property the value of which is fixed for the land tax at over 6,000 kroner.

Finland.—The act of 1895 did not include agricultural employments, but the supplemental act of 1917 extended the coverage of the insurance to agricultural undertakings employing machinery for more than 14 days in the year.

France.—An act of 1899 provided that compensation should be paid for physical injury due from accidents arising out of the use of agricultural machinery moved by mechanical power.

Germany.—In 1886 the act of 1884 was broadened so as to cover agricultural workers. The benefits of the insurance provided for were not so great as those given to industrial workers, but amendments passed in 1919 and 1921 put the workers on an equal basis.

Great Britain.—An act of 1900 amended the act of 1897 so as to include agricultural workers.

Greece.—By an act of 1914 agricultural undertakings using mechanical power were made subject to accident insurance.

Hungary.—Accident insurance under the acts of 1900 and 1902 covered agricultural workers only, and the payments were very small, but by the act of 1907 insurance was provided for such agricultural workers only as use machinery and the benefits were made normal.

Italy.—By the act of 1904 agricultural workers using machinery were brought under the insurance law. An act passed in 1917 sets up a special system for land workers and covers all agricultural laborers, and also landowners, tenant farmers, and métayers, with their wives and children who habitually work on their farms, and foremen whose earnings do not exceed 10 lire per day. These agricultural workers between the ages of 9 and 75 are subject to compulsory insurance.

Luxemburg.—An act of 1909 extended the act of 1902 so as to include agricultural workers.

Norway.—An act of 1915 provided for compulsory insurance of workers employed on agricultural undertakings in which mechanical power is used.

Portugal.—The act of 1913 covers agricultural employments if mechanical power is used, but only such accidents as are caused by such power machinery are compensable.

Rumania.—By act of 1912 agricultural undertakings using mechanical power were made subject to compulsory insurance.

Spain.—Under an act of 1900 accident insurance includes agricultural undertakings if machines operated by mechanical power are used. The employer's liability extends only to persons exposed to danger from the machinery.

Sweden.—An act of 1916 covers all employments and all workers over 12 years of age who earn 5,000 kronor or less.

Russia.—Under the act of 1903 agricultural employments were excluded. The act of 1913 covered specified industries and it was provided that other industries could be added by the insurance council. Under the present government, it is thought, a system has been created insuring all workers, although no official statute or decree to that effect is available.

The only two important European countries that apparently make no provision for agricultural workers are Switzerland and Holland. Three small countries—Albania, Liechtenstein, and Monaco—are un-

important, and the Bureau of Labor Statistics has no record of any action taken by them with reference to workmen's compensation.

The bureau record of action taken by countries established since the European war is not complete, but it is generally true that the laws effective within the territory before their establishment will continue in force until affirmative action is taken by the new political organizations. These countries are: Azerbaijan, Armenia, Danzig, Esthonia, Georgia, Yugoslavia, Latvia, Lithuania, Poland, and Ukania.

SOUTH AMERICA AND MEXICO.

I have had prepared a crude list of compensation countries of South America and of the States of Mexico. In all of the countries of South America having compensation laws, except Colombia and Venezuela, agricultural labor is apparently covered where mechanical power or any motive power other than human is used. In Venezuela the compensation act is special—it covers mines and mining only—and that country perhaps ought not to be listed as having a compensation law. The States of Mexico appear for the most part to have more liberal legislation in this respect; five of the States include agricultural labor, how broadly I am not prepared to say, because the Bureau of Labor Statistics has only just begun to collect and analyze these laws. Later, in the Monthly Labor Review, a comprehensive digest of this legislation in Latin America will be published.

AGRICULTURAL LABOR UNDER WORKMEN'S COMPENSATION LAWS OF SOUTH AMERICA AND THE STATES OF MEXICO.

SOUTH AMERICA.

Country.	Date enacted.	Provision as to agricultural labor.
Argentina.....	Sept. 27, 1915	Included, as regards transportation and use of mechanical motive power.
Brazil.....	Jan. 15, 1919	Included, if mechanical power is used.
Chile.....	Jan. 19, 1917	Included, if other than human motive force is used.
Colombia.....	Nov. 15, 1915	Not included.
Ecuador.....	Sept. 30, 1921	Included, if other than human motive force is used, in respect of workers exposed to machinery.
Peru.....	Jan. 20, 1911	Included, if mechanical power is used.
Uruguay.....	Nov. 15, 1920	Included, as to workers exposed to dangers of machinery.
Venezuela.....	Feb. 23, 1906	Not included (mine law only).

MEXICO.

Campeche.....	Dec. 21, 1917	Included.
Chiapas.....	1918.....	Text of law not available.
Hidalgo.....	Dec. 25, 1918	Included.
Michoacan.....	Sept. 1, 1921	Do.
Nueva Leon.....	Nov. 9, 1906	Included, where mechanical power is used.
Puebla.....	Nov. 14, 1921	Included, if other than human power is used, so far as exposed to machinery.
Sinaloa.....	June 21, 1920	Included, if five workers.
Sonora.....	Oct. 8, 1918	Included.
Tabasco.....	1917.....	Text of law not available.
Vera Cruz.....	1918.....	Do.
Yucatan.....	Oct. 2, 1918	Included.
Zacatecas.....	1916.....	Text of law not available.

The constitution of the State of Mexico requires compensation to be paid for injuries in industries having a capital in excess of 50,000 pesos.

ADMINISTRATIVE PROBLEMS.

The CHAIRMAN. In taking up our round-table discussion we will start with the subject of hernia, to be discussed by Mr. F. A. Duxbury, chairman of the Industrial Commission of Minnesota.

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HERNIA.

BY F. A. DUXBURY, CHAIRMAN MINNESOTA INDUSTRIAL COMMISSION.

While the administrative problems involved in hernia are not, in my judgment, so important as the medical questions, I think it highly important that every commissioner or referee or other person called upon to consider the question of whether or not a particular hernia is compensable should inform himself as fully as possible upon the medical views as to hernia and its causes.

The paper on this subject by Doctor McGlannan which we heard read in this convention was, in my judgment, one of the best résumés of the subject that I have ever found. There is not much recent literature on the subject. The medical-surgical division of the American Association of Railways issued a circular on April 22, 1922, which embodied much of the medical information on the subject. The Industrial Commission of Ohio has issued a letter to physicians throughout the State which is very helpful.

The question which administrative boards have to consider involves largely the determination of facts—the facts of the accident and the character of the accident—and the application of those facts to the question, the medical question, of whether or not the particular accident in question is likely to have produced a hernia.

The first part is largely a question of determining simple facts. When we consider that it is a settled view of medical men that strictly traumatic hernia very rarely occurs the possibility of the particular hernia being compensable is one of the things on which there ought to be clear and satisfactory evidence, not only of the nature and character of the accident but also of the medical question involved.

I meant to go into this thing much more fully than I can under the present circumstances. There are very many questions that I would like to consider, but under the circumstances, the diminishing attendance, and the papers we have yet to consider, I do not feel justified in doing so now.

I trust that everyone interested will give strict attention to the paper upon the medical aspect of this question which was read here, and that you will inform yourselves as to the rules which have been adopted by commissions with experience, such as Wisconsin, where they have long considered the subject, the California commission, which has had wide experience in matters of this kind, the Nevada commission, and some others.

The CHAIRMAN. The next problem for discussion is the "Problem of noninsurance," by Mr. Lewis T. Bryant, commissioner of the Department of Labor of New Jersey.

PROBLEM OF NONINSURANCE.

BY LEWIS T. BRYANT, COMMISSIONER NEW JERSEY DEPARTMENT OF LABOR.

The outstanding advantage of the compensation act as against the previous common-law practice is that the large majority of the injured workers receive some measure of compensation for the injuries they have sustained, whereas under the previous practice the very large majority received little or no benefit while the small minority received a greater degree of protection than may be obtained under the system now in vogue. With the assumption that the worker is protected under the terms of the act, the guaranty of the collection of damages is a corollary of almost equal importance. It is therefore necessary to provide some method by which the collectibility of the claim may be established, and this is usually accomplished through an act calling for compulsory insurance or the satisfying of some specified authority of the ability of the employer to carry his own risk. Such is the case in New Jersey and, I think, in most of the States.

In considering the problem of noninsurance, the collateral relation of the degree of coverage must not be overlooked. It may be viewed from several angles, and perhaps may be subdivided into three general heads:

(1) The difficulty of providing legislation for the inclusion of casual workers the indefiniteness of whose tenure of employment has apparently made their inclusion under the workmen's compensation acts a legal impossibility.

(2) Legislation that is broad and comprehensive enough in its legal application to cover that large group of general workers engaged by employers who do not employ the statutory minimum of workers that is required for a legal inclusion under some of the workmen's compensation acts.

(3) That group of workers who are not covered by the workmen's compensation act for the reason that their employers violate the act in their failure to insure.

