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COST OF LIVING IN THE DISTRICT OF COLUMBIA.

THIRD ARTICLE—THE FEEDING OF THE FAMILY.[1]

The second article in this series, published in the November issue of the MONTHLY REVIEW, brought out the fact that a very large proportion of the low-income families of Washington were not spending enough money upon food to maintain the family members in good health. The conclusion was based on the assumption that an adult male could not be maintained in health at a less expenditure than 31 cents per day for raw food at present prices. This minimum standard of 31 cents per day was based upon earlier studies, with allowance made for recent increases in the cost of food.

A special dietary study made by this bureau in cooperation with the Department of Agriculture, the results of which were not completely tabulated at the time the above article was published, reaches substantially the same conclusion—namely, that 30 cents is the least sum upon which an adult male could be properly fed at the prices now prevailing.

And such a sum, it must be emphasized, is not offered as a guide to proper feeding. It is no more than the theoretical minimum upon which health could be maintained provided that the housekeeper has a perfect scientific knowledge of food values and food buying, that there is absolutely no waste in cooking and eating, and that eating is a mere mechanical process of stoking the stomach with food to keep the fires of life burning. As a matter of fact, of course, it is wildly incorrect to assume scientific knowledge of food on the part of the average housewife; some waste is absolutely unavoid-

[1] Some of the more important studies used as reference in the preparation of this article were:

The chemical composition of American food materials, by W. O. Atwater. Bulletin No. 28, Dept. of Agriculture.

How to select foods, by Caroline L. Hunt and Helen W. Atwater. Farmers' Bulletin No. 808, Dept. of Agriculture.

Household waste and ways to avoid it, by Caroline L. Hunt. Circular of May 9, 1917, Office of Home Economics, Dept. of Agriculture.

able; and eating itself is inevitably, and perhaps desirably, a source of much enjoyment. To those of very small incomes the pleasure associated with daily eating is one of the most important incentives for keeping alive at all.

The minimum of 30 or 31 cents a day for food per adult male is thus extremely low. But the startling fact, as was pointed out in the earlier article, is that, even when such standards are taken and no allowance is made for waste and ignorance, a very large number of the families covered by this investigation fall below the "minimum of subsistence" line and many fall far below.[1]

PROPER FOOD NOT ALTOGETHER A MATTER OF COST.

For all of the families falling below the 30-cent-per-day minimum, an analysis of diet would have little interest. Most of them were spending as much as they could on food and no better knowledge of food values and food buying would make possible the obtaining of a diet adequate to healthful living. To preach to such families the "gospel of the clean plate," or to offer them dietary advice, would be bitter irony.

But undernourishment and bad nourishment are not entirely matters of insufficient expenditure for food. Often they are due to a bad distribution of the amount expended, to lack of knowledge of food values, and of the needs of the human body.

With this fact in mind, the investigation of the cost of living in the District of Columbia was made to include a special dietary study of a group of families. From the data obtained it is possible, by comparison with recognized standards, to judge whether the families were undernourished or overnourished and whether the housekeepers were wise in their selection of food. Also it is possible in some instances to point out wherein a different selection of food would have furnished a more nutritious diet for the same expenditure, or one equally nutritious for a less expenditure.

PLAN OF THE DIETARY STUDY.

The study was made by the Bureau of Labor Statistics in cooperation with the Office of Home Economics of the Department of Agriculture. In such an inquisitorial and difficult undertaking as a dietary study the value of the results obtained depends entirely upon the intelligence displayed in gathering the facts (the raw material for tabulations) and in making generalizations therefrom. Three special agents of the Bureau of Labor Statistics, chosen because of their tact and special training and experience in dietetics, were assigned to do the field work under the supervision of Dr. Charles F. Langworthy and

[1] See MONTHLY REVIEW for November, 1917, pp. 2–4.

his staff in the Division of Home Economics. The families studied were selected by these three agents, each agent limiting herself to about three families in any one week, so that she could visit each family every day for the purpose of weighing and estimating the quality of the food purchased and weighing and estimating the amount of foodstuffs going out as garbage. The agent first won the hearty cooperation of the families and through her daily visits was able to check up accurately every item of kitchen income and outgo.

The families cooperating were 31 in number, 23 white and 8 colored, with incomes varying from $400 to $1,600 per year. They were chosen from the list of those who had previously cooperated by furnishing data for the general cost of living investigation. Each of them conformed to the usual definition of a typical family, i. e., man, wife, and two or more children under 16 not earning money, and no boarders or roomers in the household. The study of each family's diet covered a period of a week, counted as 21 meals, and, with four exceptions, all were made in the month of May, 1917, the four exceptions falling in April, June, and July.

All food in the house was weighed on the first day of the study, and all food purchased through the week was similarly weighed. From the total weight of food of various kinds on hand or purchased during the week was deducted the weights of the various foods on hand on the last day of the study. The weight of the garbage day by day was also subtracted. This gave the amount actually consumed by the family. The Bureau of Labor Statistics furnished scales and trays for weighing, a garbage can for keeping the table and kitchen waste, and blank forms for entering the food purchased during the week. Facts were also obtained by the agents regarding the sex, age, weight, occupation, and number of meals taken by each member of the family, and the number of meals taken by guests, if any.

HOW WE CHOOSE OUR FOOD.

Very few people understand what their food contains or whether the food they eat is fitted to the needs of the body. The extent of the common knowledge is roughly indicated by that of the little girl who eats bread crusts to make her hair curly and by that of the man who eats fish to develop his brain power. As a result of this ignorance there is great waste in the purchase and use of food, loss of money, and injury to health. The food costing least per pound may be and often is the most expensive per unit of nourishing value. The stuff eaten by store and factory employees, especially young girls, often serves merely to tickle the palate and not to furnish fuel and tissue for the body.

Even though so much valuable work has been done by the Department of Agriculture and others on the subject of the nutrition of man, very few people have informed themselves of it or make any use of it. It is not possible, in this place, to enter into an extended discussion of human nutrition. But it is desirable to point out briefly what may be considered as necessary to a well-balanced diet, in order to make clear the results of the present study.

WHAT CONSTITUTES A WELL-BALANCED DIET?

A "balanced" ration, as the term is used in connection with meal planning, is one which provides a mixed diet made up of varied and sufficient food to meet all bodily needs. It is absolutely essential that the diet contain different kinds of food in order that life and health may be maintained. When people live for a considerable time on a too restricted diet they develop various definite diseases. Thus, the rice diet of the poor people of Japan leads to beriberi; scurvy is caused by too much salt meat and lack of fresh vegetables; and the lack of lime in the food of children produces rickets. In addition, variety is desirable because food is more perfectly utilized when taken as part of a mixed diet than when taken alone. A dinner of pork chop, macaroni and cheese, suet pudding, and chocolate would be a bad combination because it would preponderate in the fatty foods. A dinner of baked potato, halibut, spinach, bread, butter, and Indian pudding would be more nearly balanced.

The three nutrients found in food are protein, fat, and carbohydrates (starches, sugars, and cellulose). The body demands a certain proportion of each of these and the amounts eaten must be sufficient to produce a certain fuel value. In the actual serving of meals, these three nutrients may be obtained through various combinations of foods. For this purpose food may be divided into five classes and it is very important that the food consumed during the day should contain a fairly definite proportion from each of these groups. The five classes are shown in the following list, with the approximate amounts which will furnish a balanced ration and a fuel value of 3,000 calories for the support of one adult male for one day at moderate muscular work. These amounts are liberal rather than bare minima.[1]

	Rich and comparatively expensive diet.	Plain and comparatively cheap diet.
Protein foods: Meats, eggs, etc	From 16 oz.	down to 10 oz.
(4 oz. of milk may be substituted for 1 oz. of other protein food.)		
Fatty foods	From 3 oz.	down to 1½ oz.
Cereals and other starches	From 9 oz.	up to 20 oz.
Sweet foods	From 3 oz.	down to 1½ oz.
Cellulose: Fruits and vegetables	From 2 lbs.	down to 1 lb.

[1] Household waste and ways to avoid it, by Caroline L. Hunt. Circular of May 9, 1917, Office of Home Economics, Dept. of Agriculture.

For convenience in the proper selection of foods according to the above standards, the following classification of the more common foods is given.

1. *Foods rich in protein:*
   - Lean meat of all kinds.
   - Fish, etc.
   - Poultry, game.
   - Eggs.
   - Cheese.
   - Milk.
   - Dried beans, peas, lentils, soy beans.
   - Nuts (except chestnuts).
2. *Foods rich in fat:*
   - Butter, oleomargarine.
   - Lard, suet, cooking fats.
   - Oils.
   - Bacon, fat salt pork.
   - Cream.
   - Chocolate.
3. *Foods rich in starch:*
   - Wheat, corn, barley, rye, etc.
   - Bread, crackers.
   - Breakfast foods.
   - Macaroni, etc.
   - Rice, tapioca, hominy.
   - Potatoes.
   - Bananas.
   - Chestnuts.
4. *Foods rich in sugars:*
   - Sugar.
   - Molasses, honey, etc.

4. *Foods rich in sugars*—Concluded.
   - Candy.
   - Jellies, preserves.
   - Dried fruits.
   - Sweet cakes.
   - Desserts.
5. *Foods rich in cellulose and minerals (body-regulating substances):*
   - Fruits—
     - Apples, pears.
     - Berries, cherries.
     - Muskmelons, etc.
     - Oranges, lemons, grapefruit.
     - Rhubarb.
     - Figs, etc.
   - Vegetables—
     - Greens, spinach, dandelions, etc.
     - Green beans, peas, etc.
     - Beets, carrots, parsnips, turnips, radishes.
     - Cabbage, brussels sprouts, cauliflower.
     - Onions, lettuce, celery, tomatoes.
     - Squash, cymling.
     - Okra, artichokes, asparagus, etc.

FUEL VALUE OF FOODS.

By fuel value is meant the energy-giving quality of food and, broadly speaking, it is the principal measure of the nutritive value of food. This fuel value, or energy, is expressed in terms of calories. Thus, the calorie is the unit measure of heat, the same as the pint is the unit liquid measure. It is the amount of heat required to raise one pint of water 4° F. Foods can be burned in a special apparatus to determine the fuel value. Experiments made with the respiration calorimeter to measure the energy used up by a man proves that the heat generated by a given amount of food is the same, whether it is burned in a crucible or used up (burned) in the human body.

But the number of calories which a given weight of food yields is not a completely safe guide to its nutritive value. It is a guide to the extent that all nutrition experts agree that a sufficient number of calories is the main thing to be sought for in providing a diet. It is an unsafe guide, unless the housekeeper remembers that the neces-

sary calories are to be taken from a varied selection of foods in order to get the different materials which the body needs for growth—that is, the housekeeper should choose her foods from *all* of the five food classes mentioned above (fruits, meats, etc.) in order to get as nearly as possible a "balanced" diet.

DIFFERENT AMOUNTS OF FOOD REQUIRED BY PERSONS OF DIFFERENT SEXES, AGES, AND OCCUPATIONS.

Age, occupation or activity, and size are the most important factors influencing the total food requirement of the body. Activity of the body includes the muscular movements required in the performance of all internal and external work, as digestion, assimilation, circulation, shoveling, sewing, walking.

In general, it appears that the food requirements of men and women of equal activities are in proportion to their body weights, and the amount required by children varies primarily with age. Women, on the average, weigh about eight-tenths as much as men, and it is commonly assumed that if equally active their food requirements will stand in the same proportion. It is customary to assign certain factors which will represent, approximately, the amount of nutrients required by different persons as compared with an adult man engaged in moderate muscular labor. The factors are based in part upon actual investigation and in part upon arbitrary assumption. They are subject to such revision as future experimental evidence may warrant. Representing by 100 the needs of a man at moderately active muscular work, the relative amounts of food consumed by men and women at different kinds of work and by children of different ages are given in the following table:

Man:	
At hard muscular work	120
At moderately active muscular work	100
At light muscular work	90
Sedentary occupation	80
Man or woman:	
Old age	90
Extreme old age	70–80
Woman:	
At moderately active work	80
At light work	70
Boy:	
15–16 years	100
13–14 years	90
12 years	70
10–11 years	60
Girl:	
15–16 years	90
13–14 years	70
10–12 years	60

Child:	
6–9 years	50
2–5 years	40
Under 2 years	30

By the use of the above table the food consumption of the various family members can be expressed in terms of adult males, and it thereby becomes possible to compare the food consumption of families of varying sizes, made up of members of different ages and occupations, on a common basis as to cost and adequacy of the diet.

ANALYSIS OF THE DIETARIES OF 31 FAMILIES.

The results of the analysis of the 31 dietaries are shown in three tables presented with this article. Table 1 shows each family's expenditures by the familiar food groups such as "fruits and vegetables," "meats," "starches," etc. Table 2 shows the amounts per man per day[1] of the three nutrients or chemical compounds—protein, fat, carbohydrates—derived from the foods consumed by the family. Table 3 shows the distribution of the expenditures for the principal items of food, as meat, milk, eggs, flour, sugar, etc.; also a column for "other foods," which includes seasonings, cocoa, salad dressing, beer, etc.

The following discussion is limited to the data of Table 1 as the classification there used is familiar and may be of practical value in the actual planning of family menus. The table shows clearly the composition and income of each family, its expenditures for food, and the cost and amounts of the different kinds of food consumed. The foods are divided into the five main classes: (1) Fruits and vegetables, i. e., foods valuable chiefly for minerals and cellulose; (2) meats, milk, and other protein-rich foods, such as fish, eggs, cheese, legumes, and baked beans; (3) cereals and other starchy foods, such as flour, bread, corn meal, rice, potatoes, macaroni, etc.; (4) sweets, such as sugar, molasses, candy, sweet pastry, dried fruit, etc.; (5) fatty foods, such as butter and lard and their substitutes, salt pork, bacon, and chocolate. The miscellaneous column covers such items as tea, coffee, seasonings, etc. Those foods which contain

[1] The method used in the detailed calculations of the amounts of food consumed "per man, per day," was briefly as follows:

The family was first reduced to number of equivalent adult males, by the use of the factors given on pages 6 and 7 and the number of meals taken were calculated in terms of an adult man. An example will make this plainer. Thus, a particular family would be calculated as follows:

	Age.	Occupation.	Factor.		Meals.		
1. Man		Carpenter	1.2	x	15	=	18.0 meals by adult man.
2. Woman		Housekeeper	0.8	x	21	=	16.8 meals by adult man.
3. Girl	6	At school	0.5	x	21	=	10.5 meals by adult man.
4. Boy	3	At home	0.3	x	21	=	6.3 meals by adult man.
Family equals			2.8				51.6 meals by adult man.

Total adult-man meals (51.6) divided by 3 (counting 3 meals a day) gives 17.2 days per man, or the equivalent of 1 man for 17.2 days.

Next, the amount of food consumed by the family is divided by this latter figure—17.2—and the result is the amount consumed "per man per day."

TABLE 1.—ANALYSIS OF DIETARIES OF 31 FAMI

Family No.	Number in family.	Equivalent adult males consuming food.[1]	Number of children under 12 years.	Annual income.	Expenditures for food.			Fruits and vegetables.	
					Per cent of income.	Total for week.	Per man per day.	Cost per family for week.	Amt. consumed per man per day.
1	2	3	4	5	6	7	8	9	10
White.									
Annual income $500 and under $700:									Oz.
1	6	3.8	4	$575	73	$8.031	$0.331	$0.435	2.2
2	4	3.5	2	624	77	9.222	.525	1.08	7.9
3	9	5.4	6	624	84	10.06	.266	.47	2.9
Average	6.3	.....	4	607.67	77.9	9.104	.357	.662	4.1
Annual income $700 and under $1,000:									
4	9	5.8	6	720	80	11.10	.273	.89	2.9
5	5	3.8	2	720	75	10.368	.451	2.227	12.5
6	4	2.6	2	738	48	6.798	.41	.906	11.5
7	6	3.6	4	821	63	9.888	.392	1.46	7.7
8	6	3.9	4	900	60	10.395	.417	1.59	9.7
9	4	2.8	2	965	47	8.811	.45	1.17	9.1
Average	5.7	.....	3.3	810.67	61.3	9.560	.385	1.374	8.2
Annual income $1,000 and under $1,400:									
10	5	3.7	2	1,000	50	9.55	.369	1.53	6.8
11	4	3.7	2	1,050	39	7.833	.387	1.215	9.9
12	4	4.3	2	1,056	39	7.943	.466	.942	6.6
13	5	3.6	3	1,200	57	13.67	.542	2.26	9.4
14	4	3.6	2	1,300	33	8.35	.41	.97	5.0
15	4	3.9	2	1,352	24	6.159	.308	.53	5.8
Average	4.3	.....	2.2	1,159.67	40	8.918	.414	1.241	7.2
Annual income $1,400 and under $1,700:									
16	6	4.4	4	1,400	45	12.03	.458	1.59	8.0
17	4	2.6	2	1,400	38	10.165	.559	1.34	13.9
18	5	3.5	3	1,464	37	10.377	.438	1.25	7.5
19	6	4.0	3	1,475	46	13.044	.448	1.19	5.8
20	6	4.9	4	1,500	42	12.175	.43	.68	7.5
21	4	4.1	2	1,580	20	6.124	.34	.635	6.8
22	4	4.6	1	1,600	32	9.695	.445	2.205	15.6
23	5	3.3	3	1,626	29	9.165	.397	1.36	9.8
Average	5	.....	2.8	1,505.63	35.7	10.347	.435	1.28	9.2
Colored.									
Annual income $400 and under $700:									
24	4	2.7	2	450	87	7.55	.399	1.02	9.0
25	4	4.0	2	520	41	4.13	.194	.45	2.7
26	6	3.9	4	540	51	5.309	.217	.30	2.1
27	5	3.1	3	600	48	5.52	.261	.60	5.9
Average	4.8	.....	2.8	527.50	55.5	5.627	.256	.59	4.5
Annual income $700 and under $1,000:									
28	5	4.2	3	765	55	8.04	.317	.65	3.8
29	4	3.1	1	846	43	6.982	.321	.91	6.1
30	5	3.1	3	900	44	7.618	.351	.57	4.1
31	4	3.8	2	901	63	10.875	.511	2.72	15.3
Average	4.5	.....	2.3	853	51.1	8.379	.377	1.21	7.4
All white	5.2	.....	2.9	1,116.96	44.7	9.607	.406	1.21	7.7
All colored	4.6	.....	2.5	690.25	52.8	7.003	.318	.90	6.0
Total, white and colored	5.0	.....	2.8	1,006.84	46.1	8.935	.385	1.13	7.3
Approximate amount per man per day considered necessary									1 to 2 lbs.