The first two phases of this subject matter have evidently been given a vast amount of study, thought, and effort by social workers, compensation administrators, and others who are interested in the subject, in an effort to induce legislatures to provide legislation increasing the degree of coverage, but I believe that in all our jurisdictions the legal status of casual workers presents judicial difficulties that prevent effective direct legislation. In the case of employers of less than a statutory minimum of workers, legislatures have in general refrained from the passage of laws that would bring them under the workmen's compensation act.

In New Jersey the question of noninsurance is acutely felt because of the extensive jurisdiction of the workmen's compensation act, which covers all employees, whatever the nature of their employ-

ment, with the exception of casual workers. The New Jersey act covers manual workers, brain workers, professional workers, agricultural workers, and all persons engaged in domestic employments, and it presumes, in the absence of an express agreement to the contrary, that all these workers come under the act. In consequence of the broadness of this legislation a large number of small employers of labor are included under the act, and the difficulty of compelling large numbers of employers who employ one, two, three, or five persons to take out workmen's compensation insurance is manifest.

The law requiring insurance, however, does not extend to either agricultural workers or domestic labor. It has long been a recognized fact that agricultural employment contributes a large number of accidents, and there would seem to be no logical reason why a person thus employed should not be provided with the same measure of protection as the factory workers, including both the compensation schedules and the laws requiring compulsory insurance. Certainly the numbers denied compensation by reason of noninsurance or lack of responsibility on the part of employers will be negligible when compared to the numbers outside of the compensation act in States where these two classes of labor are omitted.

The problem of providing sufficient machinery for the enforcement of the compulsory insurance features of the compensation laws presents many difficulties. In New Jersey the law provides for a fine of \$200 for any employer who fails either to provide insurance or to satisfy the commissioner of banking and insurance of his ability to carry his own risk. If, however, the fact that no insurance is carried is ascertained only after the injury has occurred, the intended protection of the worker is nullified. If it is found that the employer lacks responsibility, neither the compensation payments nor the penalty for the disregard of the compulsory insurance feature is obtainable, while the assumption of the damage by a conscientious small employer frequently amounts to transferring the burden from the shoulders of the injured worker to those of the small employer. The necessity of compulsory insurance legislation is conceded, but the best method of obtaining compliance with its provisions presents a problem still more worthy of the best thought on this subject.

The inclusion of imprisonment, as well as a fine, for noncompliance with the compulsory act, is a feature of the legislation of many States, and I have no doubt aids materially in securing more satisfactory results. At the last session of the New Jersey Legislature a bill was proposed providing for the imposition of a fine of \$1,000 or six months' imprisonment, or both, in cases of noninsurance. This bill, however, did not leave the committee. The Workmen's Compensation Bureau of New Jersey would welcome some such provision in our act, and we believe that systematic prosecutions previous to the actual occurrence of an accident would have the effect of a more general observance of the compulsory insurance law.

We have had occasion in New Jersey to realize the disadvantages of employment, without insurance, by irresponsible employers, and the following typical cases indicate the complications frequently arising:

While helping to tear down a building an employee fell three stories and was killed. He is survived by a widow and six children, ranging in age from 5 to 14 years. Complaint was made, and the \$200 fine collected from the

employer. A petition was filed by the widow and a judgment was given for the amount of compensation due. The employer disappeared, leaving no assets. The widow and children are now destitute. The compensation in this case would amount to \$3,700.

A painter fell three stories from a scaffold, suffering multiple comminuted fractures of both legs. The employer, who had no tangible assets, was prevailed upon by the compensation bureau to pay the injured man temporary compensation during the period of four months he was in the hospital. This was all the money the employer paid, and he disappeared a short time before the case was called for a hearing before the workmen's compensation bureau. The employee's medical expenses are figured at close to a thousand dollars. He now has a disability in the neighborhood of 50 per cent of total, which would entitle him to some \$2,400.

While cleaning a second-story window an employee fell some 20 feet, fracturing his spine in two places. Attempts to persuade the employer to pay compensation failing, it was necessary to institute formal proceedings, at which the injured man prevailed. This decision was appealed to the court of common pleas, where the finding of the bureau was upheld. This appeal was apparently for no other purpose than to delay the proceedings. By the merest chance the attorney for the injured man discovered a bank account, which was attached and about \$600 was paid over as temporary compensation. At a later hearing a few months ago the employee was found to be suffering from a permanent injury which was placed at 60 per cent of total disability. A judgment was issued but could not be collected, as there is nothing belonging to the corporation which can be levied upon. The corporation is composed of father and son, both of whom, we are creditably informed, are well off financially. The injured man must wear a celluloid cast which interferes considerably with the use of his arms and prevents him from bending. This condition will continue through his lifetime. His permanent disability compensation would amount to \$2,890.

The limb of a tree fell on an employee while he was in the course of his employment. It evidently severed the nerves in his neck and he has now lost the use of his right arm. The employer is absolutely without funds and claims he can pay the injured man nothing. The compensation bureau is attempting to force the employer to pay compensation. This man would be entitled to between \$2,400 and \$3,600.

Two men were employed in erecting a large electric sign. They were standing on a defective scaffold, which broke, throwing the two workmen to the ground. Both died instantly. The mother of one of the men made application to this bureau for compensation. It was discovered that the company had no insurance, and no property of any description in New Jersey. The dependents of both men have been unable to collect anything. It is estimated that the dependents in each of these cases should get \$3,700.

Employee was severely burned while employed as a truckman. Employer disregarded any attempt by our bureau to reach an amicable settlement, and formal proceedings were resorted to. This made necessary a delay of over two months before any compensation could be obtained for the man, who was in very poor circumstances. There was no question as to the accident, but it was necessary to seize one of the employer's trucks before compensation could be obtained. In 1919, another employee of this same employer was injured, and the same difficulty was experienced in getting the matter settled. Employer was warned at that time that he must take out insurance. Suit was brought against him, and the \$200 fine was collected for the latter violation. In both cases, however, the injured worker was put to great hardship.

The passage of the compensation laws is a tremendous step forward, but the benefits intended by the originators of the plan will never be fully accomplished until the greatest possible coverage is secured and the largest possible guaranty of settlement under the terms of the act afforded the workers.

While the payment of an amount of money sufficient to tide over the period of injury to some extent, or to compensate for lack of function, is the primary object of the workmen's compensation laws, the later development of physical rehabilitation, vocational training, and reinstatement in industry, are accompanying benefits secured.

It is obviously true then that where the number coming within the scope of the compensation administration is increased, a more universal opportunity is afforded for the application of these accompanying benefits.

DISCUSSION.

The CHAIRMAN. Mr. Bryant, may I ask you one question? I understood from one paper here that the New Jersey farmer was under the law absolutely, but you say in your paper, as I understand it, that it is optional whether he comes under the law.

Mr. BRYANT. No. There are two features in our law. When we first passed the compensation law it included all workers for gain, including agricultural and domestic labor. Some 4 years afterwards a compulsory insurance law was passed which required all employers to insure, either with a mutual company or a stock company, or to satisfy the commissioner of banking insurance that they were qualified to carry their own insurance. This law did not include either agricultural labor or domestic service.

The CHAIRMAN. The provision of our law is just like yours, and I have been informed that if the employer of farm labor and domestic servants in New Jersey does not insure them, the common-law defenses are taken away from those employers. Is that true?

Mr. BRYANT. No; they are not. These workers come under the compensation law just the same as any other worker. What happens if the employer is not responsible? Why, they get no pay.

The CHAIRMAN. That is all I wanted to get at; just that one point.

Mr. BRYANT. Because in most of the States I suppose the presumption is that the man comes under the compensation law unless he makes a specific effort to come under section 2 or the other section.

Mr. HOOKSTADT. Mr. Bryant, did I understand you to say that if the employer in New Jersey does not accept the law his defenses are not taken away?

Mr. BRYANT. No; I did not say that. Under our law we have two sections, section 1 and section 2. In order to make the law constitutional, it was presumed that the employer comes under section 1, which includes farm labor and domestics. Now, in order to come under section 2 the employer must serve notice upon his employee or the employee upon his employer that he wants to come under section 2. Unless that is done, he comes under section 1. That covers all workers, including domestics and agricultural labor.

Mr. HOOKSTADT. Then all employers lose their defenses unless they accept section 2?

Mr. BRYANT. Yes; that is so.

The CHAIRMAN. The next paper is "Policy with respect to auditing pay rolls," by Mr. E. S. Gill, of the Department of Labor and Industries of Washington. Mr. Gill is not present, but his paper is here.

POLICY WITH RESPECT TO AUDITING PAY ROLLS.

BY E. S. GILL, SUPERVISOR OF INDUSTRIAL INSURANCE, WASHINGTON DEPARTMENT OF LABOR AND INDUSTRIES.

While the industrial insurance and medical aid act of the State of Washington is a State monopoly, the matter of auditing pay rolls can not but be the same as in all States which have an industrial insurance law or, as it is commonly known, a workmen's compensation act. Previous to 1922 the work in Washington was centralized in the Olympia office. Calls for premiums were issued at irregular intervals, fixed on the base rates named in the law. Late in 1921 the actual cost of insurance in the various classes over an 8-year period was worked out and an entire 12-month call made for 1922 upon the cost rates, payable for each 4-month period—the first four months payable on or before May 15, the second September 15, and the third January 15, 1923. The audit department at Olympia was broken up and the work decentralized and placed in the five branch offices into which the State is divided. The effect of this change has been to bring the work closer home to the contributors and to bring about a better relationship between the department, the employer, and the employee.

In the State of Washington premiums for the accident fund are computed by using the established rate, per cent of the total amount of the pay roll, applicable to the class in which the firm is operating, and the premiums for the medical-aid fund are computed by using the rate, in cents per day, for the class designated for the firm so operating.

The accident fund is a direct charge against the firm operating. The medical-aid premium is paid jointly by the employer and employee.

The correctness of pay rolls, both as to the actual compensation for the labor employed (be it in money or otherwise) and the actual days worked by the employees, can only be determined by an examination and audit of the original time sheets which show the names of the employees, actual number of days worked, rate paid per day, and total amount of compensation.

The making of the audit requires close scrutiny of the records—

First. To determine the proper class of operation.

Second. To determine the actual number of days worked.

Third. To determine the rate paid per day or hour, as the case may be.

Fourth. To determine the actual number of employees.

Fifth. To determine the actual amount earned.

Sixth. To determine the correctness of the employer's computations and to compare the audit thus made with the employer's statement rendered to the department as required by the industrial insurance act.

As it is physically impossible properly to audit the records of each and every firm in the State with the limited number of field men employed, each employer is furnished with blanks upon which to report his pay roll, medical-aid days, and such supplementary data relative to inclusions and exclusions of officers, partners and owners, and employees engaged in nonhazardous work as is necessary in his particular case. Experience has proven that the average employer is quite fair and honest in dealing with the department and that only a limited supervision by occasional checks is necessary in the case of regularly established firms. It is the temporary and financially weak employer who gives the department the most trouble, and it is with him that the auditor spends most of his time. The small employer who is too busy earning a living to keep systematized accounts shares to a great extent the auditor's time.

A great many firms have certain employees who have elected to come within the scope of the act, as provided for by chapter 75, Laws of 1911, and are reported in class 48, known as elective adoption. On making an audit of this class the auditor must have access to the original agreement made by employer and employee and approved by the department officials before him, as only those who have signed the agreement can be accounted for. The agreement discloses the names and salaries of such employees, and in event of change in salary the computations must be made on the amount actually paid. When one who has signed the elective adoption agreement severs his connection as an employee, note of that action must be made by the auditor and reported to the department, showing date of same.

The question of making an audit of an employer's pay-roll records should not be considered as questioning the accuracy of the reports made by him, as it is purely a matter of good business. A merchant doing a small or an extensive business and continually making purchases would not receipt an invoice of goods purchased, be it of large or small amount, reach for his check book, glance at the total of invoice, and send a check in payment without first determining the correctness of bill. Then why accept without question the owner's statement of amount of labor employed? You have his statement only. Use the same business methods in determining the accuracy of the report that would be used if conducting a business in a methodical way from a good business standpoint, and ascertain that the fund is receiving pay for what has been sold, for in a sense the labor so employed is sold to the employer by the State.

The payments made to the accident and medical aid funds must be considered from a purely business standpoint. As compensation for all injuries, fatal or otherwise, are paid out of the accident fund and all medical treatments are paid from the medical aid fund, it is obvious that the two funds must receive all amounts earned by them, and if business methods in controlling them are not used, the object for which they are maintained will fail.

It has been found at times, on the examination of pay-roll records of firms operating in certain classes, that where the class was subdivided so that the same line of work was designated as inside and outside work, the inside work bearing a lesser rate than the outside work, the employer had a very small pay roll for outside work. This

condition, however, has now been changed, as the inside operation class has been abolished and only one class prevails.

Again, upon examination of certain pay rolls, the question of labor contracts has cut quite a figure. A great many employers, especially the small operators, neglect to report the operations relating to labor contracts. Labor being the essence of such contracts, they must report them and pay the premiums.

The question of pieceworkers has heretofore been a hard problem to handle. Where a firm employing people to do certain work of an extra hazardous nature by the piece failed to report the operation, the facts being learned only by an actual examination of the records of the firm, a supplemental report in many instances has been secured and both accident and medical aid funds benefited.

Subcontractors.—The question of firms not reporting subcontractors under them who furnish material and labor is a large issue, and without an actual inspection and audit of the operator's records the accident and medical aid funds suffer. It is not that the operator intends to defraud; he just does not see why it is necessary to report subcontractors employed, notwithstanding the fact that all owners' statements require the reporting of them. He simply reports what labor he employs, and as very few, if any, firms (so called), especially those in the construction class, operate without some subcontracts, the practice of accepting an owner's statement as final is not good business.

No pay-roll reports.—This is one of the easiest methods by which the small contributor, in many cases, defeats the law. Occasionally it is no doubt true that at certain periods no employment of labor is made, but sometimes not reporting becomes a habit, and a habit is at times very hard to get away from. Each no pay-roll report should be investigated. If the firm upon investigation is found to be not an employer, its account should be closed; then if it is found later that it has been employing labor and not reporting the same, the penalties governing such cases should be inflicted.

Estimated pay rolls.—The provision of the act requiring the filing of an estimate of the pay roll upon beginning business should be strictly complied with. A firm making its first report three or more months after commencement of operations should be penalized as provided for.

Heretofore we have commented on the small operator. Now just a word in regard to the big fellow. Firms operating on a large scale, especially those in the construction class, furnish the owner's statement as required; yet how does the department know that his reports cover all employment of labor? Every construction operator should be required at time of taking on new work to notify the department of the existence of the contract, in order that when his report is received the department may have some intelligent idea of what volume of labor is employed by this firm. This should apply to public as well as to private work.

In the lumbering and logging industry, which is the paramount industry of our State, a uniform system of pay-roll records has been adopted by all of the leading firms, and the department is endeavoring to secure the adoption of similar records by all employers coming under the act, as it not only simplifies the audit work of the depart-

ment, but also affords a simplified and easily operated system of accounting for the employer.

A field deputy who has an assignment to obtain an audit of a firm's pay-roll records should always be dignified but courteous, and bear in mind that he represents a State department and as such is entitled to examine the records of the firm he visits; that his object is to secure an audit; that it is important business; and that all honorable means should be used to obtain the audit while there or a refusal of same. His time is valuable. He should impress upon the firm that it is a State matter and must be attended to without delay. To-morrow never comes. He is there to audit the employer's records of employment and should do it.

Upon securing the audit, at once have a comparison made with any owner's statements made by the firm. The comparison will result in confidence in or distrust of the firm's business methods.

The securing of an audit should not be measured by speed but by accuracy. Nothing should be taken for granted. Facts substantiated by records speak for themselves. The accident and medical aid funds are amply protected after receipt by the department; why not protect them at the start by verifying the owner's report and seeing that nothing has been forgotten?

The conditions under which an auditor works are such that unless he possesses such qualities as patience, perseverance, and diplomacy, as well as a knowledge of the industrial insurance statutes, he will be far from a success. He is expected to give any and all information regarding the law desired by either the employer or employee, in addition to auditing and the collecting of premiums. As cooperation between the public and the department is essential to a successful administration, it will readily be seen that the field man who can instill a friendly spirit into his dealings with the public is a real asset to both the employer and the department.

The CHAIRMAN. The next subject is "Lump-sum settlements," by our secretary-treasurer, Mr. Ethelbert Stewart.

Mr. STEWART. In the paper I have prepared on lump-sum settlements, I have called attention to the fact of the dearth of statistics of such settlements, and from the information which was obtainable from one or two States have emphasized the fact that there are probably a great many such settlements made, if we had access to the totals. I have called attention to a number of dangers which to my mind are inseparable from this practice, and have done this for the purpose of reaching and emphasizing two specific appeals: First, "Can we not agree to keep a record of and print a list of lump-sum settlements, classified by such groups as will give us all essential information concerning them?" and second, and by far the most important, "Can we not agree that all the States will investigate their lump-sum settlements for a period of three or five years past, and let their future course be controlled by the results of such careful investigation?"

LUMP-SUM SETTLEMENTS.

BY ETHELBERT STEWART, UNITED STATES COMMISSIONER OF LABOR STATISTICS.

Since my place in this round-table conference is to state the problem and start the discussion, I will refer briefly to a few facts and ask a few questions, leaving it to the delegates to answer the questions and explain or justify the facts.

The reports of the commissions are not rich in details of lump-sum settlements. No information is available from certain States. There is a shocking lack of information about lump-sum settlements everywhere, especially among self-insurers. To what extent the practice and policy prevails can only be inferred from scraps of information. California in 1921 granted 217 lump-sum settlements in permanent disability cases and 32 in death cases. In addition to these 249 lump sums, the commission approved 169 compromised cases. These "compromised cases" are quite commonly lump-sum settlements made "out of court," as it were.