[1] Some of these include visitors.

LIES, BY THE 5 FAMILIAR FOOD GROUPS.

Meats and other protein-rich foods.				Cereals and other starchy foods.		Sweets.		Fatty foods.		Miscellaneous.	Fuel value per man per day.
		Fresh milk.									
Cost per family for week.	Amt. consumed per man per day.	Cost per family for week.	Amt. consumed per man per day.	Cost per family for week.	Amt. consumed per man per day.	Cost per family for week.	Amt. consumed per man per day.	Cost per family for week.	Amt. consumed per man per day.	Cost per family for week.	Calories.
11	12	13	14	15	16	17	18	19	20	21	22
	Oz.		*Qt.*		*Oz.*		*Oz.*		*Oz.*		
$2.19	7.9	$0.00	0.0	$3.071	24.5	$0.94	6.1	$1.03	2.4	$0.365	3,295
4.38	14.9	.70	.4	2.105	23.2	.495	4.4	.382	1.3	.08	3,893
3.85	7.3	.44	.1	2.56	15.3	.59	2.7	1.01	2.0	1.14	2,728
3.47	9.6	.38	.15	2.579	20.2	.675	4.2	.807	1.9	.528	3,218.7
3.40	5.0	.50	.1	4.04	17.1	.72	2.5	1.35	1.7	.20	2,473
4.337	12.8	.15	.1	1.816	13.4	.643	3.0	.835	1.9	.36	2,793
1.25	6.9	.41	.2	1.571	17.0	.446	3.4	.79	3.1	1.425	3,226
3.835	8.0	.65	.2	2.283	12.5	.71	4.2	.69	1.9	.26	2,645
3.70	9.7	.275	.1	2.18	16.9	.89	5.5	1.44	2.4	.32	3,031
3.519	10.2	.43	.2	1.82	14.5	.662	3.7	.68	2.0	.53	2,990
3.340	8.5	.403	.14	2.285	15.4	.679	3.6	.964	2.1	.516	2,802.6
3.56	8.9	.30	.1	2.21	17.2	.67	3.8	1.03	2.2	.25	2,953
3.11	11.0	.40	.2	1.293	12.2	1.13	6.4	.575	.9	.11	2,538
2.52	7.6	1.62	.9	1.223	12.0	.445	3.8	.966	2.7	.227	2,927
3.55	9.8	.43	.2	3.59	20.9	1.41	7.7	1.89	3.5	.54	4,028
3.11	10.7	.58	.4	1.49	12.9	.97	5.1	.70	1.4	.53	2,683
2.55	9.4	.0	.0	1.821	17.9	.35	3.2	.738	2.4	.17	2,418
3.07	9.5	.56	.3	1.938	15.4	.829	4.9	.983	2.2	.305	2,916.3
3.39	7.7	1.41	.6	2.954	20.0	1.033	4.8	1.653	2.3	.0	3,470
3.105	11.8	1.20	.7	2.856	25.9	.49	4.3	1.154	4.8	.02	4,437
3.984	10.6	.51	.2	2.178	12.6	1.37	6.2	.965	1.8	.12	2,940
4.62	9.1	.724	.2	2.957	17.9	1.893	5.7	1.46	2.1	.20	2,893
4.26	10.7	.55	.2	3.74	23.1	.925	5.1	1.50	2.9	.52	3,801
1.56	4.7	1.45	.8	.805	9.8	.643	5.0	.801	2.9	.23	2,763
2.95	8.3	.825	.4	1.345	11.1	.72	4.5	1.49	2.5	.16	2,820
1.48	3.6	.94	.4	2.40	16.3	.955	3.4	1.88	3.5	.15	2,693
3.169	8.3	.951	.4	2.404	16.9	1.004	4.9	1.363	2.8	.175	3,199.9
2.05	5.8	.35	.2	1.97	16.5	1.14	9.0	.81	2.5	.21	3,264
2.24	8.2	.0	.0	.88	7.7	.27	2.3	.17	.5	.12	1,920
2.325	6.8	.45	.2	1.36	11.5	.279	1.8	.555	1.1	.04	2,142
1.435	4.4	.494	.2	1.44	15.9	.58	2.8	.835	2.5	.136	2,924
2.01	6.5	.324	.14	1.41	12.4	.567	3.6	.59	1.5	.127	2,475.2
3.48	9.2	.45	.2	1.60	15.7	.81	6.2	.98	2.5	.07	3,334
3.156	12.2	.0	.0	1.576	13.1	.46	3.7	.78	1.9	.10	2,882
2.335	7.7	.363	.2	1.923	16.4	.685	5.8	1.665	3.6	.077	3,380
4.29	12.6	.40	.2	2.025	15.4	.82	3.9	.48	1.3	.14	3,244
3.315	10.4	.303	.16	1.781	15.2	.694	5.0	.976	2.3	.097	3,221.3
3.23	8.8	.63	.29	2.27	16.6	.830	4.5	1.087	2.3	.344	3,030.3
2.66	8.5	.313	.15	1.597	13.8	.631	4.3	.784	1.9	.112	2,854.9
3.08	8.7	.548	.25	2.10	15.9	.779	4.4	1.01	2.2	.284	2,988.6
5 to 8 oz.		0.6 to 0.9 qt.		9 to 20 oz.		1.5 to 3 oz.		1.5 to 3 oz.		.....	3,000

several different nutrients, and most of them do, are put under the heading representing the nutrient for which they are most valuable.

For each of the five classes there is shown the total weekly cost and the amount consumed per adult male per day. In order to determine the amount consumed per man per day all members of the family are converted into terms of adult males according to the method noted in a preceding paragraph. Allowance is also made for all visitors eating with the family during the period covered.

Per cent of income spent for food (*column 6*).—In accord with usual experience, the per cent of the family's income spent for food, as shown in column 6, is seen to decrease as the incomes increase. In other words, the poorer the family the larger the proportion of its expenditures that must go for food. As regards the 23 white families, this proportion varies from 20 per cent in the case of family No. 21, with an income of $1,580 per year, to the astonishing figure of 84 per cent in the case of family No. 3 with an income of only $624 per year. Even then, however, this latter family was probably not sufficiently fed, the average daily food expenditure per man being only 26.6 cents. Colored family No. 24 is even worse off, spending 87 per cent of its income for food.

Food expenditure per man per day (*column 8*).—The figures in this column measure roughly the sufficiency of the family food expenditure, although it does not indicate whether the expenditure is wisely distributed. The average food cost per man per day, it will be noted, ranged from 26.6 to 55.9 cents among the white families and from 19.4 to 51.1 cents among the colored. That the lower-income families had the lower expenditures for food is to be expected, not because they consciously figured how to get the most nutriment for the least money, but simply because they did not have more money to spend. But among the white families the advance in food cost per man per day was by no means uniform with increasing income. The several families also show a very great variation in the return for the money as measured by calories. Thus, family No. 5 spent 45.1 cents per man per day but got only 2,793 calories, whereas family No. 27 spent only 26.1 cents but got 2,924 calories, which is almost the standard of 3,000 usually considered necessary.

DISTRIBUTION OF FOOD ITEMS.

Fruits and vegetables (*columns 9 and 10*).—Although none of the averages for the income groups is up to the standard assumed to be necessary in fruits and vegetables, it is noted that the amount eaten per man daily is just about twice as much in the highest-income group in both white and colored as it is in the lowest-income group. This would indicate that people with limited incomes will spend for meat first, and if they have any money left will then buy a few

vegetables. The general idea seems to be prevalent that meat is the all-important thing in keeping one alive and that all sorts of dire things may happen if there is no meat on the table.

It will be noted by comparing the amounts of fruits and vegetables consumed, with the approximate amount considered necessary (about 1 to 2 pounds per man per day), that all the families were low in the provision of these foods except possibly two families, No. 22, white, and No. 31, colored; and No. 31 did not have enough to offset the high amount of protein foods eaten.

Meats and protein-rich foods (*columns 11 to 14*).—These are the body-building foods, a certain amount of which is indispensable for growth and repair. An examination of the expenditures for these foods shows a marked contrast to those for fruit and vegetables, namely, that the great majority of families, all but three in fact, consumed sufficient protein foods—in many cases too much. These three families consumed, respectively, 4.7, 3.6, and 4.4 ounces, and were thus not very far below the assumed standard of 5 to 8 ounces per man per day. Some physiologists think this standard for meat consumption too high.

Milk, although it belongs in the class with meat and protein-rich foods, is shown in separate columns (13 and 14) because of its very great importance as a suitable food for children, being valuable for minerals, and especially so for lime, which goes to make bone. The small amount spent by colored people for milk is doubtless responsible for the bowlegs and pinched look of many of their children. In fact, none of the colored families used a sufficient amount, and two families (Nos. 25 and 29) used absolutely no fresh milk, although there were two children in each family. No. 29 did use one-half quart of condensed milk during the week. It has frequently been stated that a quart of milk a day is not too much to provide for each young child in the family—say between 2 and 12 years.

In the milk consumption "per man per day" (column 14), from 0.6 to 0.9 of a quart of milk is figured as the standard. By comparing the amounts used with this standard a marked absence of this important article of food is seen. Two families among the whites used no fresh milk—No. 1, with four children, and No. 15, with two children. They used one-half quart and 0.3 of a quart of condensed milk, respectively, during the week, but condensed milk in any amount can scarcely be accepted as a substitute for fresh milk.

Among the white people five families used only the low amount of 0.1 of a quart per man daily, and only four families (Nos. 12, 16, 17, and 21) seemed to use a sufficient amount. These four used, respectively, 0.9, 0.6, 0.7, and 0.8 of a quart per man per day. Only one of these families used any condensed milk in addition, No. 21 using 0.3 of a quart during the week.

Cereals (*columns 15 and 16*).—Cereals and such other starchy foods, as potatoes and macaroni, are a cheap source of fuel or energy for the body. Thus, the less money a housekeeper has to spend, the more she should rely on cereals to give the required number of calories. The figures in column 16—giving the amount of cereals consumed per man per day—show that most of the families consumed enough cereals. Nevertheless nine white and three colored families consumed less than 15 ounces per man per day, which may be considered a fair average amount. An inspection of the detailed figures shows that the cost per man per day was consequently high and the calories received were low in these nine white families without exception. They all fell below the standard (3,000 calories per man per day) in spite of their relatively high food expenditures, which ran from 34 to 46.6 cents per man per day, most of them being above 38.7 cents.

The three colored families who were low in consumption of cereals (Nos. 25, 26, and 29) got a better return in calories for their money, but were still below the required number. In these families the daily cost per man was 19.4 cents, 21.7 cents, and 32.1 cents, and the number of calories received was 1,920, 2,142, and 2,882, respectively.

Sweets (*columns 17 and 18*).—Here, as in the case of meats, there is an overabundance in consumption. By comparing the amounts eaten (column 18) with the average amount recommended, about 2 ounces, the figures show that in all families except one there was an excess consumption of sweets, the amounts eaten in many cases being from twice to three times as much needed.

Fats (*columns 19 and 20*).—The figures here also show a general oversufficiency. By comparing the amounts (column 20) with the standard of 1½ to 3 ounces per man per day, it appears that only six families fell below this amount—three white and three colored. Family No. 25 was decidedly the lowest. Five families consumed over 3 ounces.

Fuel value (*column 22*).—The meaning of fuel value has been explained in the preceding pages. The best authorities allow an average of about 3,000 calories as the daily requirements of a man at moderate muscular work, and this standard is used in the present study. From an inspection of the figures in column 22, it will be seen that 19 of the families received less than 3,000 calories per man per day, the lowest (No. 25) receiving only 1,920 calories. The other 12 families all received over 3,000 calories per man per day, the highest being 4,437 (No. 17).

COMMENTS ON SELECTED FAMILIES.

Interesting side lights on diet and possible improvement in dietary distribution appear in the following more detailed analysis of the expenditures for the week of four of the families listed in the table:

Family No. 8 spent three-fifths of its annual income for food, and the total protein, fat, carbohydrate (and energy) supplied would seem to indicate that the diet was well planned. But it may be noted that almost one-half of the total expenditure for the week was for meat, eggs, and butter, all three of which are very expensive. Also it is important to point out that the value of milk for children has been overlooked, as about 3 quarts had to supply the needs of father, mother, and four children under 9 years of age during the entire week. The amount of cereals used was insignificant, except that served in the form of bread, but the allowance of sugar was generous. Too much canned goods was used, considering the fact that certain fresh fruits and vegetables were available at relatively low prices.

Family No. 13 furnishes an example of relatively extravagant food habits. The total energy furnished is very generous, as is the proportion of the total income spent for food. For butter $1.23 was spent. The amount for fresh milk was small, as only 43 cents was expended for this very wholesome food, providing only 4.3 quarts for the week for a family with three children. Cereals were practically omitted except as served in wheat breads, and even these were partly furnished in expensive forms. Sweets were also furnished in considerable excess. It is obvious that less food could have been served had it been better selected. Less meat and cheaper cuts could have been used and more money spent for milk. Also the quantity of fat could have been reduced, and at least a part of that supplied in the expensive form of butter replaced by a cheaper fat. Some of the money expended for sweets should have purchased more liberal amounts of cereals. These few simple changes would have made a better and cheaper diet.

Family No. 20.—The protein, fat, carbohydrate, and calories per man per day are in excess of the amount usually considered necessary. However, in spite of the fact that there were four children in the family, only 55 cents was spent for fresh milk (5.5 quarts), while $3.19 was expended for meat and fish. With the exception of bread, very little cereal food was included in the diet, but more than twice the necessary amount of sugar was used. The amounts of fresh fruit and vegetables were small. Had less money been expended for meat and sugar and more for fresh milk, cereals, fresh fruit, and vegetables, the diet could have been made not only more satisfactory from a nutritional standpoint, but much less expensive.

Family No. 25 spent only 19.4 cents per man per day for food. At present prices it is not hard to understand that only 1,920 calories per man per day were obtained, or that the quantities of protein, fat, and carbohydrate supplied were below what is required to maintain health.

TABLE 2.—PRINCIPAL ITEMS OF FOOD

Family No.	Number in family.	Number of children under 12 years.	Annual income.	Expenditures for food.			Meat.		Fish.	
				Per cent of income.	Total for week.	Per man per day.	Oz.	Cost.	Oz.	Cost.
White.										
1	6	4	$575	73	$8.031	$0.331	89.5	$1.37	72.0	$0.45
2	4	2	624	77	9.22	.525	189.0	3.477	5.0	.12
3	9	6	624	84	10.06	.266	69.0	1.03	.....	.....
4	9	6	720	80	11.10	.273	185.0	3.37	.....	.....
5	5	2	720	75	10.368	.451	212.5	3.155	.....	.....
6	4	2	738	48	6.798	.410	82.5	1.20	37.0	.20
7	6	4	821	63	9.888	.392	163.8	3.13	.....	.....
8	6	4	900	60	10.395	.417	163.0	2.54	.....	.....
9	4	2	965	47	8.811	.450	78.0	2.179	41.0	.25
10	5	2	1,000	50	9.55	.369	156.5	2.62	3.0	.05
11	4	2	1,050	39	7.833	.387	98.5	1.63	31.0	.35
12	4	2	1,056	39	7.943	.466	69.7	1.62	.....	.....
13	5	3	1,200	57	13.67	.542	152.5	2.49	20.0	.18
14	4	2	1,300	33	8.35	.410	137.7	2.32	18.0	.15
15	4	2	1,352	24	6.159	.308	136.5	2.01	30.0	.36
16	6	4	1,400	45	12.03	.458	70.0	1.26	13.0	.28
17	4	2	1,400	38	10.165	.559	84.0	1.32	.....	.....
18	5	3	1,464	37	10.377	.438	170.0	2.58	.....	.....
19	6	3	1,475	46	13.044	.448	149.1	2.74	.....	.....
20	6	4	1,500	42	12.175	.430	163.0	2.79	39.0	.40
21	4	2	1,580	20	6.124	.340	21.7	.47	15.8	.40
22	4	1	1,600	32	9.695	.445	141.0	2.25	17.5	.24
23	5	3	1,626	29	9.165	.397	78.0	1.75	14.0	.15
Colored.										
24	4	2	450	87	7.55	.399	114.0	2.10	.....	.....
25	4	2	520	41	4.13	.194	144.0	1.99	.....	.....
26	6	4	540	51	5.309	.217	158.5	2.23	3.5	.025
27	5	3	600	48	5.52	.261	60.0	1.085	34.0	.35
28	5	3	765	55	8.04	.317	150.5	2.725	47.0	.40
29	4	1	846	43	6.982	.321	150.5	2.45	86.0	.39
30	5	3	900	44	7.618	.351	85.5	1.72	68.0	.545
31	4	2	901	63	10.875	.511	175.1	3.16	38.5	.40

[1] 1 egg equals about 2 ounces.