In 1919 the New York commission granted 1,155 lump sums. In addition it sanctioned 5,585 final adjustment awards covering permanent disability cases.

The same year the Illinois commission granted 308 lump-sum settlements in death cases out of a total of 629 reported deaths, almost 50 per cent of the death cases being settled in this manner. There were 2,051 lump-sum settlements of nonfatal accidents. The lump-sum settlements of Illinois include the so-called "settlement contracts."

New Jersey, for the year ending June 30, 1920, made 70 final lump-sum settlements, and for 1921, 82 such settlements.

In Ontario and in British Columbia the policy is to pay a lump sum in all cases of permanent disability when the rated disability is less than 10 per cent. In addition to these slight disability cases, the Ontario board made 30 lump-sum settlements of death claims in 1920, and during the six-year period from 1915 to 1920 granted 92 lump-sum settlements in permanent disability cases.

With this sketchy view of the extent of the practice, let us pass to a consideration of some of the reasons (or shall we say excuses made) for lump-sum settlements.

During the year 1917 the Pennsylvania commission granted 274 lump sums, of which 195 were full and 79 partial. The purposes for which these lump sums were granted were as follows:

	Full.	Partial.	Total number.
Purchase of property-----	54	4	58
Purchase of artificial member-----	1	19	20
Payment of debts-----	12	22	34
Payment of mortgage-----	33	8	41
For business purposes-----	53	13	66
For educational purposes-----	2	2	4
For living expenses-----	11	4	15
Leaving country-----	26	7	33
Living abroad-----	3	0	3
Total-----	195	79	274

As stated in the New Jersey report for the year ending June 30, 1920, there were 125 commutations. Seventy of these were lump sums, 42 partial commutations, and 13 advance settlements without discounts. The purpose of a majority of these lump-sum settlements is summarized in the following table:

To return to native country.....	31
To purchase a brace.....	1
To enter business.....	35
For medical and surgical expenses.....	3
To meet various emergencies.....	13
To purchase a home.....	10
To make alterations to house.....	1
To leave the State.....	1
To buy a lot.....	1
To pay off mortgage.....	4
To attend business college.....	1
To bring family to America.....	1
To enter military service.....	1
By request of United States Railroad Administration.....	7

The following is an extract from the report of the New Jersey Department of Labor for the year ending June 30, 1921:

Because of the prevailing prices for the necessities of life, this has been a trying year on those obliged to subsist on weekly compensation payments. The result has been a constant appeal for lump-sum settlements. These have been discouraged in a majority of cases; in a great many, however, it has been found necessary to make an advancement to prevent actual hardship. Usually this has been done by advancing a certain number of weeks' payments from the closing end of the compensation period, thereby maintaining unbroken the regular remittances but for a shorter time. This method supplies some ready money to meet actual and immediate emergency.

Full commutation has been made in 82 cases, mainly for the purpose of enabling the injured or dependents to return to some foreign country, purchase a home, lift a mortgage, permit of operation, or undertake a business proposition. In all of these cases wherever it has been possible, no commutation has been authorized until after investigation by one of our regular investigators.

Partial commutation has been authorized in 111 cases, and in a few cases the weekly rate has been increased, with corresponding reduction in the number of payments, having due consideration for the discount allowed by law. In 16 claims advancement has been made of the entire amount due without discounting. This amounts to quite an additional sum in long running cases and consequently we have felt warranted in approving such settlements more freely.

By request of the United States Railroad Administration seven cases were commuted to enable the administration to close its books on these matters.

Of the 92 permanent disability lump-sum settlements made by the Ontario board in 1920 in cases exceeding 10 per cent of total disability, 73 were granted to enable the injured worker to return to Europe. These instances give an adequate idea of the range of "reasons," and of the types of cases covered by lump-sum settlements.

Just a word as to the underlying purpose of compensation legislation as crystallized during the discussion of these measures and prior to the passage of most of the laws as such. The major plea for these laws was that they mitigated the hardships caused by loss of earning power resulting from accidents by furnishing weekly installments or payments in lieu of the long waits for court adjustment of damages under the old liability laws, even when the worker won the suit, and that they gave the worker's family the needed sustenance when needed and got us away from the wreckage caused by the too frequent squandering of what was left of the damage proceeds after the lawyer and doctor were paid. A general admission of this as the

basic theory of the law permeates the two principal discussions of lump-sum settlements so far published. One of these discussions, by Mr. Archer, of New York, defends the principle and mildly criticizes the administration of it by the commissions, while the other, by Mr. Grandfield, of Massachusetts, mildly criticizes the principle and excuses the laxity in applying it. A few extracts from these defenses of the system will perhaps create as much doubt as to its wisdom as anything I could say.

Mr. Grandfield says:

The question of lump-sum settlements under compensation acts is an important one with reference both to the purpose of such settlements and to the administrative policy in connection therewith. The subject may best be introduced perhaps by recalling briefly some of the fundamental principles of a compensation act. One of the objections to the former system, or lack of system under common law or employers' liability law, was the waste attendant upon lump-sum settlements, owing to wasteful expenditure of the damages awarded, the cost of attorneys' services, and the lack of control over the injury through medical service. The compensation act is not a law of damages; it is a law, in theory at least, designed to return employees to industry, either fully cured or restored as fully as medical skill may accomplish. Compensation is intended to be paid periodically, usually weekly, to relieve financial distress during the period of rehabilitation, or in cases of permanent disability to supplement the wage loss. In fatal cases the compensation is intended to tide dependents over the period necessary for their adaptation to new conditions.

* * * In general, weekly payments should be the rule under the workmen's compensation act; lump-sum settlements should be the exception to the general rule, but under present conditions seem unavoidable in some cases. The burden of proof, however, to show why we should approve the payment of a lump sum in redemption of liability should be upon the applicant, and the applicant in all cases should be the employee or the dependent of an employee. The insurer may not, under the practice in vogue in Massachusetts, initiate a lump-sum payment. This rule is intended for the protection of the employee and as a safeguard against the premature termination of the rights of an employee by the lump-sum process. Another reason for the practice is the desire of the industrial accident board to limit the number of cases in which employees may be tempted by the dangling of the lump-sum bait to accept a settlement proposed and arranged by the insurer. The desire of the insurer to terminate liability is not recognized as a legitimate reason for the approval of a lump-sum settlement. It may be added, also, that many insurers accede to the wishes of the board in regard to liability redemption cases and freely cooperate with the commission in their investigations and conferences in regard to such settlements.

In passing upon these matters certain fixed principles can not be ignored, if settlements by lump sums are to be approved in accordance with the spirit of the law. Briefly, the main points to be considered are as follows:

First. The case must be exceptional or unusual.

Second. The settlement must be for the best interest of the employee or his dependent.

Mr. Archer is much more sure of the validity of lump-sum settlements as a principle of justice, but is just as afraid of its use in administration. A few extracts will be convincing as to the dangers involved in the practice even from the viewpoint of its friends:

* * * The State in its attempt to further social justice has compelled the adoption of the plan; has done it by the method of insurance, since single industries do not alone develop the law of contingent losses; has regulated it in commerce through rates varying as hazards vary, and among workmen according to earning capacity, which reflects living conditions, and, with conditions in mind of hitherto unalleviated distress, has sought to guard against unthrift in expenditure by means of installments of payments throughout the entire period of disability or dependency.

* * * In fact, I should say that the single and only test is the good of the recipient, which will always satisfy the interests of justice. If this

may be effectuated, the State will instantly be obliged as a matter of duty to grant the lump-sum payment. In doing so it need not be deterred through consideration of the probability of the failure of its purpose, for if it exercises a wise precaution it will have performed its duty. For the State to go too far as overseer or protector would be a violation of the workmen's rights and a wrongful use of its own powers.

* * * Finally, in certain cases lump-sum awards are justified to prevent malingering, and especially is this true in cases of neurosis. If the psychic element tends to prolong disability, the quicker a case is closed the better. There are also certain cases of real disability accompanied by malingering to the extent only of overestimating the disability. I should say in the interest of justice that such cases are better closed.

* * * Many applications are supported by the pleas of attorneys or next friends. In the majority of these cases the suspicion is at once aroused that the expectation of fees rather than the good of the claimants is back of the application. Such claims should be denied.

* * * Finally, I want to speak of one or two dangers to be guarded against and avoided. The first is the tendency toward the practice of granting lump-sum awards in order to get rid of cases. This tendency should be curbed as entirely unworthy, and the importance of the suggestion should not be overlooked, for it denotes a real and present danger everywhere. The compensation business is new. Its volume has surprised the public, who are even yet unaware of its real magnitude. Many departments administering compensation laws are starved and compelled to work under strain. To close cases by lump-sum payments is a temptation, and especially so since this method satisfies all parties concerned, at least temporarily. But it is one thing to be tempted, another to fall; and we must not fall.

The greatest danger of all, however, is the danger of a single corrupt administration which would in a wholesale manner commute future installments of outstanding claims and in so doing effect discounts in value. This would be the real calamity, for the injury would be irreparable, the work of years brought to naught, and it would scandalize the State in its benevolent purposes in furthering the great humane laws comprised in our various compensation statutes.