BOUGHT BY 31 FAMILIES.

Eggs.[1]		Cheese.		Milk, fresh.[2]		Milk, condensed.		Legumes.		Butter.		Butter substitute.	
Oz.	Cost.	Oz.	Cost.	Qts.	Cost.	Qts.	Cost.	Oz.	Cost.	Oz.	Cost.	Oz.	Cost.
12.5	$0.21	.....	.....	.....	.....	0.5	$0.16	.....	.....	20.0	$0.57	.....	.....
40.0	.60	2.5	$0.06	6.9	$0.70	.3	.10	.....	.....	5.0	.135	.....	.....
116.0	1.83	8.0	.15	4.3	.44	1.6	.62	.....	.....	18.0	.52	.....	.....
12.0	.20	.....	.....	5.0	.50	.7	.22	.....	.....	23.0	.58	.....	.....
61.0	.927	.....	.....	1.5	.15	.3	.11	16.0	$0.20	24.0	.58	.....	.....
22.0	.25	.....	.....	4.0	.41	.....	.....	.....	.....	.....	.....	15.0	$0.26
.....	.....	12.0	.30	5.7	.65	.3	.075	14.4	.33	.....	.....	.....	.....
68.0	1.02	8.0	.10	2.8	.275	.....	.....	.....	.....	40.0	1.11	.....	.....
44.0	.64	2.0	.035	4.2	.43	.....	.....	33.5	.41	5.4	.15	.....	.....
44.0	.71	.....	.....	2.8	.30	.3	.07	24.0	.27	.....	.....	32.0	.56
52.0	.76	18.0	.15	3.1	.40	.....	.....	29.0	.42	12.0	.36	1.0	.015
42.0	.61	.....	.....	15.5	1.62	.....	.....	22.0	.37	18.0	.475	.....	.....
36.0	.60	.....	.....	4.3	.43	1.1	.28	.....	.....	43.0	1.23	.....	.....
30.0	.42	16.0	.20	8.3	.58	.6	.17	.....	.....	10.0	.33	.....	.....
.....	.....	.....	.....	.....	.....	.3	.075	20.2	.255	.....	.....	27.7	.438
61.0	1.00	4.0	.07	14.7	1.41	.....	.....	35.0	.66	22.0	.66	.....	.....
24.0	.455	.....	.....	12.0	1.20	.....	.....	51.0	.73	27.0	.58	.....	.....
68.0	1.05	12.0	.33	5.2	.51	.....	.....	2.0	.024	18.5	.57	.....	.....
96.5	1.55	6.0	.10	7.0	.724	.....	.....	15.0	.18	37.0	1.03	.....	.....
38.0	.55	.....	.....	5.5	.55	1.4	.37	16.0	.15	21.0	.55	10.5	.15
38.0	.62	.....	.....	14.5	1.45	.3	.10	7.0	.08	.....	.....	19.0	.296
18.8	.33	8.0	.17	8.1	.825	.....	.....	2.5	.06	27.0	.82	.....	.....
12.0	.19	.....	.....	8.5	.94	.....	.....	9.5	.09	30.0	.85	.....	.....
.....	.....	4.0	.05	3.5	.35	.....	.....	.....	.....	8.0	.24	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	30.0	.25	.....	.....	.....	.....
4.0	.07	.....	.....	3.7	.45	.....	.....	.....	.....	10.0	.275	.....	.....
.....	.....	.....	.....	4.2	.494	.....	.....	.....	.....	1.0	.025	.....	.....
32.0	.53	.....	.....	4.5	.45	.....	.....	13.0	.105	.....	.....	15.0	.23
10.0	.15	.....	.....	.....	.....	.5	.116	2.0	.05	.....	.....	12.0	.34
24.2	.37	.....	.....	3.6	.363	.....	.....	2.5	.05	23.0	.63	.....	.....
34.0	.64	.....	.....	4.0	.40	.2	.07	22.0	.15	4.0	.13	.....	.....

[2] 1 quart of milk equals 34 ounces.

TABLE 3.—PRINCIPAL ITEMS OF FOOD

Family No.	Lard and compounds.		Wheat flour.		Bread.		Corn meal.		Rice.	
	Oz.	Cost.	Oz.	Cost.	Oz.	Cost.	Oz.	Cost.	Oz.	Cost.
White.										
1	37.0	$0.46	26.0	$0.146	324.0	$1.805	96.0	$0.30	32.0	$0.21
2	8.0	.12	88.0	.37	110.5	.82	66.0	.14	6.5	.02
3	56.0	.49	288.0	1.00	175.0	1.22	98.0	.21	.....	.....
4	24.0	.38	167.0	1.07	273.0	1.82	58.5	.14	31.0	.19
5	8.0	.12	120.0	.626	113.0	.64	.....	.....	.....	.....
6	8.0	.13	.....	.....	147.5	.99	70.5	.21	9.0	.056
7	9.0	.15	28.0	.115	226.5	1.70	.....	.....	.....	.....
8	11.0	.19	43.0	.28	214.0	1.17	.....	.....	16.0	.05
9	32.0	.435	4.0	.015	193.0	1.29	.....	.....	9.0	.05
10	12.0	.21	96.0	.43	164.0	.85	32.0	.12	.....	.....
11	.....	.....	12.0	.068	120.5	.54	.....	.....	8.9	.06
12	13.0	.161	48.0	.22	86.0	.57	.....	.....	.....	.....
13	34.0	.51	96.0	.45	300.5	2.11	.....	.....	.....	.....
14	2.0	.03	6.0	.02	162.0	1.00	.....	.....	8.0	.05
15	4.0	.05	8.0	.038	182.0	1.28	.....	.....	.....	.....
16	11.0	.138	26.0	.11	282.9	1.40	.....	.....	14.0	.087
17	18.0	.224	100.0	.378	143.5	.815	.....	.....	3.0	.08
18	20.0	.32	11.0	.06	195.5	1.48	.....	.....	.....	.....
19	9.0	.15	.....	.....	325.0	2.03	13.0	.03	16.0	.11
20	19.3	.30	190.0	.89	277.0	1.88	56.0	.15	22.0	.08
21	25.9	.38	22.3	.087	68.0	.39	29.0	.05	.....	.....
22	5.0	.08	48.0	.21	103.4	.715	12.0	.04	.....	.....
23	19.0	.30	42.0	.22	133.0	.85	5.5	.08	21.2	.10
Colored.										
24	32.0	.47	.....	.....	225.0	1.49	48.0	.15	16.0	.10
25	10.0	.17	146.0	.76	.....	.....	8.0	.02	.....	.....
26	18.0	.28	85.0	.48	74.0	.32	92.0	.39	16.4	.10
27	36.0	.61	127.0	.67	21.0	1.05	150.0	.46	13.4	.05
28	33.5	.47	203.0	.95	.....	.....	94.0	.24	45.5	.18
29	30.0	.44	197.4	1.11	.....	.....	24.0	.07	.....	.....
30	24.3	.375	31.5	.148	164.0	.855	12.0	.04	24.0	.21
31	16.0	.22	32.5	.205	180.0	1.17	16.0	.05	.....	.....

BOUGHT BY 31 FAMILIES.—Concluded.

Other cereals.		Potatoes.		Sugar, molasses, and candy.		Cakes and pastry.		Fresh fruits and vegetables.		Canned fruits and vegetables.		Other foods.		Tea, coffee, and substitutes (cost).
Oz.	Cost.	Oz.	Cost.	Oz.	Cost.	Oz.	Cost.	Oz.	Cost.	Oz.	Cost.	Oz.	Cost.	
.....	.....	116.0	$0.61	132.0	$0.78	.....	.....	53.5	$0.435	.....	.....	16.0	$0.16	$0.365
12.0	$0.105	94.0	.35	68.0	.41	8.0	$0.07	112.0	.89	46.5	$0.29	36.2	.365	.08
8.0	.03	.....	.....	103.0	.59	.....	.....	77.5	.20	48.5	.39	18.5	.80	.54
20.0	.10	139.0	.67	79.0	.46	16.0	.20	60.0	.48	56.0	.41	14.0	.11	.20
.....	.....	75.0	.55	57.0	.476	11.5	.127	227.7	1.777	60.0	.45	5.8	.22	.26
9.0	.08	41.2	.18	21.0	.12	16.0	.15	122.5	.526	68.0	.38	24.0	1.531	.125
43.5	.33	7.0	.035	92.0	.56	13.0	.15	107.5	.87	85.7	.59	49.9	.643	.26
30.5	.13	108.0	.45	122.0	.80	.....	.....	72.0	.35	179.5	1.39	27.0	.27	.27
.....	.....	34.0	.17	53.5	.515	18.0	.14	167.7	1.09	10.0	.08	49.0	.732	.20
10.0	.10	140.0	.65	98.0	.67	.....	.....	128.8	.99	48.0	.54	8.0	.16	.25
3.0	.065	80.9	.36	66.0	.61	48.8	.39	146.7	.81	55.0	.405	38.0	.33	.11
.....	.....	52.5	.277	46.0	.275	.....	.....	101.5	.792	11.5	.15	47.0	.616	.187
20.0	.10	92.5	.72	160.0	1.03	22.0	.20	221.8	2.12	16.0	.14	40.0	.54	.54
19.5	.12	63.0	.25	70.0	.54	22.0	.28	101.7	.97	10.0	.15	20.0	.34	.43
.6	.003	167.5	.50	58.5	.29	6.0	.06	115.8	.53	.....	.....	10.0	.10	.17
25.0	.22	136.0	.75	74.0	.387	.....	.....	195.0	1.50	34.0	.21	123.0	1.888	.....
40.5	.545	183.5	1.038	63.0	.33	6.7	.12	201.5	1.07	107.0	.87	49.8	.41	.....
35.7	.25	24.0	.10	76.3	.45	24.0	.38	137.6	.95	40.0	.30	82.5	.903	.12
.....	.....	162.5	.737	108.0	1.113	18.2	.23	96.0	.76	71.5	.43	56.6	.93	.20
.....	.....	97.0	.62	143.0	.925	.....	.....	212.2	.68	.....	.....	45.0	.62	.52
20.0	.158	38.0	.12	73.8	.415	.....	.....	122.5	.635	.....	.....	17.0	.343	.13
25.7	.12	46.0	.20	89.0	.63	.....	.....	280.0	1.90	61.0	.305	31.0	.66	.14
40.8	.39	126.5	.60	25.5	.155	25.5	.31	205.0	1.12	21.5	.24	38.0	.68	.15
22.5	.23	.....	.....	80.0	.50	18.0	.19	130.0	.72	40.0	.30	72.0	.45	.21
.....	.....	.....	.....	48.0	.27	.....	.....	56.5	.45	.....	.....	9.0	.13	.09
14.0	.07	.....	.....	44.0	.279	.....	.....	52.0	.30	.....	.....	.....	.03	.01
7.0	.035	.....	.....	46.5	.33	12.0	.25	109.0	.50	16.0	.10	32.0	.35	.106
9.0	.08	48.0	.15	157.0	.81	.....	.....	96.0	.65	.....	.....	.....	.....	.07
.....	.....	54.0	.22	70.0	.38	.....	.....	30.0	.24	101.5	.67	18.2	.256	.10
70.5	.52	54.0	.15	126.0	.685	.....	.....	89.5	.57	.....	.....	16.0	.31	.037
31.0	.15	66.9	.39	61.7	.39	22.0	.43	171.7	1.26	154.0	1.46	2.0	.06	.14

TABLE 3.—ANALYSIS OF DIETARIES OF 31 FAMILIES, SHOWING NUTRIENTS DERIVED FROM FOOD CONSUMED.

Family No.	Number in family.	Equivalent adult males consuming food.[1]	Number of children under 12 years.	Annual income.	Expenditures for food.			Nutrients and fuel value per man per day.[2]			
					Per cent of income.	Total for week.	Per man per day.	Nutrients.			Fuel value.
								Proteins.	Fats.	Carbohydrates.	
White.											
Annual income $500 and under $700:								*Oz.*	*Oz.*	*Oz.*	*Calories*
1	6	3.8	4	$575	73	$8.031	$0.331	3.39	3.17	18.53	3,295
2	4	3.5	2	624	77	9.222	.525	4.99	4.75	18.69	3,893
3	9	5.4	6	624	84	10.06	.266	2.81	2.98	14.54	2,728
Average	6.3	.....	4	607.67	77.9	9.104	.357	3.58	3.52	16.88	3,218.7
Annual income $700 and under $1,000:											
4	9	5.8	6	720	80	11.10	.273	2.44	3.26	12.03	2,473
5	5	3.8	2	720	75	10.368	.451	3.48	4.23	11.63	2,793
6	4	2.6	2	738	48	6.798	.41	3.24	4.29	15.56	3,226
7	6	3.6	4	821	63	9.888	.392	3.11	3.25	12.91	2,645
8	6	3.9	4	900	60	10.395	.417	3.38	3.68	15.07	3,031
9	4	2.8	2	965	47	8.811	.45	3.35	4.22	13.53	2,990
Average	5.7	.....	3.3	810.67	61.3	9.560	.385	3.09	3.73	13.22	2,802.6
Annual income $1,000 and under $1,400:											
10	5	3.7	2	1,000	50	9.55	.369	2.91	3.98	14.17	2,953
11	4	3.7	2	1,050	39	7.833	.387	3.47	2.77	12.67	2,538
12	4	4.3	2	1,056	39	7.943	.466	3.27	4.83	11.68	2,927
13	5	3.6	3	1,200	57	13.67	.542	3.85	5.38	19.56	4,028
14	4	3.6	2	1,300	33	8.35	.41	3.48	3.67	11.93	2,683
15	4	3.9	2	1,352	24	6.159	.308	2.94	3.25	11.07	2,418
Average	4.3	.....	2.2	1,159.67	40	8.918	.414	3.31	3.99	13.42	2,916.3
Annual income $1,400 and under $1,700:											
16	6	4.4	4	1,400	45	12.03	.458	3.65	4.38	17.09	3,470
17	4	2.6	2	1,400	38	10.165	.559	4.93	6.37	19.85	4,437
18	5	3.5	3	1,464	37	10.377	.438	3.21	4.04	13.62	2,940
19	6	4.0	3	1,475	46	13.044	.448	3.26	3.87	13.54	2,893
20	6	4.9	4	1,500	42	12.175	.43	4.35	3.89	20.42	3,801
21	4	4.1	2	1,580	20	6.124	.34	2.59	4.42	11.83	2,763
22	4	4.6	1	1,600	32	9.695	.445	3.20	4.21	12.19	2,820
23	5	3.3	3	1,626	29	9.165	.397	2.53	4.07	12.07	2,693
Average	5	.....	2.8	1,505.63	35.7	10.347	.435	3.44	4.31	15.07	3,199.9
Colored.											
Annual income $400 and under $700):											
24	4	2.7	2	450	87	7.55	.399	3.13	3.89	16.91	3,264
25	4	4.0	2	520	41	4.13	.194	2.34	2.47	9.04	1,920
26	6	3.9	4	540	51	5.309	.217	2.59	2.81	9.98	2,142
27	5	3.1	3	600	48	5.52	.261	2.69	3.60	14.98	2,924
Average	4.8	.....	2.8	527.50	55.5	5.627	.256	2.65	3.10	12.20	2,475.2
Annual income $700 and under $1,000:											
28	5	4.2	3	765	55	8.04	.317	3.44	3.49	18.11	3,334
29	4	3.1	1	846	43	6.982	.321	3.34	4.37	12.24	2,882
30	5	3.1	3	900	44	7.618	.351	3.51	4.83	15.43	3,380
31	4	3.8	2	901	63	10.875	.511	4.33	4.47	14.23	3,244
Average	4.5	.....	2.3	853	51.1	8.379	.377	3.67	4.24	15.21	3,221.3
All white	5.2	.....	2.9	1,116.96	44.7	9.607	.406	3.34	3.97	14.44	3,030.3
All colored	4.6	.....	2.5	690.25	52.8	7.003	.318	3.17	3.68	13.73	2,854.9
Total, white and colored	5.0	.....	2.8	1,006.84	46.1	8.935	.385	3.30	3.90	14.27	2,988.6

[1] Some of these include visitors.