This brings us to the point of asking some perhaps very pointed questions in respect to the whole theory and practice of making lump-sum settlements. Workmen's compensation legislation has for its object and purpose, primarily, mitigation of the loss of earning capacity as a wage earner that may result from any accident in the course of employment.

Is not any lump-sum settlement an attempt to shift the responsibility of this to the man himself? Is it not an unloading of a responsibility which is the very essence of the law? Is not risking a dissipation and squandering of a reserve fund without bond, a thing which you would not permit in a self-insurer?

Do the compensation laws contemplate setting a man up in business? Yet a large per cent of the settlements are to enable the worker to engage in business.

Did the legislatures and the original advocates of these statutes contemplate encouraging men to take a gambler's chance in business enterprises regardless of any training along business lines? Did they contemplate that, with the consent of compensation commissions, a man should be plunged into the hazard of business with the funds secured through the hazards of industry?

Admittedly lump-sum settlements should be made only "when for the good of the recipient." How is a commission to know when it will be for the good of the recipient? There are fire insurance companies, accident, flood, life, health, and even strike insurance carriers; but, so far as I know, no one has yet had the nerve to propose a business failure insurance company or bold enough to name a premium

rate. If any commissioners are able to "look into the womb of time and tell what seeds will grow," and what grocery stores will fail or cigar stands succeed, they ought to get out of the compensation work, form business risk carriers, and put Bradstreet out of business. Seriously, ought the State or compensation commissions to turn fortune tellers in any event, however appealing? Should compensation commissions ever put it out of their power further to aid the injured man or his dependents if the lump-sum settlement proves *not* to have been for the "good of the recipient," but, indeed, to have been exceedingly bad for him?

Another principal reason for lump-sum settlements is to enable the injured worker to return to a foreign country. What will happen should foreign countries refuse to accept the return as cripples of the men they sent to us as able-bodied workers? We refuse to accept cripples of their making; why should they accept cripples of our making? The fact that they are their subjects and citizens would only invite an international damage suit, rather than compulsory acceptance. It is entirely easy for Europe to pass antidumping laws against the overproduction of the cripples of American industry. The moral ease with which the maimed foreigner is given money and shipped home is clear from a statement made by Mr. Grandfield in the paper formerly mentioned. He says:

A lump sum of \$2,000 or even of one-half that amount becomes almost a fortune when translated into Italian lire, and the employee and his family will be able to live in comparative comfort and even luxury in their native land. Contrariwise, the weekly payment of \$8 or \$10 leaves the employee only a small balance, and at the end of the compensation period the permanently disabled workman has little or no prospect of becoming self-supporting unless a philanthropic employer creates a place for him in his business.

Is not the danger of loss of fortune just as great in Italy as here? Would not the weekly installment paid as contemplated by the law in American money be enhanced by conversion into lire in the same proportion as the lump sum?

How much of this is done because it is the easiest way?

Is it not admittedly the tendency of the lump-sum policy to restore the activities of the old legal shark known as the "ambulance chaser" under another name, to wit, "the lump-sum chaser"?

Apparently a number of States lump summed all of a certain class of cases during a certain period upon request of the United States Railroad Administration because it wanted to close its books. The Railroad Administration still exists—exists for the settlement of claims for materials furnished and of many other classes of claims. Was it more important that its books be closed for human legs than for crossties?

Was it necessary to obey the order of the Railroad Administration to settle compensation cases in a manner other than that contemplated by the compensation laws, and other than that best for the injured workman?

In instances where the "psychic element" enters the case to produce neurosis, and unconscious malingering or exaggeration of the disability, have we not entirely mistaken effect for cause—in other words, gotten the cart before the horse?

Would there be any such thing as lump-sum neurosis if there were no such thing as lump-sum settlements? Is it not the hope of a

lump-sum settlement dangling before the imagination of the injured worker that deranges his mental control, leads to unconscious exaggeration of disability, even to conscious malingering, and to nervous disorder? Is it not the possibility of lump-sum settlement which produces the disease that it is claimed can be cured only by lump-sum settlement?

Let us try taking away the bait in these cases before we get causation too hopelessly mixed with effects and remedies.

If it is basic in the construction of total and partial disability schedule rating that such rating shall be covered in terms of life payments, is not the lump-sum settlement an attempt to get out from under this vital principle?

If the lump-sum settlement violates every principle involved in, tramples upon every argument that was made for, and abrogates every hope that was held out during the agitation for and the passage of compensation laws, then will not lump-sum settlements eventually undermine the whole theory and purpose of compensation legislation, and if persisted in create such scandals and such disappointments as will wipe the legislation off the statute books?

Can we not at least agree to keep a record and print a list of lump-sum settlements, classified by such groups as will give us all essential information concerning them?

Only one State has made an investigation of the results of its own lump-sum settlements. These results have not been published. I am told they will not be. The only information available is that the State commission has been very much more cautious in making such settlements than it was before that investigation was made.

Admittedly many States make such previous investigation of each case as they have time to make, but presettlement investigations do little good. At best they catch and prevent only the most flagrant cases of frauds planned and about to be worked off on the injured worker or his dependents in case they get the lump-sum settlement "through." The normal hazards, the usual dangers of business and of ordinary purchases, can not be foreseen or prophesied.

Can we not agree that all the States will investigate their lump-sum settlements for a period of three or five years past, and let their future course be controlled by the results of such careful investigation?

The CHAIRMAN. We have come to the last paper of this session and also of this convention. It is a very important one—"Status of maritime employments under workmen's compensation," by Henry D. Sayer, industrial commissioner, Department of Labor of New York.

STATUS OF MARITIME EMPLOYMENTS UNDER WORKMEN'S COMPENSATION.

BY HENRY D. SAYER, INDUSTRIAL COMMISSIONER NEW YORK DEPARTMENT
OF LABOR.

Probably no question has created so much jurisdictional conflict, so much dissatisfaction, and so many troublesome problems for the maritime States as the question of marine workers and the compensation law.

The seriousness of the problem for us in New York will be appreciated when I tell you that approximately 10 per cent of all our claims were maritime. And due to the hazards of the industry, especially the freight handling or longshore work, and the very large foreign element employed therein, we have had more than our fair proportion of administrative difficulties in connection with it.

Originally the New York law applied in terms to all maritime employments, including not only longshore work but also the operation of vessels of New York State, shipbuilding and repair, dredging, dock building, and the like. The application of the law to these employments was attacked in our State courts, and there the law was upheld. In our court of appeals, Judge Miller (afterward governor) wrote an opinion sustaining the law on the theory that the compensation law was not repugnant to the maritime law, but that it was possible that a claimant had an election of remedies, either to claim compensation or to sue in admiralty but could not pursue both.

This decision, as you all know, was upset in the case of *Southern Pacific Co. v. Jensen*, 244 U. S. 205, in which the United States Supreme Court held that the compensation law, in so far as it attempted to prescribe a rule of liability other and different than the general maritime law of the United States, was invalid. Jensen was a longshoreman injured while on a gangplank coming from the boat.

I will not recite the history of the legislation designed to offset that decision and the later decision in *Knickerbocker Ice Co. v. Stewart*, 253 U. S. 149, other than to say that the Stewart case reaffirmed the rule laid down in the Jensen case and seemed to deny to Congress the right to delegate to the States authority in maritime matters.

Following this decision, for a considerable time we were compelled to deny compensation benefits to all kinds of maritime workers, including longshoremen and workers in shipbuilding, ship repair, dock building, dredging, etc., many of which employments, though maritime in their nature, were not such as to give rise to a remedy under maritime law. In *Keator v. Rock Plaster Co.*, 224 N. Y. 540, our court of appeals interpreted the United States Supreme Court decision in the Jensen case to exclude from compensation even dock workers, who were not on the vessel.

A good deal of attention was given to considering whether a differentiation could be made between the worker on the dock and the worker on the vessel. It is interesting to note that at this time a delegation of representatives of the longshoremen's union came to us, and while earnestly expressing the hope that some way would be found to get around the effect of the Stewart decision, said they did not want one rule for the worker on the dock and another for the worker on the vessel. A crew of longshoremen, being sent in together, will be divided in their operations, part of the gang being sent on the ship and part on the dock. A man, particularly one who does not speak English nor understand our customs and laws, who is hurt on the vessel could never be made to understand why he could get no compensation, while his coworker, who is injured on the dock, does receive benefits. Only dissatisfaction with and distrust of the law and its administration could result from such a rule, they told us.

For a time it seemed as though nothing could be done, short of legislation, and even legislation seemed to be futile in view of the decision in the Stewart case. However, a case arose in the courts where an award had been made by our commission prior to the decision in the Stewart case. This case, *Insana v. Nordenholt*, was reversed *pro forma* by our court of appeals on the ground that the workman was engaged in a maritime employment. I carried that case, however, to the United States Supreme Court, on a writ of certiorari, and the Supreme Court, on May 29, 1922, reversed our State courts and affirmed the previous award of the industrial commission. (Industrial Commissioner of New York *v. Nordenholt*, May 29, 1922.) The Supreme Court held in this later case that the New York Court of Appeals had misconstrued its decisions in the Jensen and Stewart cases; that at no time did the Supreme Court hold that a worker on the land or on a dock was subject to the maritime law, and therefore a proper subject of admiralty jurisdiction, and that, therefore, the compensation law of the State was competent to give him relief.

This decision, while giving relief to a very large number of longshoremen, did not give any relief to the longshoreman who was injured on the vessel or gangplank, and created the very unequal situation that the longshoremen did not want to see arise.

On June 10, 1922, however, the President approved the Johnson-Mills bill, which amended the Federal judicial code by reserving to workers their rights and remedies under the compensation laws of any State, except where they were masters or members of the crews of vessels. This amendment likewise took from the Federal courts jurisdiction in the matter of claims for injuries sustained by employees against their employers, except where the injury happened to a member of a vessel's crew. The effect of this Federal act is to bring again under compensation all maritime workers except seamen. Naturally, many troublesome questions will still arise. Thus we find difficulty in determining just who constitute the crew of a vessel, of a dredge, pile driver, or dump scow. Some of the employees on such vessels are employed as mechanics to operate the various machines that form their chief equipment. Shipbuilding and repair, dock building, ship painting, and other classes of work present some problems. However, the Johnson-Mills bill has af-

forded a great measure of relief to many workers, and it is earnestly to be hoped that when attacked in the courts the validity of the act will be sustained.

In New York we did not wait for the Johnson-Mills bill. Some months previously we amended our compensation law to provide that the industrial board should have jurisdiction to make awards of compensation in respect of injuries subject to the admiralty or other Federal laws in case the claimant, the employer, and the insurance carrier waive their admiralty or interstate commerce rights and remedies. The industrial board then by rule interpreted the waiver required under this section to be complete when the employer insured his employees under the compensation law and posted a notice on the premises stating that he has insured and has elected to bring his employees engaged in maritime employments under the compensation law. An employee then has 20 days after such posting, or after entering the employment, to file a written notice rejecting such election.

This provision may apply, if the waiver be a good one, to crews of vessels just as to any other maritime workers, while for workers other than seamen this provision may now be regarded largely as surplusage. Still I am very hopeful that if the Johnson-Mills law be held to be invalid, the election under the New York act may be held to apply and to save the situation.

Underwriting difficulties, with regard to rates and mixed risks, where an employer has both seamen and land workers have necessarily developed, but they need give us here no particular concern.

The coverage of our maritime workers is a serious question with us in New York, just as it is in many States. We have led off in trying to solve the difficulties, and seem at least for the present to have done so. Whether the litigation that is certain to follow will undo all our work remains to be seen, but at least we have made an effort and a very earnest one.

DISCUSSION.

Mr. SAYER. There is a very general disposition in New York on the part of the insurance companies and on the part of employers in the maritime lines to accept the provisions of the Johnson-Mills Act.

Mr. KINGSTON. Do the workers feel the same way about it?

Mr. SAYER. The workers are most anxious to have the Johnson-Mills Act sustained. They want to be under compensation. The seamen, on the other hand, do not want to be under compensation. Their organizations have gone on record as opposed to compensation. They prefer their remedies in admiralty, unless they can have a compensation act plus liability where the employer was negligent. They are perfectly willing to take compensation where the employer would not otherwise be liable, but want also to retain the right to sue for damages where the employer is liable under the old rules of law. That, of course, is out of the question. It would inject an element into workmen's compensation that would be subversive of the whole compensation system that has been built up.

Mr. KINGSTON. Well, isn't it a fact that an English seaman on an English ship comes under the English compensation act?

Mr. **SAYER**. He certainly would not come under the Federal act. What his remedies would be under the English law I do not know, but I assume that the English seamen's rights and remedies would be determined by the English law.

Brother Evans, of Ohio, has asked me, as Mr. Gill in Washington has also done, whether we consider as members of the crew of a vessel engaged in dredging operations or a floating pile driver, men who are mechanics and machinists employed on board but who have nothing to do with the navigation of the vessel, who are there to carry on what is really a land operation, but by the nature of it it has to be carried on by a floating appliance—or do we consider them merely mechanics employed on a vessel. I do not know. What the courts will say, frankly, I do not want to guess. If I had to guess I would say that they would probably be held to be members of the crew. The probabilities are that we will let the courts pass on that question.

In New York if a claim is filed by such a person unquestionably we will assume jurisdiction of it. Of course if the claim is not filed, it will not come to us, but if a claim is filed, we will certainly assume jurisdiction, and then the burden will be on the employer of bringing it before the courts to pass on the question as to whether that occupation is under the Johnson-Mills Act or under our elective law, and whether the election under our law is good.

We have made a very sincere and earnest effort to bring all these maritime employments under the compensation law where we will have uniformity. I believe it is more important to maintain uniformity among the workers in the State than it is to talk about uniform rules of liability applying to employers whose vessels happen to touch at various ports in different States.

The **CHAIRMAN**. That concludes our program, and I now turn the meeting over to the president.

Mr. **LEE**. I do not know whether a case that has come before us has any important bearing on Mr. Sayer's paper. A man who worked on the dock down here was a sort of fireman on the boats, going around and putting out fires occurring on the wharf or the boats. A fire broke out on a boat that was tied to the wharf by a rope. This man started to go out to the boat by means of the rope, hand over hand, and when he got half way to the boat the rope broke. He fell into the water and was drowned. The case was brought before us for an interpretation. We said that under the conditions where the accident took place the case was under maritime jurisdiction and was governed by that. The case was appealed to the court and the court said that it was a question for the jury. We submitted the matter to the jury, which promptly brought in an award in favor of the widow. The case is in the court of appeals now. The company is very much of the opinion that we were right, and says it will take the case to the United States court if it gets beaten in the State court.

Mr. **KINGSTON**. This was before the Johnson-Mills law?

Mr. **LEE**. Yes, that was before the Johnson-Mills law. The Johnson-Mills law has been passed since. So I do not know what our court is going to say about it.

Mr. SAYER. You have a very interesting case. I would like to know how it comes out.

Mr. LEE. The court let the jury determine the question, and the jury said that the widow could have the money. That is what we would have liked to do, but we can not feel that it is right in this case.

I want to thank you all for being so considerate with me. I appreciate your having been with us, and I shall miss you greatly when you are gone. I want you to feel that our great appreciation and affection for you follow you wherever you may go. I shall now turn the meeting over to the incoming president.

Mr. DUXBURY. I will not attempt to say how much I appreciate the honor of acting as the president of this association for this brief moment. Now what is your pleasure?

Mr. LEE. The following suggestion comes from me as a result of the experience of three conventions of this character. It does seem to me that our conventions are too long, that starting on Monday morning and attempting to carry the convention until Friday night is utterly impossible. Delegates started to leave as early as yesterday, and on the last day of the convention, when many of the most important papers are read and the most important personages appear, we have but a scattering of people left; and the speakers really are not fully compensated for the preparation they have made and the time consumed in the delivery of their papers before the convention.

It seems to me that it would be an appropriate matter for the consideration of the president and the executive committee as to whether or not three days would not be sufficient for the actual work of the convention, boiling down to some extent the program, and with some greater assurance that those who signify their intention of speaking on the program will be able to do so, rather than to have a long program containing the names of many persons whose promises to speak are made only conditionally. I think it would be advisable if we could boil the convention down to three days, or at most four days, and have a better convention during that time.

Mr. DUXBURY. I think Mr. Lee expresses the sentiment that I have heard quite generally expressed.

Mr. KINGSTON. Certainly not more than four days, perhaps three days, is enough. Three days with more attention given to the subjects, it seems to me, will fill the bill. We can make a program for more than four days, but we can not hold all the members that long.

The only thing I have to suggest is this: About four years ago we had a three-days' convention, and we ran morning, afternoon, and evening. It was terribly tiresome. My suggestion would be a four-days' convention with a break in the middle of the four days of a half day for a sight-seeing trip. Let us cut out any suggestion of an evening session. I believe we can conclude everything in four days and at the same time provide a break of a half day for entertainment.

Mr. SAYER. It seems to me that the situation is a little different from what it was in the early days of the association. Compensation was so new that every year new States were coming in. Now

compensation has grown, and many of the problems that were useful for discussion then, just like your hernia problem, have been pretty well gone over. I think that a three days' intensive program, with a little care in the arrangement of the program so as to bring up the really vital things for discussion and not to rehash some of the old questions, would be a good thing.

Mr. DUXBURY. I was going to suggest that the subject is one which the executive committee ought to determine, but it is very proper to bring it up here so that we can get some outside views, if there were any. There seems to be quite an accord with reference to the matter, and I think the executive committee, being advised, will make some arrangement which I hope will prove satisfactory.