Approximate amounts per man per day considered necessary: Proteins, 100 grams (about 3½ oz.); fats, 62 grams (about 2⅛ oz.); carbohydrates, 510 grams (about 18 oz.); fuel value, 3,000 calories.

TRADE AGREEMENTS IN THE WOMEN'S CLOTHING INDUSTRIES IN NEW YORK CITY.[1]

BY BORIS EMMET, PH. D.

Collective bargaining in the women's ready-to-wear garment trades of New York City, has, prior to 1915, been the subject of detailed study by the Bureau of Labor Statistics, the workings of certain phases of the trade agreements in existence in the principal ones of these trades having been described in great detail in Bulletins Nos. 98, 144, 145, 146, and 147. The following article is an attempt to outline briefly the present status of trade agreements in these trades with special reference to changes in the methods of bargaining and adjustment of grievances which have taken place since 1914, and which have been caused to a considerable extent by the cessation of immigration on account of the war.

Collective bargaining on a large scale in women's ready-to-wear garment trades of this locality begins with the appearance of the so-called protocol of peace in the cloak and suit industry, signed on September 2, 1910, after a protracted and disastrous strike. This agreement introduced radical changes in the relations of employer and employee.

Aside from recognizing the International Ladies' Garment Workers' Union and its subordinate locals as the legitimate representatives of the workers, it prohibited altogether the further occurrence of strikes and lockouts and provided for the establishment of comprehensive institutions for the peaceful adjustment of any grievances that might arise.

The first three months of 1913 witnessed the establishment of no less than four trade agreements in the women's needle trades of New York City. The new agreements, or protocols as they have since come to be termed, were in the chronological order of their adoption: (1) January 18, 1913, in the dress and waist industry; (2) February 11, 1913, in the house-dress and kimono industry; (3) February 17, 1913, in the white-goods or cotton-garments industry; (4) March 8, 1913, in the children's and misses' dress industry. Similar agreements, although varying in detail, were signed in the millinery and ladies' hat industry, December 20, 1915, and in the lace and embroidery trade on March 15, 1916.

[1] This article is a preliminary summary of one of the phases of a study on trade agreements to be published by the bureau.

The agreements in all of the above-mentioned industries, each somewhat modified, are in existence at the present time.

One of the principal characteristics of the garment trades, which was responsible to a very great extent for their centralization in and about New York City, was the great abundance of relatively cheap immigrant labor arriving in the port of New York. The superabundance of labor, due to unrestricted immigration, was responsible for many of the industrial evils which prevailed in these trades prior to the days of collective bargaining. The constant influx of new workers, with standards of living lower than the standards of those already in the trade, had the effect of creating a state of cut-throat competition for positions among the workers. This intense competition for jobs resulted in a consequent increase in the strategic importance of the employers' position. The great supply of labor was also responsible for the rapid development of the sweating system so commonly associated with these trades; that is, for the appearance of a parasitic class of inefficient employers who endeavored to make their livelihood through the payment of low wages instead of by superior managerial or manufacturing skill.

The disgust of the public with the sweating system, which was accompanied by home work and most of the other evils peculiar to these trades, was partly responsible for the development of collective bargaining in these trades in spite of the instability in the membership of the labor organizations. About 1910 the underpaid and oppressed garment worker became the object of solicitude on the part of the public, as well as the subject of study and investigation by official and unofficial agencies. The success of the general strike in the cloak trade in 1910, which brought about the first comprehensive trade agreement, was due, in a great measure, to the financial and moral support accorded by the public to the cause of the garment workers.

The sudden cessation of immigration, due to the European war, appears to have had a profound effect upon the relative strategic strength of the position of the employer and employee. The entire situation in this respect has been reversed. The superabundance of labor, so conducive to the strengthening of the employer's position, is here no longer. For the first time in the history of these trades the workers, and not the employers, on account of the labor shortage felt during the busy seasons, occupy the more advantageous position for driving wage bargains.

In considering the facts presented below, regarding the present workings of trade agreements in these trades, one must constantly keep in mind the fact that many of the advantages accruing to the workers are due less to the nature of the agreements than to this

new strength of the workers. This advantage could not, of course, have been utilized had the principle of individual bargaining still been in operation.

The following discussion of the present status of collective bargaining in the allied women's needle trades of Greater New York relates to the workings of trade agreements in eight of the great branches of these trades, viz., cloaks and suits, dresses and waists, waterproof garments, house dresses and kimonos, cotton garments, children's dresses, hats and millinery, and lace and embroidery. The agreements in the trades enumerated govern wage rates, working hours, and general conditions of employment in 2,500 establishments, employing over 95,000 workers.

CLOAK AND SUIT INDUSTRY.

As already stated, collective bargaining in the women's ready-to-wear garment trades of New York City began with the signing of the protocol of peace on September 2, 1910, in the cloak and suit industry. Besides raising the general labor standards of the industry by granting considerable increases in wage rates and providing for better conditions of shop safety and sanitation, this agreement prohibited home work and subcontracting, outlawed strikes and lockouts, and established elaborate institutions for the peaceful adjustment of grievances.

The agreement placed the supreme and final authority regarding all matters in dispute in the hands of a board of arbitration, composed of three members, one to represent the employers, one the employees, and the third, an impartial member (the chairman) to be chosen by consent of both parties. It also called into existence a board of grievances, which was to consist of an equal number of representatives of both sides, without the presence of a third party—that is, it was to be an organization based wholly upon the principle of conciliation. This board was given original jurisdiction in all matters in controversy. Only those cases upon which the board of grievances could not agree were to be referred for final adjudication to the board of arbitration.

The agreement curtailed materially the absolute right of the employer to hire and fire, as well as to regulate certain conditions of employment in his establishment. Generally speaking, it effected a sort of realignment of the industrial powers of the trade, reducing materially some of the traditional privileges of the employer by obliging him to adhere to the principle of favoring union men in employment and lay-offs and preventing him from making indiscriminate discharges. In exchange for the concessions granted by the employers the workers obligated themselves to refrain from

striking and to submit all grievances to the duly constituted authorities for peaceful adjustment.

The fundamental principle of the workings of this agreement during the first two years of its existence was conciliation, and thus the board of grievances was the dominating agency of adjustment during this period. The only agency based upon the principle of arbitration—the intervention of a third party—was the board of arbitration, but this board was not immediately called upon to exercise the full powers vested in it by the agreement. The novelty of the scheme appealed to all concerned, and both parties apparently enjoyed the new experience of adjusting their troubles at conference tables instead of on a picketing line.

During the first two years of the life of the agreement the board of grievances succeeded in adjusting the majority of grievances. During the third year, however, deadlocks began to occur in the deliberations of this board. Such deadlocks were, of course, to the advantage of the employer, inasmuch as complaints usually came from the union side. Although these deadlocks were few in number they concerned fundamental problems, had serious consequences, and resulted in the appearance of an antiagreement feeling among the workers. The development of this sentiment was accelerated by some ultraradical union leadership. The antiprotocol agitation within the ranks of the union came to a head in the fall of 1914, when a demand was made upon the employers for the introduction of the principle of arbitration into the existing board of grievances, based wholly upon the principle of conciliation. Officials of the union contended that the introduction of an arbitrator into the board of grievances was the only way to avoid deadlocks. After repeated discussions, joint conferences, and threats to strike, and with the assistance of some outside agencies, the change requested was agreed upon.

The introduction of the impartial person as arbitrator in trade controversies was the turning point in the history of the agreement. The very presence of a person apparently impartial, with the power to cast the deciding vote and thus quickly to dispose of a controversy, was conducive to more frequent failures, on the part of the representatives of both sides, to conciliate in order to effect adjustments. This fact placed the settlement of questions very vital to the industry in the hands of the outsider, the third party.

The new system worked satisfactorily from the point of view of the workers, because it was the natural tendency for the outsider to sympathize with the workers, many of whom, in spite of the relatively high rate of wages and greater security of employment insured by the agreement, still failed to earn a livelihood on account of the relatively short periods of employment, due to the highly seasonal

character of the trade. But the impartial chairman became unpopular with the manufacturers. Complaints began to be heard against "the interference of outsiders, of uplifters and social reformers who knew nothing and cared less about the destinies of the trade." By 1915 the revolt of the employers against the agreement, with its impartial authorities, solidified itself. Voices began to be heard advocating the withdrawal of the Manufacturers' Association from the arrangement. This dissatisfaction developed rapidly to a point where a general lockout appeared to be imminent. The situation became so grave that Mayor Mitchel appointed a council of conciliation to assist the parties in renewing their friendly relations.

The report of this council served as a basis for a temporary truce between the parties. It became known as the decision of the council of conciliation and subsequently served as a basis of a new settlement. This settlement, however, was short-lived, for the reason that the council consisted of six members, no less than four of whom happened to be outsiders to the trade, though public-spirited citizens. It did not, therefore, gain much prestige among the employers. The very composition of this council served to accelerate the existing dissatisfaction with "the interference of outsiders in the affairs of the trade." Things went from bad to worse, until industrial warfare, for the first time since 1910, broke out in the industry. The break in the friendly relations was followed by a general lockout, declared April 29, 1916, which, in its turn, evoked a declaration of a general strike on the part of the union. The ensuing industrial warfare lasted for 16 weeks.

The immediate cause of severance of friendly relations between the parties was a decision made by the chairman of the council of conciliation which, after the settlement, came to act as the board of arbitration under the agreement, prohibiting manufacturers from employing any worker except upon production by the applicant of his union card showing him in good standing with the organization.

The principal points of contention as outlined by the Manufacturer's Association in its advertisements in the daily press, while the strike was in progress, were: The absolute right of the employer (*a*) to discharge; (*b*) to reorganize his shop in any advantageous way, and to lay off workers at will; (*c*) to distribute work during dull seasons in any manner suitable to his needs, and not according to the so-called principle of equal division of work of the protocol. The employers maintained that the right of free and unlimited discharge was essential to successful manufacturing; they further claimed that their right to reorganize the manufacturing methods in their shops, frequently resulting in wholesale discharges and lay offs, was a part of an employer's prerogative and absolutely essential

to efficiency. They strongly objected to the union demand for equal distribution of work during dull seasons, because such a system "virtually gave the employee a vested right in his job."

Relations with the employees were resumed by an agreement dated August 1, 1916, to run for three years. This agreement, which is in effect at the present time, and governs the relations of employer and employee in 387 establishments employing about 30,000 workers, is radically different from any of the so-called protocol of peace agreements which preceded it. It is not an agreement of peace, for in exchange for the privilege of absolute discharge granted to the employers the workers were given the right to strike whenever they felt such action necessary.

The following are some of the essential features of this agreement: (1) Employer given the absolute right to discharge in exchange for privilege of striking accorded to the workers; (2) employer to give preference in employment to members of union and not to discriminate against them after they have been hired; (3) 49-hour week; (4) no overtime work to be permitted during certain seasons of the year; (5) increases in weekly rates of wages, and payment of double time for overtime work; (6) piece rates to be computed upon the basis of a minimum of 70 cents per hour for operators and 55 cents for finishers; (7) piece rates to be determined in each establishment by a committee representing the employees and the employer, and employees not to be compelled to work on garments, the prices for the making of which are still unsettled; in case of inability to agree on piece rates the controversy to be referred for final adjustment to an impartial price adjuster appointed by the consent of both sides; (8) prohibition of home work, of subcontracting, and of section work within the factory; (9) registration of contractors with the union, in order to enable the latter to know if agreement standards are maintained in the contract shops; (10) continuance in existence of the joint board of sanitary control established by the agreement of September 2, 1910; (11) absolute right of employer to reorganize his manufacturing methods in the interests of efficiency; (12) right of employer to distribute his work during dull seasons in the manner most suitable to his needs.

From the incorporation of the above-named provisions, it may be inferred that generally speaking the employers won the points most contested. They succeeded in eliminating from the new agreement all limitations upon their power to discharge, they were allowed to reorganize their shops in any manner most suitable to them, eliminating thus the provision, so obnoxious to them, requiring equal distribution of work during dull seasons. In addition, the new agreement eliminated altogether the participation of outsiders or

third parties in the adjustment of grievances. In exchange for all of the enumerated advantages thus obtained, however, the employers agreed to give up the right to strikeless shops, the principal benefit derived by them under the former protocol agreements. Members of the union were to be accorded preference in hiring and were not to be discriminated against after having been employed. Week workers as well as those engaged by the piece, were granted wage increases.[1]

The most interesting feature of the protocol agreement of 1910 was the system for the adjustment of grievances. This system provided for a joint investigation into the facts in each controversy, on the premises, and gave a chance, therefore, for a close contact between employer and his employees. This is not so now. Under the present agreement employees having a grievance are compelled to report the same directly to the union. The union officials, however, are denied the right to enter the shop for the purpose of getting the facts of the controversy. The only way of establishing the facts in each case is for the union officials to call a meeting of the entire shop at the headquarters of their organization. Thus the union officials get only an ex parte statement of the controversy. After such an ex parte investigation a complaint is filed with the Manufacturers' Association. The labor department of the latter may then agree to the request of the union, or, if necessary, send one of its clerks to the shop of the member for the purpose of getting additional light on the controversy. Here, again, frequently only an ex parte investigation is made. In case of a final denial to accede

[1] Since the signing of the present agreement one general wage increase has been granted to the workers throughout the trade. The new wage schedule given herewith shows the old rates, as well as the new rates which went into effect Aug. 13, 1917.

Occupation.	Wage rates before Aug. 13, 1917.	Wage rates after Aug. 13, 1917.
PIECE WORKERS.		
Operators.....per hour..	$0.75	$0.80
Finishers.....do....	.55	.60
Buttonhole makers:		
(*a*) Unfinished.....per 100..	.90	1.00
(*b*) Finished.....do....	1.20	1.40
WEEK WORKERS.		
Cutters	29.00	31.00
Skirt cutters	25.00	26.50
Jacket and reefer upper pressers	26.50	28.50
Skirt upper pressers	24.00	25.00
Skirt under pressers	19.00	20.00
Piece pressers	16.50	17.50
Jacket and reefer under pressers	22.00	24.00
Sample makers	24.00	25.00
Skirt basters	15.50	16.50
Drapers	16.00	17.00
Skirt finishers	12.00	13.00

to its request, the union has the privilege of calling a strike, provided the Manufacturers' Association is given 24-hours' notice.

The present agreement has been in force since August 1, 1916. The record of the union shows that during the period ending September 15, 1917, exclusive of cases involving cutters, which are not numerous, a total of 3,973 grievances were filed by the officials of the union. The grievances most frequently complained of were: (1) nonpayment of wages due; (2) absence of a legal chairman or of a whole shop price committee; (3) wrongful discharge; (4) failure to register contractors; (5) failure to accord preference in employment to members of the union.

The 3,973 cases were disposed of in the following manner: Compromised, 2,276, or 57.3 per cent; dropped by union, 631, or 15.9 per cent; union sustained, 422, or 10.6 per cent; temporarily adjusted, 322, or 8.1 per cent; withdrawn by union, 168, or 4.2 per cent; employer sustained, 154, or 3.9 per cent. The real proportion of grievances which remained unadjusted is shown in the classification "withdrawn" and "temporarily adjusted," the latter indicating that the Manufacturers' Association refused flatly to concede the justice of the grievance, which was therefore marked "temporarily adjusted" and put aside pending its reopening at a moment more advantageous to the union. For a similar reason certain complaints were withdrawn. Thus 490, or slightly over 12 per cent, of the grievances remained unadjusted.

The union records show the extent to which strikes were authorized by the union for the purpose of adjusting grievances. According to these records, during the last six months' period ending September 15, 1917, 72 strikes were officially authorized for such purposes. The following are the reasons given by the union officials as justifying strike actions in these cases: "Employer sent work to outside shops while his own employees were kept idle," 33 cases; "wrongful discharge," 19 cases; "irregular settlement of piece prices," 19 cases; "sending work to nonunion shop," 1 case.

A strike officially declared must, of course, be distinguished from what is known in a trade as a shop stoppage. The latter refers to a temporary cessation of work on the part of the employees without previous authorization from their organization. Shop stoppages were occurring even under the protocol agreement, which specifically made them illegal. The very nature of shop stoppages makes it impossible to record correctly the frequency of their occurrence. It is the general impression of those concerned, however, that such stoppages take place more frequently now than under the former agreements. The fact that the agreement legalizes official strikes makes for more frequent stoppages, as the difference between a shop stop-

page and an officially declared strike is rather vague in the mind of the average worker.