There have been some suggestions as to a shorter session and as to having it divided into sections. That is, there may be a large number interested in one particular subject and a large number not interested in that subject but in another, and if some provision of that kind could be made, we could probably cover more ground and the delegates could attend those sessions in which they were most interested. Those are matters that the executive committee will have to consider.

[The convention adjourned to meet in St. Paul in 1923.]

APPENDIXES.

APPENDIX A.—OFFICERS AND MEMBERS OF COMMITTEES FOR 1922-23.

President, F. A. Duxbury, chairman Minnesota Industrial Commission.
Vice President, C. A. McHugh, chairman Virginia Industrial Commission.
Secretary-Treasurer, Ethelbert Stewart, United States Commissioner of Labor Statistics.

EXECUTIVE COMMITTEE.

F. A. Duxbury, Minnesota Industrial Commission.
C. A. McHugh, Virginia Industrial Commission.
Ethelbert Stewart, United States Commissioner of Labor Statistics.
Robert E. Lee, Maryland State Industrial Accident Commission.
Fred W. Armstrong, Nova Scotia Workmen's Compensation Board.
O. F. McShane, Utah Industrial Commission.
Lee Ott, West Virginia State Compensation Commissioner.
Henry D. Sayer, New York Department of Labor.
Baxter Taylor, Oklahoma Industrial Commission.

COMMITTEE ON STATISTICS AND COMPENSATION INSURANCE COST.

Chairman, L. W. Hatch, New York Department of Labor.
Vice Chairman, W. C. Fisher, Pennsylvania Department of Labor and Industry.
Secretary, Ethelbert Stewart, United States Commissioner of Labor Statistics.
E. I. Evans, Ohio Industrial Commission.
O. A. Fried, Wisconsin Industrial Commission.
R. E. Haggard, California Industrial Accident Commission.
F. W. Harris, Washington Department of Labor and Industries.
Carl Hookstadt, United States Bureau of Labor Statistics.
R. V. Mothersill, Minnesota Industrial Commission.
H. C. Myers, Oklahoma Industrial Commission.
Arthur L. Thayer, Maine Industrial Accident Commission.
Charles H. Verrill, United States Employee's Compensation Commission.
H. G. Wilson, Manitoba Workmen's Compensation Board.

MEDICAL COMMITTEE.

Chairman, Robert P. Bay, M. D., Maryland State Industrial Accident Commission.
Vice Chairman, Harley J. Gunderson, M. D., Minnesota Industrial Commission.
T. R. Fletcher, M. D., Ohio Industrial Commission.
A. J. Fraser, M. D., Manitoba Workmen's Compensation Board.
Samuel W. Latham, M. D., Illinois Industrial Commission.
Raphael Lewy, M. D., New York Department of Labor.
M. D. Morrison, M. D., Nova Scotia Workmen's Compensation Board.
F. H. Thompson, M. D., Oregon State Industrial Accident Commission.
R. H. Walker, M. D., West Virginia, Office of State Compensation Commissioner.

SAFETY COMMITTEE.

Chairman, John Roach, New Jersey Department of Labor.
Vice Chairman, Wm. Newell, New York Department of Labor.
L. W. Chaney, United States Bureau of Labor Statistics.
Clifford B. Connelley, Pennsylvania Department of Labor and Industry.
H. L. Hughes, Washington Department of Labor and Industries.

R. McA. Keown, Wisconsin Industrial Commission.
R. B. Morley, Ontario Workmen's Compensation Board.
H. M. Wolfen, California Industrial Accident Commission.

COMMITTEE ON JURISDICTIONAL CONFLICTS.

Chairman, Henry D. Sayer, New York Department of Labor.
Vice Chairman, Lewis T. Bryant, New Jersey Department of Labor.
George E. Beers, Connecticut Board of Compensation Commissioners.
Geo. Louis Eppler, Maryland Industrial Accident Commission.
E. S. Gill, Washington Department of Labor and Industries.
William W. Kennard, Massachusetts Industrial Accident Board.
Harry A. Mackey, Pennsylvania Department of Labor and Industry
Volley M. Murray, Delaware Industrial Accident Board.
W. H. Pillsbury, California Industrial Accident Commission.
Ralph Young, Iowa Workmen's Compensation Commission.

COMMITTEE ON FORMS AND PROCEDURE.

Chairman, Stanley S. Stewart, Ohio Industrial Commission.
Vice Chairman, Miss R. O. Harrison, Maryland State Industrial Accident Commission.
Secretary, Carl Hookstadt, United States Bureau of Labor Statistics.
A. J. Altmeyer, Wisconsin Industrial Commission.
Albert V. Becker, Illinois Industrial Commission.
George H. Fisher, Idaho Industrial Accident Board.
W. C. Fisher, Pennsylvania Department of Labor and Industry.
E. S. Gill, Washington Department of Labor and Industries.
Robert E. Grandfield, Massachusetts Industrial Accident Board.
Fred S. Johnson, Michigan Department of Labor and Industry.
Frank A. Kennedy, Nebraska Department of Labor.
William A. Marshall, Oregon State Industrial Accident Commission.
W. P. Ratliff, California Industrial Accident Commission.
Mrs. F. L. Roblin, Oklahoma Industrial Commission.
S. J. Slate, Georgia Industrial Commission.
J. W. Smiley, West Virginia Office of State Compensation Commission.
L. J. Wehe, North Dakota Workmen's Compensation Bureau.

APPENDIX B.—CONSTITUTION OF THE INTERNATIONAL ASSOCIATION OF INDUSTRIAL ACCIDENT BOARDS AND COMMISSIONS.

ARTICLE I.

This organization shall be known as the International Association of Industrial Accident Boards and Commissions.

ARTICLE II.—*Objects.*

SECTION 1. This association shall hold meetings once a year, or oftener, for the purpose of bringing together the officials charged with the duty of administering the workmen's compensation laws of the United States and Canada to consider, and, so far as possible, to agree on standardizing (a) ways of cutting down accidents; (b) medical, surgical, and hospital treatment for injured workers; (c) means for the reeducation of injured workmen and their restoration to industry; (d) methods of computing industrial accident and sickness insurance costs; (e) practices in administering compensation laws; (f) extensions and improvements in workmen's compensation legislation; and (g) reports and tabulations of industrial accidents and illnesses.

SEC. 2. The members of this association shall promptly inform the United States Bureau of Labor Statistics and the Department of Labor of Canada of any amendments to their compensation laws, changes in membership of their administrative bodies, and all matters having to do with industrial safety, industrial disabilities, and compensation, so that these changes and occurrences may be noted in the Monthly Labor Review of the United States Bureau of Labor Statistics and the Canadian Labor Gazette.

ARTICLE III.—*Membership.*

SECTION 1. Membership shall be of two grades—active and associate.

SEC. 2. *Active membership.*—Each State of the United States and each Province of Canada having a workmen's compensation law, the United States Employees' Compensation Commission, the United States Bureau of Labor Statistics, and the Department of Labor of Canada shall be entitled to active membership in this association. Only active members shall be entitled to vote through their duly accredited delegates in attendance on meetings. Any person who has occupied the office of president or secretary of the Association shall be ex officio an honorary life member of the association with full privileges.

SEC. 3. *Associate membership.*—Any organization or individual actively interested in any phase of workmen's compensation or social insurance may be admitted to associate membership in this association by vote of the executive committee. Associate members shall be entitled to attend all meetings and participate in discussions, but shall have no vote either on resolutions or for the election of officers in the association.

ARTICLE IV.—*Representation.*

SECTION 1. Each active member of this association shall have one vote.

SEC. 2. Each active member may send as many delegates to the annual meeting as it may think fit.

SEC. 3. Any person in attendance at conferences of this association shall be entitled to the privileges of the floor, subject to such rules as may be adopted by the association.

ARTICLE V.—*Annual dues.*

SECTION 1. Each active member shall pay annual dues of \$50, except the United States Employees' Compensation Commission, the United States Bureau of Labor Statistics, and the Department of Labor of Canada, which shall be

exempt from the payment of annual dues: *Provided*, That the executive committee may, in its discretion, reduce the dues for active membership for those jurisdictions in which no appropriations are made available for such expenditures, making it necessary that the officials administering the law pay the annual dues out of their own pockets for the State.

SEC. 2. Associate members shall pay \$10 per annum.

SEC. 3. Annual dues are payable any time after July 1, which date shall be the beginning of the fiscal year of the association. Dues must be paid before the annual meeting in order to entitle members to representation and the right to vote in the meeting.

ARTICLE VI.—*Meetings of the association.*

SECTION 1. An annual meeting shall be held at a time to be designated by the association or by the executive committee. Special meetings may be called by the executive committee. Notices for special meetings must be sent out at least one month in advance of the date of said meetings.

SEC. 2. At all meetings of the association the majority vote cast by the active members present and voting shall govern, except as provided in Article X.

ARTICLE VII.—*Officers.*

SECTION 1. Only officials having to do with the administration of a workmen's compensation law or bureau of labor may hold an office in this association, except as hereinafter provided.

SEC. 2. The association shall have a president, vice president, and secretary-treasurer.