When the settlement of the prolonged lockout and strike of 1916 was effected on the basis of the agreement described above, it was the impression of all concerned that its terms were more favorable to the employers than to the employees. Those sympathizing with the workers feared that the absolute freedom to discharge and reorganize shops by lay-offs, as well as the elimination of the operation of the principle of equal division of work during dull seasons, might have disastrous effects upon the union and, therefore, upon the condition of the workers. The advocates of industrial peace were apprehensive lest the elimination of the elaborate institutions for the adjustment of grievances would have a detrimental effect upon the peace of the trade and cause a deterioration of the prevailing standards. At the signing of the agreement the Manufacturers' Association appeared to be doubly strong because of an amalgamation with another employers' association which took place in the latter part of 1915 and which brought the membership of the present Cloak and Suit Manufacturers' Association to about 400. It was thought that this increased power of the employers, coupled with the new privileges accorded to them in discharging, laying off, etc., would make them the absolute masters of the labor situation in the industry.

The actual results, however, appear to have been altogether different from what was expected and far more favorable to the workers. The number of wrongful discharges alleged by the union was not much greater than that under the protocol agreement. According to the union records, not more than 279 such discharges took place during the first 13 months of the working of this agreement. Records of the union also show that more than two-thirds of all grievances complained of by the workers were either adjusted in favor of the complainants or compromised, that is, settled by mutual consent, in a manner apparently satisfactory to both sides. The remainder were either dropped or withdrawn by the union. Furthermore, if the 6 months' record may be taken as typical of the operation of the agreement and used as a basis, the statement may be made that a total of about 160 official strikes were called in individual establishments during the first 13 months of the life of the agreement, an average of about 13 per month, a number not very large considering the fact that the agreement in question concerned almost 400 employers and about 30,000 workers. Thus, in spite of the apprehensions manifested by those interested in industrial peace, the agreement did maintain peace in the industry and did not result in wholesale discharges and abuses. Moreover, as shown above, it did furnish satisfactory methods for the peaceful adjustment of the greater number of the grievances arising.

Such more or less satisfactory results are due less to the nature of the agreement than to the following facts: (1) Neither side desires another general strike and lockout, for the reason that the 1916 lockout and strike were economically disastrous to both sides, and, in addition, morally disastrous to the employers because the public at large, as well as many influential public agencies, definitely supported the cause of the workers; (2) the unexpected increase in the bargaining power of the workers more than offsets the theoretical advantages secured to the employers by the agreement as well as by the amalgamation of the two employers' associations. As has been said, this increase in the bargaining power of the workers was due principally to the cessation of immigration and to the consequent shortage of labor which began to be especially felt early in the spring of 1917.

Various facts point almost conclusively to the correctness of the latter generalization. Employers complain of shortages of labor during busy seasons, a condition unknown prior to 1915. They are, therefore, unusually anxious to retain their help. To achieve this end, they are ready to make concessions undreamed of even in the days of the protocol system.

By taking advantage of section 6 of the agreement, which allows an individual employer and his workers to substitute week work for piecework, many new conditions not mentioned in the agreement are created. In a considerable number of establishments employers agree to guarantee to their workers definite periods of employment, from 8 to 30 weeks. The legal advisors of the union are of the opinion that such guaranteed employment periods are legal obligations on the part of the employers, which assure to the workers specified amounts of earnings, irrespective altogether of the need for the workers' services. Such guaranties constitute an absolutely effective method of preventing the employer from sending work to outside shops in which lower standards of labor prevail—one of the evils very frequently complained of by the workers.

Opinions differ regarding the actual benefits derived by each of the parties from this agreement. The present administration of the Manufacturers' Protective Association states that from the employers' point of view the agreement "has been a success," because the most obnoxious features of the protocol order—vested rights in the job due to the limited power of the employer to dispense with the services of his employees as well as to the obligation to distribute work equally during dull seasons—have been eliminated. The leading officials of the Manufacturers' Association are gratified by the fact that for the first time in years "the power of the outsider, the social reformer who has nothing at stake in the trade and cares

for little but aggrandizement, which it is easier to achieve by catering to 30,000 workers than to 400 manufacturers," has been done away with.

Such opinions, however, are not the only ones heard. A minority of the membership of the Manufacturers' Association is distinctly against the present agreement and in favor, perhaps, of a return to the so-called protocol system, with its impartial adjustment tribunals and the prohibition of strikes. This minority maintains that every limitation upon the freedom of action of the employer specified in the former agreements still exists; that by their right to strike employees actually obtain all the privileges accorded to them under the protocol agreement; that the privilege to strike puts the employer at the mercy of the workers, the former having "no grievance board, impartial chairman, or board of arbitration to which he could either look for sympathy, cooperation, or assistance."

Neither is there any unanimity among the workers regarding the benefits derived by them from the present agreement. The more radical union members, whose opinions are frequently tinged with syndicalist doctrines, consider the present agreement more desirable inasmuch as it gives the workers a chance to "exercise their economic power" through strikes. More conservative unionists, and particularly some of the officials of the International Ladies' Garment Workers' Union, would, it appears, welcome the return of the protocol system with its prohibition of strikes and lockouts and its impartial tribunals for the adjustment of grievances. The opinion of these unionists is that the present agreement fosters anarchic action on the part of the membership which makes it difficult for the organization to direct the action of individual members, which is absolutely essential to achieve successful and effective collective bargaining.

Collective bargaining in this industry is not limited to shops controlled by members of the Manufacturers' Association referred to above. Individual shops which have collective agreements with the union, but whose owners are not affiliated with the Manufacturers' Protective Association, are known in the trade as independent shops. The nature of the trade agreements which govern the rates of wages and labor conditions in such shops is considerably different from the trade agreement in operation in shops belonging to members of the Manufacturers' Association or association shops, as they are termed, and more in favor of the workers. The principal points of distinction are: (1) The existence of the so-called union shop, in which the employer obligates himself to employ none but members of the union in good standing, as against the so-called preferential union shop in association establishments; (2) equal distribution of work during dull seasons; (3) no employee, having

been in the service for two weeks, to be discharged without good cause; (4) provision for the arbitration of differences on the adjustment of which the parties themselves can not agree.

On September 15, 1917, there were in existence 786 agreements of this kind. The 786 shops in which these were in operation employed about 12,000 workers.

DRESS AND WAIST INDUSTRY.

The first trade agreement in the dress and waist industry, known also as the protocol of peace, signed January 18, 1913,[1] which introduced collective bargaining on a large scale in this industry, is still in existence, although in modified form. The most profound changes in its provisions were made February 7, 1916, and January 29, 1917.

The only change of significance which occurred between the signing of the agreement and the first revision on February 7, 1916, took place in the fall of 1915, when the equipartisan board of grievances, based upon the principle of conciliation, was replaced by a committee on immediate action, consisting of three members, the chief clerk of the union, the official holding a similar position with the Dress and Waist Manufacturers' Association, and a third—an outside party, selected by mutual consent of both. Thus the principle of arbitration was substituted for that of conciliation in cases on the adjustment of which the parties concerned could not agree. It was made at the request of the members of the union, who, like workers in the cloak and suit industry, complained of frequent deadlocks on the part of the board of grievances, which, it was maintained, made it frequently impossible for the workers to secure redress for violations of the agreement.

The principal changes introduced by the revision of February 7, 1916, which, like the revision of 1917, was brought about by a decision of the board of arbitration, were as follows: (1) Increases in wages; (2) increase to six of the number of holidays to be paid for to the week workers, making July 4 a legal holiday in the trade; (3) authorization of the application of the schedule or log system for the determination of piece rates; (4) creation of a board of protocol standards for the purpose of investigating labor conditions in nonassociation as well as association shops; (5) privilege granted to employers to reorganize the manufacturing methods in their establishments at the beginning of each season; (6) establishment of an examining board to classify cutters according to skill and experience for wage-rate determination.

The official approval given by the agreement to the so-called log system of governing piece-rate determinations is of considerable im-

[1] A detailed account of the workings of this agreement during the first year of its existence was given in Bul. 145 of this bureau.

portance, for the reason that the existence of such a system reduces greatly the number of piece-rate controversies between employer and employee. This log system is in operation at the present time in the shops of about 45 members of the association, having about 3,500 employees. It is based upon a mutual understanding between the representatives of the workers and those of the employers, regarding piece rates, this understanding taking the form of a schedule of operations, the piece rates for which are agreed upon in advance, thus enabling employer and employees to arrive at rates automatically. The system is similar in its nature to the log system in operation in the English tailoring trades. In the dress and waist industry the log system establishes piece rates for specific operations in the sewing or operating branch of the industry, in which from 60 to 70 per cent of all the workers in the establishments are engaged.

The revision of January 29, 1917, further modified the nature of the original protocol agreement. Aside from granting additional increases in wage rates to the majority of the workers in the trade, it introduced the following changes: (1) Period during which agreement is to be in force to be limited to two years; (2) the failure of an employer to comply with the orders of any of the authorized grievance-adjustment authorities to have the effect of depriving such employer of all rights under the agreement; (3) at the request of the union, manufacturers will be obliged to discharge any employee delinquent in his union standing, provided the worker in question was in good standing on January 1, 1916, or thereafter; (4) extension to full-fledged cutters of the operation of the principle of equal distribution of work during dull seasons; (5) union granted the privilege of refusing to agree to the acceptance into the Manufacturers' Association of any applicant, on the ground that not all of the applicant's workers are members of the union in good standing; (6) during the life of the agreement, the union is not to be allowed to make a sudden demand for increases in wages, except in some great emergency affecting either the specific industry or business conditions generally in the country, the board of arbitration to be the sole judge of the existence or nonexistence of such emergencies, but in the absence of such emergencies, wages, base rates, and hours of labor to be subject to revision upward or downward by the board of arbitration, provided application therefor is made not later than the first day of November in any year, any revision in this respect to become effective on January 1 of the following year; (7) complaints, to be entertainable by the agencies of adjustment, must be filed with the defendants not later than 10 days after the facts upon which they are based have become known to the chief clerks.

The new provision mentioned under (1) makes the life of the agreement two years. Prior to this change, the life of the agree-

ment was indeterminate, allowing any of the parties to withdraw from the arrangement at will.

The withdrawal of the protection of the agreement from employers failing to comply with decisions rendered is of great import, inasmuch as one of the bitterest complaints of the union has been that decisions rendered were not complied with by certain members of the association and that in such cases no redress could be obtained. The new provision, by withdrawing from such members the protection of the agreement, gives to the union, under certain conditions, the power to call a strike in such establishments.

The points enumerated under (3), (4), and (5), like the one under (2), must be considered as concessions favoring the workers. Not so, however, with the amendments shown under (6). In this instance the employers seem to have obtained a considerable amount of protection against sudden and frequent demands for increases in wage rates, so often occurring in all other trades at the present time. The provision that complaints must be filed not less than 10 days after the facts on which they are based have become known to the chief clerks, is to be considered another concession, although of minor importance, to the employers. This revision was made at the request of the Manufacturers' Association, which maintained that union officials were in the habit of filing grievances based on facts which had occurred long before, frequently many months, complaints which the employers could not successfully answer on account of the lapse of time.

Except for the substitution of the committee on immediate action, with an impartial chairman, for the old board of grievances, based wholly upon the principle of conciliation, no radical changes have taken place since 1913 in either the nature of the grievances or the agencies through which they are adjusted. As formerly, more than 95 per cent of all the grievances filed are adjusted through the joint efforts of representatives of the union and of the Manufacturers' Association, known as clerks or deputy clerks. Between January 29, 1917, and September 1, 1917—a period of 7 months—1,771 complaints were filed by the union, of which 1,525 have been adjusted. Only 15 out of these 1,525 adjustments were made by agencies other than the clerks or deputy clerks of the respective sides. Of the 15 cases in which the clerks could reach no agreement the committee on immediate action adjusted 11 and the board of arbitration 4.

Of the 1,771 complaints filed, 246 complaints, principally those filed during the months of July and August, were pending settlement. The character of disposition of the 1,525 adjusted cases was as follows: In favor of union, 958 or 62.8 per cent; compromised, 289 or 18.9 per cent; withdrawn, 136 or 8.9 per cent; dropped, 132 or 8.7 per cent; decided in favor of employers, 10 or 0.7 per cent. The

above figures do not include complaints filed by the cutters' local. These, however, are not numerous.

The grievances complained of most frequently during this period were "discrimination against union help" and "preference given to nonunion workers," of which there were 216 cases, or 14.2 per cent of the 1,525 cases adjusted; the grievances next in numerical importance were "alleged payment below the scale provided by the agreement," of which there were 204 cases, or 13.4 per cent, and "noncompliance with decisions rendered by the authoritative agencies," numbering 195 cases, or 12.8 per cent.

As would naturally be expected, by far the greatest number of complaints originate on the union side. During the same period the Manufacturers' Association filed 240 complaints against members of the union. Of this number 27 were pending settlement on September 1. The character of disposition of the adjusted cases was as follows: Employer sustained, 74 or 34.7 per cent; compromised, 85 or 39.9 per cent; and dropped by the complainant, 54 or 25.4 per cent. More than one-half of all the association complaints specified violations of the provision of the agreement which prohibits the occurrence of stoppages of work on the part of the workers.

The agreement of January 18, 1913, established the 50-hour week in the industry. This was reduced to 49 hours by a revision of February, 1916. No reduction in weekly hours of labor has taken place since. Both revisions granted to the workers increases in wage rates.[1]

[1] Considerable changes in the weekly and hourly rates of wages have been made since 1913. The following table shows the weekly rates of wages on Jan. 18, 1913; Feb. 7, 1916; and Jan. 29, 1917. In order to get at the weekly rate of pieceworkers the minimum basic rate per hour specified in the agreement was multiplied by the number of hours of labor per week.

[2] Mutual understanding, not specified in agreement.

WEEKLY RATES OF WAGES IN DRESS AND WAIST INDUSTRY IN EFFECT ON SPECIFIED DATES.

Occupation.	Rates in effect on—		
	Jan. 18, 1913.	Feb. 7, 1916.	Jan. 29, 1917.
Pressers (on woolens)	$20.00	$23.00	$25.00
Cutters:			
Grade A, first year	6.00	6.00	7.00
Grade B, second year	12.00	12.00	13.25
Grade C, third year	18.00	18.00	20.00
Grade D, fourth year, but not full-fledged	No such grade.	21.00	23.00
Grade E, fourth year, full-fledged	25.00	25.00	27.50
Grade F, 1 year after becoming full-fledged	No such grade.	27.50	29.00
Examiners	10.00	11.50	12.50
Drapers	14.00	15.00	16.50
Joiners	12.00	13.00	14.30
Finishers	8.00	9.50	10.50
Sample makers	14.00	15.00	16.50
Ironers, male	15.00	16.50	18.50
Ironers, female	12.00	14.00	15.50
Cleaners, girls:			
Under 16, first year	6.00	6.00	7.00
Under 16, second year		7.00	8.00
16 and over, first year	(a)	7.00	8.00
16 and over, second year	(a)	8.50	9.50

Considering the nature of the present labor situation as influenced by the cessation of immigration, which has a decided tendency to augment the bargaining power of labor, as well as the high cost of living due to the war, the protocol system of collective bargaining appears to protect the employer from sudden and radical demands on the part of the workers for increased rates of wages. The very fact that such demands may not, according to the present agreement, be made without the sanction of the board of arbitration, has a tendency to delay the making of such demands, and even if made and subsequently sanctioned by the board, to result in smaller gains than those which perhaps might have been affected through economic pressure—that is, well-organized strikes.

Officials of the union are of the opinion that the January 29, 1917, revision of the agreement has given the workers substantial advantages. At the same time complaints are being heard on all sides that the earnings of the workers in the dress and waist industry, even under the protocol agreements, have not kept pace with the increased cost of living.[1]

The protocol agreement discussed above governs the rates of wages and general conditions of labor in shops owned or controlled by members of the Dress and Waist Manufacturers' Association. This association has, at the present time, a membership of 202 shops whose combined total employed is between 11,000 and 12,000. Collective bargaining in this industry, however, is not confined to establishments of members of the Dress and Waist Manufacturers' Association. On September 15, 1917, the Dress and Waist Makers' Union (Local No. 25 of the International Ladies' Garment Workers' Union) had in operation trade agreements with 488 individual establishments, the combined total of employees of which exceeded by about 3,000 the total employed by members of the Dress and Waist Manufacturers' Association.

WATERPROOF GARMENTS INDUSTRY.

The first trade agreement in this industry was signed on August 28, 1910, five days prior to the settlement of the great cloak strike of that year. Unlike the agreements in the allied branches of the women's garment trades, the original agreement in this industry was not made for an indefinite term, but for a period of two years.

With slight modifications relating principally to wage rates, the agreement was renewed for a period of two years on August 28, 1912, and on the same date in 1914 and 1916.

[1] On Oct. 29, 1917, the unions, among other demands presented to the Manufacturers' Association, requested a general all-round wage increase of 25 per cent and a reduction of the weekly hours of work to 48. These demands are to be the subject of discussion by a joint conference of representatives of both parties, to be held on Nov. 26. In case of disagreement, the demands of the workers will be presented for adjudication to the board of arbitration of the industry.