SEC. 3. The president, vice president, and secretary-treasurer shall be elected at the annual meeting of the association and shall assume office at the last session of the annual meeting.

SEC. 4. If for any reason an officer of this association shall cease to be connected with any agency entitled to active membership before the expiration of his term, he may continue in office notwithstanding until the next annual meeting; but if for any reason a vacancy occurs in the office of president, the executive committee shall appoint his successor.

ARTICLE VIII.—*Executive committee.*

SECTION 1. There shall be an executive committee of the association, which shall consist of the president, vice president, the retiring president, secretary-treasurer, and five other members elected by the association at the annual meeting.

SEC. 2. The duties of the executive committee shall be to formulate programs for all annual and other meetings and to make all needed arrangements for such meetings; to pass upon applications for associate membership; to fill all offices which may become vacant; and in general to conduct the affairs of the association during the intervals between meetings. The executive committee may also reconsider the decision of the last annual conference as to the next place of meeting and may change the place of meeting if it is deemed expedient.

ARTICLE IX.—*Quorum.*

SECTION 1. The president or the vice president, the secretary-treasurer or his representative, and one other member of the executive committee shall constitute a quorum of that committee.

ARTICLE X.—*Amendments.*

This constitution or any clause thereof may be repealed or amended at any regularly called meeting of the association. Notice of any such changes must be read in open meeting on the first day of the conference, and all changes of which notice shall have thus been given shall be referred to a special committee, which shall report thereon at the last business meeting of the conference. No change in the constitution shall be made except by a two-thirds vote of the members present and voting.

APPENDIX C.—LIST OF PERSONS WHO ATTENDED THE NINTH ANNUAL MEETING OF THE INTERNATIONAL ASSOCIATION OF INDUSTRIAL ACCIDENT BOARDS AND COMMISSIONS, HELD AT BALTIMORE, MD., OCTOBER 9-14, 1922.

CANADA.

Manitoba.

Dr. A. J. Fraser, chief medical officer Workmen's Compensation Board.

Nova Scotia.

F. W. Armstrong, vice chairman Workman's Compensation Board.

Ontario.

George A. Kingston, commissioner Workmen's Compensation Board.

R. B. Morley, general manager Industrial Accident Prevention Associations, Toronto.

J. F. H. Wyse, general manager Ontario Safety League, Toronto.

UNITED STATES.

Connecticut.

George E. Beers, compensation commissioner.

G. B. Chandler, compensation commissioner.

Dr. James J. Donohue, compensation commissioner.

Dr. Richard W. Rice, medical department, American Mutual Liability Insurance Co.

F. M. Williams, chairman Board of Compensation Commissioners.

Delaware.

Charles H. Grantland, secretary Industrial Accident Board.

Walter O. Stack, commissioner Industrial Accident Board.

Georgia.

S. J. Slate, commissioner Industrial Commission.

Idaho.

George H. Fisher, chairman Industrial Accident Board.

Mrs. George H. Fisher.

Illinois.

George P. Arnold, director of Department of Labor.

A. V. Becker, Industrial Commission.

Thomas E. Cambridge, manager Industrial Accident Department, International Harvester Co., Chicago.

Dr. S. W. Latham, medical director Industrial Commission.

P. Y. Nix.

Ernest E. Withall, chairman Industrial Commission.

Iowa.

Ralph Young, deputy commissioner Workmen's Compensation Service.

Maine.

Donald D. Garcelon, Industrial Accident Commission.
Arthur L. Thayer, chairman Industrial Accident Commission.

Maryland.

W. O. Anderson, jr., executive secretary Executive Department of Maryland.
Dr. Robert P. Bay, chief medical examiner State Industrial Accident Commission.
Dr. Joseph Bloodgood, Baltimore.
Hon. William F. Broening, Mayor of Baltimore.
A. E. Brown, secretary State Industrial Accident Commission.
W. A. Connor, New Amsterdam Casualty Co., Baltimore.
William K. Conway, State Industrial Accident Commission.
R. S. Dodson, jr., the Baltimore Sun.
Dr. D. Z. Dunott, Baltimore.
George Louis Eppler, commissioner State Industrial Accident Commission.
Miss Rowena O. Harrison, director of claims State Industrial Accident Commission.
James Higgins, former member State Industrial Accident Commission.
George R. Hyde, Baltimore American.
Robert E. Lee, chairman State Industrial Accident Commission.
Dr. Alexis McGlannan, Baltimore.
Murray MacNabb, compensation administrator Bethlehem Shipbuilding Corp.
Thornton T. Perry, Baltimore Sun.
Milton W. Powell, Baltimore.
Hon. Albert C. Ritchie, Governor of Maryland.
G. Tyler Smith, attorney, Baltimore.
Dr. William Tarun, Baltimore.
M. B. Walker, State Industrial Accident Commission.
Doctor Warfield, Baltimore.
C. S. Weech, New Amsterdam Casualty Co., Baltimore.
Robert Williams, Baltimore.

Massachusetts.

F. A. Carroll, Boston.
David T. Dickinson, member Industrial Accident Board.
William W. Kennard, chairman Industrial Accident Board.
Albert S. Regula, district chief engineer Liberty Mutual Insurance Co., Boston.
G. E. Sanford, safety engineer General Electric Co., West Lynn.

Michigan.

Fred S. Johnson, secretary Department of Labor and Industry.
Robert E. Walter, in charge of compensation Ford Motor Co., Detroit.

Minnesota.

Fannie D. Arnold, Industrial Commission.
F. A. Duxbury, chairman Industrial Commission.
J. P. Gardiner, secretary Industrial Commission.
Henry McColl, commissioner Industrial Commission.
Louise C. Schutz, Industrial Commission.

New Jersey.

Lewis T. Bryant, commissioner Department of Labor.
John Roach, deputy commissioner Department of Labor.

New York.

Frank E. Buckley, assistant treasurer National Association of Mutual Casualty Cos., New York.
James L. Gernon, director Bureau of Inspection, Department of Labor.
Leonard W. Hatch, manager State Insurance Fund, Department of Labor.

Dr. S. Dana Hubbard, New York City Department of Health.
 Sol Kaye, reporter Convention Reporting Co., New York.
 Stanley L. Otis, Bureau of Workmen's Compensation, Department of Labor.
 Dr. Frank L. Rector, medical investigator National Industrial Conference Board, New York.
 Henry D. Sayer, industrial commissioner Department of Labor.
 Leon S. Senior, manager Compensation Inspection Rating Board, New York.
 Joseph H. Woodward, New York.

North Dakota.

L. J. Wehe, commissioner Workmen's Compensation Bureau.
 Mrs. L. J. Wehe.

Ohio.

H. D. Bangert, consulting actuary Industrial Commission.
 E. I. Evans, actuary Industrial Commission.
 Miss Rose Moriarty, member Industrial Commission.
 Emil E. Watson, consulting actuary Industrial Commission.

Oklahoma.

I. S. Huber.
 Mrs. F. L. Roblin, commissioner Industrial Commission.
 Baxter Taylor, chairman Industrial Commission.

Pennsylvania.

B. J. Boyle, sales manager Safety Appliance Co., Philadelphia.
 Clifford B. Connelley, commissioner Department of Labor and Industry.
 William C. Fisher, actuary Department of Labor and Industry.
 S. P. Hollingsworth, editor Department of Labor and Industry.
 Harry A. Mackey, chairman Workmen's Compensation Board.
 Gregory C. Kelly, general manager Pennsylvania Compensation Rating and Inspection Bureau.

Porto Rico.

L. Santiago Carmona, chairman Workmen's Relief Commission.

Rhode Island.

George H. Webb, commissioner of labor.

Utah.

O. F. McShane, commissioner Industrial Commission.

Virginia.

M. N. Fisher, statistician Industrial Commission.
 C. A. McHugh, chairman Industrial Commission.
 Emma L. Ward, Bureau of Labor and Industrial Statistics.

West Virginia.

John T. Moore, chief clerk of medical department, Office of Compensation Commissioner.
 Lee Ott, State Compensation Commissioner.
 J. W. Smiley, Office of Compensation Commissioner.
 Dr. R. H. Walker, chief medical examiner, Office of State Compensation Commissioner.

Wisconsin.

L. A. Tarrell, commissioner Industrial Commission.
 Mrs. L. A. Tarrell.

Wyoming.

Arthur Calverley, department manager Workmen's Compensation Department.

Federal Government.

Lindley D. Clark, United States Bureau of Labor Statistics.
R. J. Hoage, chief statistician United States Employees' Compensation Commission.
Carl Hookstadt, United States Bureau of Labor Statistics.
Morton G. Lloyd, United States Bureau of Standards.
Glenn B. Lumpkin, United States Bureau of Labor Statistics.
Florence E. Parker, United States Bureau of Labor Statistics.
George A. Rowland, chief rating section, United States Veterans' Bureau.
Ethelbert Stewart, United States Commissioner of Labor Statistics.
Robert M. Woodbury, United States Children's Bureau.
Charles H. Verrill, United States Employees' Compensation Commission.

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