The present agreement, which is to expire in August, 1918, is between the Waterproof Garment Manufacturers' Association with a membership of 21, employing over 2,000 workers, and certain locals of the International Ladies' Garment Workers' Union.

Prior to the entrance of the United States into the war, members of the Waterproof Garment Manufacturers' Association confined their activities almost exclusively to the manufacturing of women's rain-proof garments. Since the spring of 1917, however, certain of the larger association establishments have secured contracts for waterproof garments for the Army and Navy.

The agreement worked without serious hitch until the war work appeared. Since about the middle of August, 1917, four shops, the largest in the association, employing about 750 workers, have been shut down on account of a strike on Government work. The cause of this strike is a difference over piece rates to be paid to the operators and cementers. The employers concerned flatly refuse to grant the demands of the workers because "such increases, if granted, would reduce the profit to a point far below what is considered a legitimate return."

The union still refuses to compromise, principally because it occupies a strong strategic position, there being felt in the trade a decided shortage of raincoat makers. In this industry, perhaps more than in any of the others described above, the strategic position of labor was greatly strengthened by the cessation of immigration, on one hand, and by an increased demand for workers, due to the war, on the other.

It appears that the greater part of the 750 workers nominally on strike in the four shops of the members of the association are actually at work in establishments outside of the membership of the association. Representatives of the Waterproof Garment Manufacturers' Association maintain that the union violated the existing agreement by calling strikes in the shops of their members. The controversy, it is said, should have been submitted to arbitration, which the union refused to do. A study of the agreement, however, does not sustain this position of the employers, for paragraph 2 of section 19 of the agreement specifically states that "only disputes other than prices" are to be submitted to arbitration.

HOUSE-DRESS AND KIMONO INDUSTRY.

The first trade agreement, signed February 11, 1913, the detailed workings of which were described in Bulletin No. 145 of this bureau, was renewed for a two-year period on February 17, 1916. No radical modification in its nature was made on the latter date.

This agreement governs the relations of employer and employee regarding wages, hours, and general conditions of labor in the shops

of 14 members of the New York Association of House Dress and Kimono Manufacturers, whose total employed is about 3,600, distributed almost equally between inside and outside, or contract, shops. Considering the fact that only a small part of the trade, about one-third perhaps, is as yet organized, the agreement appears to have worked satisfactorily.

Collective bargaining in this trade is not confined to establishments owned or controlled by members of the employers' association referred to. On October 15, 1917, the union had separate trade agreements with 60 individual establishments, in which the total number employed was approximately 1,000.

COTTON GARMENT (WOMEN'S UNDERWEAR) INDUSTRY.

The first trade agreement in this industry was signed February 7, 1913, between the Cotton Garment Manufacturers' Association of New York and the Underwear and White Goods Workers' Union (Local No. 62) of the International Ladies' Garment Workers' Union for a period of two years. It was renewed for similar periods on March 6, 1915, and March 6, 1917.

The text of the first agreement was published in Bulletin No. 145 of this bureau. Except for changes in wage rates, no radical modifications in its principal provisions have been made since 1913. The agreement at the present time governs the relations of 84 employers with their approximately 6,500 workers. During the year 1916 a total of 411 complaints were filed by the union. Of these, 390 were adjusted by the chief clerks of the union and association, the remaining 21 having been referred to the board of grievances of the industry created by the agreement, said board consisting of an equal number of representatives of both sides.

The agreement is reported to work satisfactorily to all concerned.

CHILDREN'S DRESS INDUSTRY.

Collective bargaining conditions in this industry are very similar to those prevailing in the house-dress and kimono industry, although the trade is somewhat better organized. The first agreement was signed March 8, 1913, and subsequently renewed for a period of about two years on March 4, 1916. Its text, including a statement of its working, during the years 1913 and 1914, were published in Bulletin No. 145 of this bureau.

The agreement at the present time governs the relations between 39 members of the Children's Dress Manufacturers' Association of New York City and slightly more than 3,000 employees.

The last statement does not, however, indicate the actual extent of collective bargaining in the trade at the present time. Aside from

the agreement with the Manufacturers' Association, the union has in operation at the present time from 100 to 110 trade agreements with individual establishments employing about 2,000 workers.

HATS AND MILLINERY INDUSTRY.

This industry manufactures ladies' straw and velvet hats, the shapes of which are somewhat like those of men's. The industry is new, having come into existence less than 15 years ago. Prior to that time, all such hats were made by milliners by hand and to order.

The trade is highly seasonal. During busy seasons there frequently appears a shortage of skilled help. New York Manufacturers are then forced to call upon New England towns, in Massachusetts principally, for labor. This relative scarcity of workers accounts for the establishment, by one of the provisions of the agreement described below, of a joint employment bureau. The same reason may, perhaps, be given for the absence in the trade of subcontracting or even contracting.

The first effective organization of the trade was accomplished just prior to the signing of the agreement herewith discussed. It came on the eve of a threatened strike on the part of organized labor, under the leadership of the United Cloth Hat and Cap Makers' Union of North America, an organization with jurisdiction over the men's cloth hat and cap trade. For certain reasons, the manufacturers engaged in the production of cloth caps and hats gradually extended their manufacturing activities to ladies' velvet and straw hats. This fact was responsible for the extension of the jurisdiction of the Cloth Hat Makers' Union to the ladies' hats and millinery branch of the trade.

The agreement in existence at present was originally signed December 20, 1915, between the Ladies' Hat Manufacturers' Protective Association (Inc.) and the United Cloth Hat and Cap Makers' Union of North America and the joint board of Millinery and Ladies' Straw Hat Workers' Union. Its duration was to be two years. One of its clauses provided that on or about November 1, 1916, either of the parties should have the right to call the other into conference for the purpose of revising prices and wages. In case of disagreement in this respect, the final settlement was to be submitted to arbitration. It was further provided that about September, 1917, some months before the expiration of the agreement, committees of both sides were to meet for the purpose of determining whether or not the agreement should be continued or modified, and if continued, for what period.

Some of the other main features of this agreement were: (1) Obligation by members of the Employers' Association to employ none but members of the union for the operating, blocking, sizing, and pressing operations, beginning with January 8, 1916; (2) establishment of a joint employment bureau; (3) establishment of minimum weekly, daily, and piece rates for operating, blocking, sizing, and pressing; (4) equal distribution of work among all workers during the dull seasons; (5) a 53-hour week, January to April, and a 50-hour week the remainder of the year; (6) prohibition of team or section work within the shops, as well as of outside contracting; (7) prohibition of strikes and lockouts; (8) provisions for the peaceful adjustment of grievances.

All difficulties arising under the agreement were to be referred for adjustment to the managers of the union and association. In the event of a disagreement, the controversy was to be referred to a committee on adjustment, said committee to consist of five members—two representing the association, two the union, and an umpire agreed upon by the four.

The revision of wage rates provided for in the agreement took place at the end of 1916. This revision granted to the workers a general wage increase of 10 per cent.

The average membership of the Manufacturers' Association during the life of this agreement, which has not as yet expired and the renewal of which is being discussed at the present time, has been 50, with a total employed of about 3,500. During the first six months of 1917 a total of almost 400 union grievances were peacefully adjusted. The largest groups of complaints related, in the order named, to piece rates, alleged wrongful discharge, equal distribution of work during dull seasons, claims for wages due, discrimination against individuals, and claims for back pay. During the time the present agreement has been in force—a period of nearly two years—17 important decisions bearing upon the various problems of the industry have been rendered by the impartial chairman of the adjustment committee. All these were readily complied with by both sides.

On September 20, 1917, the joint board of Millinery and Ladies' Cloth Hat Workers' Union presented certain demands to the employers as a basis for a renewal of the agreement about to expire. These, briefly, were: (1) Extension of the jurisdiction of the agreement to processes other than operating, blocking, sizing, and pressing; (2) a 49-hour week all the year round; (3) 10 legal holidays with pay; (4) increased rates of wages.

The above given demands are at the present time the subject of conference by representatives of both parties, presided over by the impartial chairman of the committee on adjustment.

Collective bargaining in this industry is not confined to establishments controlled by the Manufacturers' Protective Association. In addition to the agreement with the latter, the union has in operation at the present time about 125 trade agreements, with individual establishments employing about 3,500 workers.

LACE AND EMBROIDERY INDUSTRY.

An agreement very similar in character to the one in operation in the cotton garment industry of New York was signed for the first time on March 15, 1916, between the Association of American Embroidery and Lace Manufacturers and the International Ladies' Garment Workers' Union and its local No. 6 which consists of embroidery workers. At the time of the signing of this agreement, which is still in force, the Manufacturers' Association had a membership of 36 with a total employed of approximately 2,100.

The agreement is reported to have worked satisfactorily to both sides. Chances for its renewal, however, are very small. The Manufacturers' Association, in a letter dated September 27, 1917, addressed to the union, declined to enter into negotiations for the purpose of renewing the agreement in the near future, on account of the "unequal and burdensome conditions of labor under which the membership of the association have been compelled to operate in competition with other local markets," said conditions "making it economically impossible" for the agreement to be renewed.

It appears that more than one-half of the lace and embroidery manufactured in this vicinity is made in Jersey City, where the embroidery workers' union has not as yet secured any foothold and where, consequently, all the manufacturing of lace and embroidery is done under nonunion conditions of pay, hours, etc. The New York employers decline, therefore, to renew the agreement unless the union succeeds in imposing equal conditions on their competitors, whose establishments are located in Jersey City.

WAGES IN GERMANY.

TRANSLATED AND SUMMARIZED BY ALFRED MAYLANDER.

GENERAL TREND OF WAGES DURING THE WAR.[1]

The imperial statistical office has undertaken an investigation to ascertain the trend of wages in Germany during the war. Although the compilation of the data obtained has not been completed, the statistical office has published in the Reichs-Arbeitsblatt (No. 8) a preliminary statement of the principal results. Among other things the statistical office inquired concerning the number of full days worked by adult male and female workers and the wages paid to them, and on the basis of the data obtained made an attempt to determine the relation of the wages for the last two full weeks of March and September of the years 1914, 1915, and 1916.

The statistical office admits that the data on this point were very scant—only 369 questionnaires relating to 13 industry groups being filled out properly—and that, therefore, the results could not be considered as typical. Nevertheless, the results are interesting, and discredit any claim that during the war wages have so increased that the workers have no reason to complain about the present high cost of living. As a matter of fact, food prices in Germany have increased out of all proportion to wages.

Nearly all industry groups show a decrease of wages for September, 1914, but beginning with this month show a continuous increase of wages. From March to September, 1914, the average daily wages of adult male workers decreased from 5.17 marks ($1.23) to 5.12 marks ($1.22). During the subsequent half-yearly periods designated above, their wages increased continuously until they reached 7.55 marks ($1.80) in September, 1916, which represents an increase of 46 per cent over the wages in March, 1914. The increase was largest during the period September, 1914, to March, 1915 (14.8 per cent); during the period March to September, 1915, the increase amounted to 11.4 per cent; during the next half year the increase was 6.7 per cent, and for the period March to September, 1916, it was 7.8 per cent.

The average wage of adult female workers shows a somewhat different development. The relative increase of wages of female workers during the entire period covered by the investigation was larger than that of male workers. It amounted to 54.1 per cent.

[1] From Vorwärts. Die Löhne wahrend des Krieges. Berlin, Aug. 30, 1917.

The average wages declined from 2.29 marks (54.5 cents) in March, 1914, to 1.94 marks (46.2 cents) in September of the same year, a decrease of 15.3 per cent. Subsequently wages of female workers increased continuously up to September, 1916, when they reached a maximum average of 3.53 marks (84 cents). However, the largest increase in women's wages did not, like that in men's wages, take place during the first winter of the war—in which it amounted to 16.5 per cent—but during the period September, 1915, to March, 1916, for which it was 18.3 per cent. In the subsequent half-yearly period, March to September, 1916, the increase again amounted to 16.5 per cent.

As to the development of wages in the individual industry groups the results of the investigation were as follows:

WAGES IN MARCH, 1914, AND SEPTEMBER, 1916, AND PER CENT OF INCREASE IN SEPTEMBER, 1916, OVER MARCH, 1914, IN EACH SPECIFIED INDUSTRY.

Males.

Industry.	Average daily wages in each specified industry.		
	March, 1914.	September, 1916.	
		Amount.	Per cent of increase over March, 1914.
Machinery	5.33 marks ($1.27)..	7.89 marks ($1.88)..	48.0
Electrical	4.52 marks ($1.08)..	7.44 marks ($1.77)..	64.6
Iron and metal	5.55 marks ($1.32)..	8.02 marks ($1.91)..	44.5
Chemical	5.14 marks ($1.22)..	6.90 marks ($1.64)..	34.2
Paper	3.94 marks ($0.938).	5.54 marks ($1.32)..	40.7
Woodworking	4.22 marks ($1)....	5.61 marks ($1.34)..	32.9
Food	.....	.....	8.2
Leather and rubber	.....	.....	24.6
Earths and stones	.....	.....	21.3

Females.

Machinery	2.28 marks ($0.543).	3.88 marks ($0.923).	70.2
Electrical	2.75 marks ($0.655).	4.80 marks ($1.140).	74.5
Iron and metal	2.06 marks ($0.490).	4.11 marks ($0.978).	99.5
Chemical	2.36 marks ($0.562).	3.55 marks ($0.845).	50.4
Paper	2.29 marks ($0.545).	2.94 marks ($0.70)..	28.5
Woodworking	1.99 marks ($0.474).	2.59 marks ($0.616).	30.2
Food	.....	.....	37.6
Leather and rubber	.....	.....	13.6
Earths and stones	.....	.....	31.1

As the above table shows, the average daily wage of male workers in the machinery group increased 48 per cent, while that of woman workers in the same group increased 70.2 per cent. The largest wage increase for males took place in the electrical group (64.6 per cent). The wages of women in this industry showed a still larger increase, 74.5 per cent. Wages of men in the iron and metal

industry increased 44.5 per cent; those of women increased more than twice as much. Increases in the other industry groups, though large, are not so marked.

Small wage increases were also made in the building trades, the printing trades, and the textile industry. Wages in the clothing industry remained stationary. It should, however, be remarked that in the four last-named industries the number of establishments included in the investigation was very small.

WAGE STATISTICS OF THE BERLIN INVALIDITY INSURANCE INSTITUTE.[1]

In German invalidity and old-age insurance, one of the three branches of the national workmen's insurance system, the insured persons are grouped, according to their annual earnings, into five classes with graded weekly contributions. The State invalidity insurance institutes publish monthly the number of weekly contributions received from each of the five classes of insured persons. As all gainfully-employed persons, with the exception of salaried employees earning over 2,000 marks ($476), are subject to invalidity insurance, these statistical data as to contributions permit conclusions as to the condition of the labor market and the movement of wages.

If the data reported by the Berlin Invalidity Insurance Institute are considered and it is assumed that each member on an average makes annually 50 weekly contributions—which corresponds to actual conditions—the following data as to membership in the individual contributory classes are obtained:

MEMBERSHIP OF THE BERLIN INVALIDITY INSURANCE INSTITUTE, BY CONTRIBUTORY CLASSES, FOR THE YEARS 1902, 1908, 1913, 1915, AND 1916.

Year.	Membership classified according to annual earnings.									
	Class 1, 350 marks ($83.30 or less).		Class 2, over 350 to 550 marks ($83.30 to $130.90).		Class 3, over 550 to 850 marks ($130.90 to $202.30).		Class 4, over 850 to 1,150 marks (202.30 to $273.70).		Class 5, over 1,150 marks ($273.70).	
	Membership.	Per cent.	Membership.	Per cent.	Membership.	Per cent.	Membership.	Per cent.	Membership.	Per cent.
1902..	4,708	1	158,256	30	83,057	16	205,298	37	82,513	16
1908..	11,681	2	135,674	20	107,670	16	147,105	22	270,946	40
1913..	15,002	2	36,496	5	194,055	26	121,050	17	375,196	50
1915..	31,807	5	30,276	5	127,768	21	135,208	23	279,745	46
1916..	32,019	5	28,271	5	112,192	18	144,863	24	288,583	48

If the figures shown in the preceding table for the five contributory classes are added it is found that during the period 1902–1913 the total membership in the Berlin Invalidity Insurance Institute increased from 533,832 to 741,799. Under the influence of the war the

[1] From Vorwärts. Eine Berliner Lohnstatistik. Berlin, Aug. 3, 1917.

membership fell to 604,804 in 1915 and rose slightly (to 605,928) in 1916. Especially noteworthy is the shifting of the members from one contributory class to another. Up to the outbreak of the war a shifting of the membership from the lower to the higher contributory classes can be observed. This is due partly to stricter enforcement of the law with respect to classifying members in the proper contributory class, but principally to the general increase of wages and salaries. In 1915 there is apparent a decrease in the number of workers in the highest-wage class and an increase in those of the lowest-wage class. The increase is to be explained by the considerable employment, at low wages, of juvenile and female workers. An opposite movement may again be observed in 1916 consequent to grants of high cost of living bonuses by a number of employers.

According to the above table the main shifting apparent between wage classes following the war is from class 3 to class 4, and the table seems to show that the much-advertised wage increases during the war were granted only in exceptional cases. It should, moreover, be mentioned that in the insurance institutes of the Kingdom of Saxony and of the Province of Posen only 28.4 and 9.1 per cent respectively of the insured were in the highest-wage class. A highly noteworthy fact shown by the above table is that in 1916 more than one-half of the membership of the Berlin Invalidity Insurance Institute still earned less than 1,150 marks ($273.70) per year.

WAGES OF CARPENTERS IN BERLIN.[1]

In May, 1917, the trade-unions of the building trades of Berlin concluded a collective wage agreement with the building contractors, which became effective July 7 and fixed the hourly wage of bricklayers and other skilled workers of the building trades at 1.40 marks (33.3 cents). In view, however, of the greatly increased cost of living and because at the time of the conclusion of the above agreement Berlin carpenters were as a rule receiving higher wages than 1.40 marks (33.3 cents), the Berlin local union of carpenters declined to become a party to the agreement. All subsequent efforts by the imperial office of the interior to bring about an agreement between the building contractors and the carpenters of Greater Berlin were fruitless because the contractors unanimously refused to go beyond the maximum wage rate of 1.40 marks agreed upon with the other building trades. Consequently the organization of Berlin carpenters is at present not bound by any wage agreement and its members' wages are being fixed by means of individual bargaining.

In order to ascertain the present average rate of wages of carpenters in Berlin, the organization on July 11, 1917, undertook an

[1] From Vorwärts. Die Berliner Zimmerer und die Lohnfrage. Berlin, Aug. 3, 1917.

inquiry which included 192 establishments, employing 1,823 carpenters. The results of this investigation are shown in the following table:

WAGES OF UNION CARPENTERS IN BERLIN ON JULY 11, 1917.

Rate of wages per hour.	Number of establishments.	Number of carpenters.
0.90 to 1.20 marks (21.4 to 28.6 cents)	6	13
1.25 to 1.30 marks (29.8 to 30.9 cents)	11	29
1.30 to 1.35 marks (30.9 to 32.1 cents)	19	106
1.35 to 1.40 marks (32.1 to 33.3 cents)	1	30
1.40 marks (33.3 cents)	40	239
1.40 to 1.45 marks (33.3 to 34.5 cents)	20	281
1.50 marks (35.7 cents)	41	305
1.50 to 1.55 marks (35.7 to 36.9 cents)	16	242
1.60 marks (38.1 cents)	12	77
1.65 marks (39.3 cents)	13	419
1.70 to 1.80 marks (40.5 to 42.8 cents)	9	66
1.80 to 1.90 marks (42.8 to 45.2 cents)	2	10
2 marks (47.6 cents)	1	5
2.10 marks (50 cents)	1	1
Total	192	1,823

The average hourly wage received by the 1,823 carpenters on July 11, 1917, was 1.51 marks (35.9 cents), or 11 pfennigs (2.6 cents) in excess of the maximum wage building contractors were willing to concede in a collective agreement. Numerous instances of further wage increases have, moreover, been reported to the carpenters' organization since the date of its investigation of wages.

HIGH COST OF LIVING BONUSES.

As a result of the high food prices prevailing in Germany, workmen in a number of occupations have demanded and received increases in wages, or bonuses, or both. The following table shows some of the more recent bonuses and increases obtained by agreement. It should be borne in mind that, since it was impossible to obtain complete data, this table does not purport to show anywhere near the entire number of trades in which bonuses have been obtained.

WAGES, AND HIGH COST OF LIVING BONUSES ESTABLISHED BY COLLECTIVE AGREEMENT, FOR SPECIFIED OCCUPATIONS, IN GERMANY, 1917.[1]

[In this table m.=mark, and pf.=pfennig.]

Occupation.	Wages, in each specified occupation, of—		High cost of living bonus.		
	Male workers.	Female workers.	Male workers.	Female workers.	Effective—
Painting trade.					
			Per hour.		*1917.*
Workers, Berlin	[2]	[2]	10 pf. ($0.024)		
Workers, other localities	[2]	[2]	11–21 pf. ($0.026–.05)		May 16
Woodworking trade.					
	Per hour.	*Per hour.*		*Per hour.*	
Local class 1	[3] 1.05 m. ($0.250)	[3] 0.60 m. ($0.143)	20 pf. (.048)	15 pf. ($0.036)	
Local class 2	[3] 1.00 m. (.238)	[3] .57 m. (.136)	20 pf. (.048)	14 pf. (.033)	
Local class 3	[3] .95 m. (.226)	[3] .54 m. (.129)	20 pf. (.048)	13 pf. (.031)	
Local class 4	[3] .90 m. (.214)	[3] .51 m. (.121)	19 pf. (.045)	12 pf. (.029)	Aug. 8
Local class 5	[3] .85 m. (.202)	[3] .48 m. (.114)	17 pf. (.040)	11 pf. (.026)	
Local class 6	[3] .80 m. (.190)	[3] .45 m. (.107)	15 pf. (.036)	10 pf. (.024)	
Stone industry.					
			Per week.		
Letter engravers (sandstone)	1.10 m. (.262)		[4] 20 m. (4.76)		
Marble-cutters:					
Heavy work	1.05 m. (.250)		[4] 20 m. (4.76)		
Slab work	1.00 m. (.238)		[4] 20 m. (4.76)		Aug. 11
Marble-polishers, millers, and turners:					
Shop work	.88 m. (.209)		[4] 20 m. (4.76)		
Outside work	.93 m. (.221)		[4] 20 m. (4.76)		
Municipal employees (Berlin).					
			Per hour.		
Gas works employees	[2]	[2]	[5] 10 pf. (.024) [5] 5 pf. (.012)	10 pf. (.024) 5 pf. (.012)	July 1 Oct. 1
Sewer and construction department employees	[2]	[2]	*Per day.* 1 m. (.238)		[2]
East harbor department employees	[2]	[2]	[6]		[2]
Paper-box industry.					
Makers (Berlin)	[7]	[7]	[8]	[9]	Aug. 25
Building trades.			*Per hour.*		
Bricklayers	1.40 m. (.333)		[10] 0.10 pf. (.024) [10] .10 pf. (.024) [10] .05 pf. (.012)		Sept. 1 Nov. 17 Feb. 2
Brick and hod carriers	1.35 m. (.321)		[10] .10 pf. (.024) [10] .15 pf. (.036) [10] .05 pf. (.012)		Sept. 1 Nov. 17 Feb. 2
Other skilled workers	1.18 m. (.281)		[10] .10 pf. (.024) [10] .15 pf. (.036) [10] .05 pf. (.012)		Sept. 1 Nov. 17 Feb. 2
Lime mixers, concrete and water carriers	1.23 m. (.293)		[10] .10 pf. (.024) [10] .15 pf. (.036) [10] .05 pf. (.012)		Sept. 1 Nov. 17 Feb. 2
Cement workers	1.375 m. (.327)		[10] .10 pf. (.024) [10] .10 pf. (.024) [10] .05 pf. (.012)		Sept. 1 Nov. 17 Feb. 2
Scantling	1.30 m. (.309)		[10] .10 pf. (.024) [10] .10 pf. (.024) [10] .05 pf. (.012)		Sept. 1 Nov. 17 Feb. 2

[1] Data from Berlin Vorwärts, issues Aug. 9 to Sept. 2, 1917.
[2] Not reported.
[3] Minimum wages; rate of workers under 18 and of inexperienced workers to be 10 per cent below schedule during first six weeks of employment, of workers under 16 to be fixed by individual agreement.
[4] Pieceworkers earning over 80 marks ($19.04) per week receive only 5 marks ($1.19) bonus.
[5] Special bonus; do not receive the "general" cost of living bonus (see footnote [7]), but are given a corresponding increase of hourly wages.
[6] These workmen receive a general high cost of living bonus, payable monthly, of 22 marks ($5.24), for single workers; 35 marks ($8.33) for married workers, and 7.50 marks ($1.79) for each child under 16. In addition to this general bonus, increases have been granted but the amounts are not reported.
[7] Rate of wages not reported, but piecework wages increased 50, 45, and 33⅓ per cent, and minimum wage increased 50 per cent for male workers, and 33⅓ per cent for female and juvenile workers.
[8] Bonus for workers already receiving minimum plus increase, but less than 50 marks ($11.90) per week, 15 per cent if married, 10 per cent if single; for workers receiving 50 marks ($11.90) or more per week, 10 per cent if married, 7½ per cent if single.
[9] Bonus for workers already receiving minimum plus increase, 10 per cent.
[10] Increase in wages, not bonus.

DEMANDS OF SHIPYARD WORKERS IN KIEL.[1]

In two largely attended meetings, workmen employed in the shipbuilding yards of Kiel discussed wage and labor conditions. One of these meetings, called by workmen employed in the Krupp and Howaldt yards, resolved that the following demands be submitted to the employers:

1. A 9-hour workday or 54-hour week in place of the present 56-hour week.
2. Regulation of piece rates so that a workman of average ability may earn a minimum of 1.50 marks (35.7 cents) per hour.
3. An increase of beginners' wages and other wages now in force by 10 pfennigs (2.4 cents) per hour.
4. Increase of time wages so that earnings of time-workers shall be equivalent to at least 90 per cent of the earnings of pieceworkers in the same occupation.
5. The high cost of living bonuses paid at present shall be paid to all workmen, inclusive of those on furlough with part pay.
6. Family subsidies of workers on furlough with part pay and those living outside of Kiel to be increased from 2 marks (47.6 cents) to 4 marks (95.2 cents).
7. The provisions relating to workmen's committees shall be so amended that all male and female workers shall have the right to vote and that all members of the committee shall be elected by the workers.

In the other meeting, which was called by workmen of the Government yard, the chairman stated that the workmen's committee had submitted to the administration of the yard the same demands as those made by the workmen of the two private yards under 2, 3, 4, and 6, and an additional demand that for the first two hours of overtime work the regular rate of pay should be increased by 25 per cent, for any subsequent overtime by 50 per cent, and that night-shift workers should receive an increase of 25 per cent.

WAGE DEMANDS OF WORKMEN IN THE STATE RAILROAD SERVICE.[2]

A noteworthy meeting of workmen in the State railroad service was held in Berlin on August 10, 1917. The meeting was addressed by a member of the Reichstag, who pointed out that on account of the greatly increased cost of living all workmen in Government employment, and particularly those in the railroad service, are in urgent need of wage increases. He also emphasized the necessity of shorter hours of labor because long hours of labor combined with the present general state of undernutrition lessen the efficiency of workmen. He

[1] From Vorwärts. Forderungender Kieler Werftarbeiter. Berlin, Aug. 12, 1917.
[2] From Vorwärts. Eine Lohnbewegung der Eisenbahner. Berlin, Aug. 12, 1917.

warned the railroad workers against enforcing their demands through a strike and advised close organization as the best means to obtain results. He pointed out that opposition of the Government to organization of Government employees is no longer to be expected, since a pronounced social democrat has been appointed as undersecretary of state in the Ministry of Railroads.

The chairman of the meeting reported that the demands of the railroad workers were submitted by him to the ministry with the result that the ministry consented to an increase of 9 marks ($2.14) per month of the high cost of living bonus, and promised to consider the question of shorter hours of labor.

All subsequent speakers at the meeting emphasized that the railroad workers must firmly insist on the granting in full of their demands but declared themselves opposed to a strike. Corresponding resolutions were adopted by the meeting.

STATE AID DEMANDED FOR WAGE REGULATION IN LOWER SILESIA COAL MINES.[1]

A movement for higher wages of the coal miners in Lower Silesia was in an extraordinary manner brought to a temporary conclusion in the early part of August, 1917. After months of discussion before a board of conciliation the mine owners have agreed to grant to miners proper an average wage of 7 marks ($1.67) per shift, inclusive of high cost of living bonus. The rate of pay per shift in the coal mines of the Ruhr district is 10.50 marks ($2.50) and 9 to 10 marks ($2.14 to $2.38) in those of Upper Silesia; and coal miners of Lower Silesia have frequently left their employment to go to mines in other districts paying better wages. Notwithstanding these facts the coal mining companies of Lower Silesia declare that the revenues from their mines do not permit payment of more than 7 marks ($1.67) per shift. They have submitted to the workmen their books and demonstrated by figures that even if they increase the price of coal 2 marks (47.6 cents) per metric ton it is impossible for them to comply with the demand of the miners for an average wage of 8 marks ($1.90) per shift. One company even produced proof that it was working with a deficit of 3,000,000 marks ($714,000) during the present year.

In view of this state of affairs the representatives of the miners as well as the mining companies have come to the conclusion that funds to satisfy the fully justified demands for higher wages must be raised through some new method, namely, through State aid. The mining companies propose to petition the Government that either freight

[1] From Vorwärts. Unternehmer und Arbeiter fordern Staatshilfe für eine Lohnregulierung. Berlin, Aug. 8, 1917.

rates on Lower Silesian coal be considerably reduced or State subsidies be granted.

As freight reductions on Lower Silesian coal have already been granted (in 1913) it seems very problematic whether the administration of the State railroads will consent to a further reduction of freight rates. State subsidies, however, would involve State control and possibly even State ownership, which at present is still opposed by the coal-mining companies. The miners, on the contrary, are strongly in favor of State aid. They see in State intervention the only possible means to alleviate the distress of 30,000 miners' families

MINIMUM WAGES DEMANDED BY TEXTILE WORKERS.[1]

The textile workers of Germany have for some time made strenuous efforts to obtain the determination of a scale of minimum wages. So far these efforts have, as a rule, been frustrated by the powerful organizations of the textile manufacturers, whose influence upon the military authorities is so great that the war-arbitration offices (*Schlichtungsstellen*) and local war offices (*Kriegsämter*), which are presided over by army officers, have not shown much consideration for the demands of the textile workers. The chairman of the arbitration office in Hirschberg, Silesia, for instance, declared "that the problem of minimum wages for textile workers is a problem of the future and that arbitration offices are supposed to occupy themselves only with present-day problems."

Only in Bavaria the War Ministry, true to its steadily maintained impartial attitude in labor disputes, has recognized the fairness of the demands of the textile workers and determined minimum wages for the manufacture of paper yarns and fabrics. In the Kingdom of Saxony, though the constant admonitions of the Government to the manufacturers to pay a living wage have not had the slightest effect, the introduction of minimum wages has made some progress. In several wage disputes in which textile workers demanded a minimum-wage scale the arbitration offices have rendered decisions in favor of the workmen.

The demand of the textile workers for a minimum-wage scale is the result of their bitter experience since the outbreak of the war. During the last three years the textile industry has reaped large profits. The gradually restricted production on account of shortage of raw materials has not lessened profits. The loss in production has been more than counterbalanced by the high prices which the military authorities have paid for the diminished output.

Nevertheless, during this same three-year period the wage conditions of textile workers became more and more intolerable. While

[1] From Vorwärts. Die Mindestlöhne in der Textillindustrie. Berlin, Aug. 21, 1917.

workmen in other industries obtained considerable wage increases and therefore were partly enabled to meet the present high cost of living, the standard of living of textile workers sank lower from month to month. Special circumstances made it easy for textile manufacturers to keep their workmen's earnings at a low level. The raw material deteriorated steadily. Each new shipment of raw material is smaller and contains more surrogates than the preceding shipment. The output of the individual worker consequently undergoes a steady reduction. Percentual increases, therefore, bring only temporary relief. It must, moreover, be considered that the workmen of the textile industry are still inexperienced in the use of paper yarns and that the technique of the manufacture and working up of paper yarns is in its infancy. Thus, increases of piecework wages by 30 per cent or even more have not had the effect of increasing the actual earnings of the workmen.

That the wages paid at present in the textile industry are virtually starvation wages is illustrated by the following data:

The piecework wages paid at present in the textile industry of Saxony are equivalent to hourly wages of 4, 6, 8, and 10 pfennigs (0.95, 1.4, 1.9, and 2.4 cents). A mill in Farnau, Baden, has been paying for years, and continues to pay during the war, hourly wages of 8, 10, 12, 20 and 25 pfennigs (1.9, 2.4, 2.9, 4.8, and 6 cents). Even during the present year this firm declined to grant any wage increase. Another mill which before the war did a world-wide business pays, for the manufacture of bagging, linings, and linen cloth, weekly wages of 5.46, 5.18, 6, and 8.90 marks ($1.30, $1.23, $1.43, and $2.12). The weekly maximum earnings of damask weavers for 44 hours of labor are 11.38 marks ($2.71). Similar wages are being paid by the largest linen manufacturers in Landeshut and the large cotton mills in the Enlengebirge. Strong, robust men are paid at the rate of 33 pfennigs (7.9 cents) or even 25 pfennigs (6 cents) per hour.

All these facts force the textile workers to insist on the granting of minimum-wage scales. General Gröner, however, who is charged with the enforcement of the auxiliary service law (*Hilfsdienstgesetz*) to which all in industrial establishments are subject, has openly declared himself against minimum wages and the army officers in charge of the local war offices of course maintain the same attitude as their superior. In Landeshut, Silesia, for example, the textile workers demanded a minimum wage scale and applied to the war arbitration office in Posen. They knew they could not expect much sympathy from this office but expected at least an impartial consideration of their demands. The presiding officer, however, without further investigation declared that the present wages were sufficiently high and told the workmen that their demands would bring about the clos-

ing of the mills and that in such a case the male workers would be put into the army or into other establishments working on war material, while the female workers would be sent to West Prussia to work on farms. The commanding general in Breslau intimated, moreover, that he would proceed against those organized workers who had been reported to him to have used intimidation in requesting fellow workers to join their organization. He also issued an order that even negotiations between individual workmen's committees and their employers in the offices of the latter must be brought to his notice 8 to 10 days in advance, in the same manner as political meetings.

The textile workers of the Landeshut district were so embittered by this summary procedure that they served notice on their employers that they would quit work. This led to further negotiations which were still pending at the end of August, 1917.

LABOR AND THE WAR.

LABOR POLICY OF THE WAR DEPARTMENT.

[Reprinted from the Official Bulletin, Wednesday, Nov. 21, 1917.]

The following is a summary of General Orders, No. 13, issued by the Chief of Ordnance November 15, 1917. A similar order has been issued by the Quartermaster General.

While circumstances are not such as to render appropriate the issuance of definite orders upon this subject at the present time, the following suggestions are commended to the careful consideration of arsenal commanders and manufacturers executing orders for this department:

In view of the urgent necessity for a prompt increase in the volume of production of practically every article required for the conduct of the war, vigilance is demanded of all those in any way associated with industry, lest the safeguards with which the people of this country have sought to protect labor should be unwisely and unnecessarily broken down.

SAFEGUARDS OF EFFICIENCY.

It is a fair assumption that for the most part these safeguards are the mechanisms of efficiency. Industrial history proves that reasonable hours, fair working conditions, and a proper wage scale are essential to high production. During the war every attempt should be made to conserve in every possible way all of our achievements in the way of social betterment.

In the preparation of the following memorandum no effort has been made to establish, or even to suggest, definite rules of conduct. The memorandum presents what may be considered a fair, if tentative, basis of action.

The department wishes to be assured that schedules of hours obviously excessive or wage scales distinctly unfair or working conditions such as should not be tolerated will certainly be brought to its attention.

I. HOURS OF LABOR.

1. *Daily hours.*—The day's work should not exceed the customary hours in the particular establishment or the standard already attained in the industry and in the community. It should certainly not be longer than 10 hours for an adult workman.

The drift in the industrial world is toward an 8-hour day as an efficiency measure.

It has also been shown that hours of labor must be adapted to the age and sex of the worker, and the nature of the occupation.

2. *Overtime.*—The theory under which we pay "time and a half" for overtime is a tacit recognition that it is usually unnecessary and always undesirable to have overtime. The excess payment is a penalty and intended to act as a deterrent. There is no industrial abuse which needs closer watching in times of war.

3. *Shifts in continuous industries.*—Eight hours per shift should be a maximum in continuous 24-hour work.

4. *Half holiday on Saturday.*—The half holiday on Saturday is already a common custom in summer, and it is advantageous throughout the year, especially if the workday be 10 hours long the other days of the week. The working period on Saturday should not exceed five hours.

An occasional shift of two or three hours on Saturday afternoons is unobjectional if essential, but the additional hours should be regarded as overtime and paid for on that basis.

5. *Hours posted.*—It is desirable that the hours of labor for every tour should be posted.

6. *Holidays.*—The observance of national and local holidays will give opportunity for rest and relaxation which tend to make production more satisfactory.

7. *One day of rest in seven.*—One day of rest in seven should be a universal and invariable rule.

II. STANDARDS IN WORKROOMS.

1. *Protection against hazards and provisions for comfort and sanitation.*—Existing legal standards to prevent danger from fire, accident, occupational diseases, or other hazards, and to provide good light, adequate ventilaton, sufficient heat, and proper sanitation should be observed as minimum requirements.

2. *Location of toilets.*—All toilets should be sanitary and readily accessible.

3. *Extreme temperatures.*—Those processes in which workers are exposed to excessive heat—that is, over 80°; or excessive cold; that is, under 50°—should be carefully supervised so as to render the temperature conditions as nearly normal as possible.

When extreme temperatures are essential workers should not only be properly clothed but avoid sudden changes.

4. *Lights.*—If any light is at the level of the worker's eyes it should be so shaded that its rays will not directly strike the eyes.

III. WAGES.

1. *Wage standards.*—Standards already established in the industry and in the locality should not be lowered. The minimum wage rates should be made in proper relation to the cost of living, and in fixing them it should be taken into consideration that the prices of necessities of life have shown great increases.

IV. NEGOTIATION BETWEEN EMPLOYERS AND EMPLOYEES.

The need of preserving and creating methods of joint negotiations between employers and groups of employees is especially great in the light of the critical points of controversy which may arise in a time like the present. Existing channels should be preserved and new ones opened, if required, to provide easier access for discussion between an employer and his employees over controversial points.

V. STANDARDS FOR EMPLOYMENT OF WOMEN.

1. *Hours of labor.*—Existing legal standards should be rigidly maintained, and even where the law permits a 9 or 10 hour day, effort should be made to restrict the work of women to 8 hours.

2. *Prohibition of night work.*—The employment of women on night shifts should be prevented as a necessary protection, morally and physically.

3. *Rest periods.*—No women should be employed for a longer period than 4½ hours without a break for a meal, and a recess of 10 minutes should be allowed in the middle of each working period.

4. *Time for meals.*—At least 30 minutes should be allowed for a meal, and this time should be lengthened to 45 minutes or an hour if the working day exceeds 8 hours.

5. *Place for meals.*—Meals should not be eaten in the workroom.

6. *Saturday half holiday.*—The Saturday half holiday should be considered an absolute essential for women under all conditions.

7. *Seats.*—For women who sit at their work, seats with backs should be provided, unless the occupation renders this impossible. For women who stand at work, seats should be available and their use permitted at regular intervals.

8. *Lifting weights.*—No woman should be required to lift repeatedly more than 25 pounds in any single load.

9. *Replacement of men by women.*—When it is necessary to employ women in work hitherto done by men, care should be taken to make sure that the task is adapted to the strength of women. The standards of wages hitherto prevailing for men in the process should not be lowered where women render equivalent service. The hours for women engaged in such processes, of course, should not be longer than those formerly worked by men.

10. *Tenement-house work.*—No work shall be given out to be done in rooms used for living purposes or in rooms directly connected with living rooms in any dwelling or tenement.

VI. STANDARDS FOR EMPLOYMENT OF MINORS.

1. *Age.*—No child under 14 years of age shall be employed at any work under any conditions.

2. *Hours of labor.*—No child between the ages of 14 and 16 years shall be employed more than 8 hours a day or 48 hours a week, and night work is prohibited.

3. *Federal child labor law.*—These and other provisions of the Federal child labor law must be strictly observed.

4. *Minors under 18.*—Minors of both sexes under 18 years of age should have the same restrictions upon their hours as already outlined for women employees.

ADJUSTMENT OF LABOR DIFFICULTIES IN ARIZONA COPPER REGION.

On September 19 the President signed a memorandum for the Secretary of Labor, appointing a commission to visit, as his personal representatives, the mountain region and the Pacific coast for the purpose of learning the causes of existing discontent among workers

in that section and of adjusting differences by conferences with employers and employees. The memorandum is as follows:

I am very much interested in the labor situation in the mountain region and on the Pacific coast. I have listened with attention and concern to the numerous charges of misconduct and injustice that representatives both of employers and employees have made against each other. I am not so much concerned, however, with the manner in which they have treated each other in the past as I am desirous of seeing some kind of a working arrangement arrived at for the future, particularly during the period of the war, on a basis that will be fair to all parties concerned. To assist in the accomplishment of that purpose, I have decided to appoint a commission to visit the localities where disagreements have been most frequent as my personal representatives. The commission will consist of William B. Wilson, Secretary of Labor; Col. J. L. Spangler, of Pennsylvania; Verner Z. Reed, of Colorado; John H. Walker, of Illinois; and E. P. Marsh, of Washington. Felix Frankfurter, of New York, will act as secretary of the commission.

It will be the duty of the commission to visit, in each instance, the governor of the State, advising him that they are there as the personal representatives of the President with a view to lending sympathetic counsel and aid to the State government in the development of a better understanding between laborers and employers, and also themselves to deal with employers and employees in a conciliatory spirit, seek to compose differences and allay misunderstanding, and in any way that may be open to them to show the active interest of the National Government in furthering arrangements just to both sides. Wherever it is deemed advisable conferences of employers and employees should be called with the purpose of working out a mutual understanding between them which will insure the continued operation of the industry on conditions acceptable to both sides. The commission should also endeavor to learn the real causes for any discontent which may exist on either side, not by the formal process of public hearings, but by getting into touch with workmen and employers by the more informal process of personal conversation. I would be pleased to have the commission report to me from time to time such information as may require immediate attention.

GLOBE-MIAMI COPPER DISTRICT.

The attention of the commission was at once directed to the copper fields of Arizona, where consideration was first given to the strike in the Globe-Miami district, which had been going on since July 2, resulting in a decrease in the production of copper amounting to more than 60,000,000 pounds, the normal monthly output of the district being about 21,000,000 pounds, requiring a working force of over 5,000 men. In arriving at an adjustment of the labor situation in that field the commission proceeded on the following principles: (1) That the country must have the maximum uninterrupted output of copper during the period of the war; (2) that no grievances on the part of the workers, whether well founded or imaginary, must be allowed to result in stoppage of production; and (3) that practicable machinery must be devised for the adjustment of grievances, whether real or imaginary, to prevent stoppage of production.

To carry out these principles the plan of settlement reached by the commission, which resulted in resumption of work, embodies the following chief features:[1]

(1) The establishment of a workers' committee for each mine, wholly independent of any influence, direct or indirect, to be exercised by the company. This committee is to be composed exclusively of men working at each mine, with the right, however, of union members to have a union representative in the presentation of grievances.

(2) The employment of those now on strike, except those guilty of seditious utterances against the United States or those who have membership in an organization that does not recognize the obligation of contract. In providing for the reemployment an important principle is introduced in that the district is treated as an industrial unit, instead of the individual mine. Reemployment is to be secured through a central employment committee for the district.

(3) The impartial and effective working of the scheme is assured through the appointment of a United States arbitrator, acceptable to both sides, who is to determine all disputed questions of fact.

The success of the settlement rests on the loyal spirit of all parties in carrying out the agreement, but the arbitrator is necessary to secure the settlement of any difficulties as to which in perfect good faith the two sides may not agree. The machinery thus provided is in substitution of strikes and lockouts during the period of the war.

CLIFTON-MORENCI-METCALF COPPER DISTRICT.[2]

In the Clifton-Morenci-Metcalf copper district the strike which started in July was settled upon the application by the President's commission of substantially the same principles as those set out on page 54. The adjustment of this situation assures a resumption of the normal monthly output of about 10,000,000 pounds and the return to work of approximately 6,000 men. The chief features of the settlement accepted by both sides are as follows:

(1) Companies and men must exert their utmost efforts to secure the highest possible efficiency in the production of copper consistent with proper discipline and due regard for the health and safety of the workmen.

(2) The companies will continue to recognize workmen's grievance committees previously existing in the district. Heretofore, however, there was a feeling of impotence as to these committees, because the final decision was with the managers. There is, there-

[1] Data taken from Official Bulletin of Oct. 25, 1917.

[2] Data taken from Official Bulletin of Nov. 2, 1917, and from Clifton-Morenci Mining Journal, Clifton, Ariz., Nov. 1, 1917.

fore, added to the existing scheme remedying grievances an appeal to the United States administrator,[1] appointed for the purpose of supervising the operation of the commission's settlements in the entire district, and to act as final arbiter in case the grievance committee and the management are unable mutually to adjust any difference in dispute.

(3) No man shall be discharged or discriminated against in his work because he does or does not belong to a union.

(4) Reemployment is assured to all striking workmen without discrimination, except those guilty of seditious utterances against the United States, or those who have membership in an organization which does not recognize the obligation of contract, or those of demonstrated unfitness for work. In providing for reemployment here, as in the Globe-Miami district, the placing of striking workmen is to be handled as a district problem instead of as an individual mine problem. This feature was adopted because the growing labor shortage throughout the country requires the full, as well as the regulated, use of all available man power.

(5) One of the causes of the strike was a claim for increased wages to conform to the high wage scale in the Globe-Miami district. Owing to the time required to investigate the justice of this claim, the commisison felt it not within its province to do so, but instead laid down the principles which should control such a claim for wage increase and left the application of the principles to the facts as they should be found by the United States administrator. It was provided that the administrator should determine if any adjustment of wage scale is called for in order to secure a fair living wage, having regard to the high cost of living, to efficiency or lack of efficiency, and to the financial ability of the companies. If the administrator should recommend a wage increase and such a wage scale allows a fair profit to the companies under the existing price of copper, the President's commission shall at once promulgate such new wage scale and the company shall pay all such increases in wages as of the first day of the return of men to work. If, however, such wage scale recognized by the administrator does not leave a fair profit under existing prices of copper, the President's commission shall recommend to the President an increased selling price which will yield a fair profit, and the wage increase recommended by the administrator shall not be made effective until such selling price has been obtained. In order to secure this wage scale and in order to determine the fair profit of the companies, the administrator is given complete access to all the records of the companies and has authority to employ all necessary expert assistants.

[1] The administrator is Mr. Hywel Davies of Kentucky.

(6) The agreement provides for wages at the rate of time and one-half for all overtime and for all work on the 4th of July and on Christmas.

WARREN COPPER DISTRICT.[1]

Somewhat different was the situation in the Warren copper district. The commission found that production amounting to approximately 17,000,000 pounds per month was being maintained and no Federal intervention was necessary to bring about resumption of work; since the strike, which was called on June 26, was broken by the Bisbee deportation of 1,186 men on July12. Here, however, the commission was confronted by the necessity of securing a continuance of operations during the period of the war; and, to effectuate this result, it became apparent that some plan should be devised by which the grievances of the employees could find adjustment through an orderly process of adjudication before some final disinterested tribunal in whose fairness both sides would have confidence and before whom each side would have equal weight. Such a plan was provided by the commission, embracing the establishment of a grievance committee in each mine, entirely selected by the men, by and before whom all grievances must in the first instance be presented. In case redress be denied by the company, the grievance committee may appeal to the United States administrator.

The commission found that claims of discrimination against union members had been particularly insistent in this district, and this it prohibited, the enforcement of the prohibition being vested in the United States administrator. Effective means by which all questions in dispute between the companies and the men may be promptly and justly settled under the impartial supervision of Federal authority being thus established, resort to the strike, at least for the period of the war, becomes unnecessary and has been abandoned by the men.

ABOLITION OF LEAVING CERTIFICATES IN GREAT BRITAIN.[2]

Under the Munitions of War Act, 1917, the Minister of Munitions was given power to repeal the provisions of the 1915 act, under which a workman engaged in the production of munitions has not been free to change his employment at will, and an employer has been liable to a heavy penalty if he engaged a workman, who within six weeks had been engaged on munitions work, without seeing a certificate from his former employer or from a munitions tribunal to the effect that the workman was free to accept other employment.

[1] Data taken from Official Bulletin, Nov. 7, 1917.
[2] Reprinted from Labor Gazette, October, 1917, p. 356.

An order has now been made by the Minister of Munitions abolishing leaving certificates from Monday, October 15, and on and after that date any workman engaged on the production of munitions will be free to leave his present employment for other war work on giving his employer a week's notice, or such longer notice as is provided for in his existing contract of service.

EXTENSION OF WAR-MUNITIONS VOLUNTEER SCHEME.

As a safeguard against excessive migration of labor, which might seriously imperil the production of munitions, it has been decided to extend the war-munitions volunteer scheme in the following manner: All of those men who are eligible will be free to enroll as war-munitions volunteers, and, on assignment, will become entitled to subsistence allowance. Married men and unmarried men whose homes are mainly dependent on them will receive an allowance at the rate of 2s. 6d. (60.8 cents) per day, and unmarried men whose homes are partially dependent on them will receive an allowance at the rate of 1s. 6d. (36.5 cents) per day; and these payments, wherever due, will be made as from the date on which the men are assigned to their employment by the local employment exchange, acting on behalf of the Ministry of Munitions. All war-munitions volunteers, on work to which they have been assigned by the Ministry of Munitions, will become entitled to free railway passes to and from their homes on general holidays or generally observed trade holidays. Even munitions volunteers employed away from home who have no dependents, and therefore no right to claim subsistence allowance, will in future obtain free railway warrants to and from their homes at holiday times if they have been assigned to the establishments at which they are working.

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APPEAL BY TRADE-UNION ADVISORY COMMITTEE.

In order to minimize the dislocation of work which would result if a considerable movement of labor took place, the trade-union advisory committee addressed the following appeal to the workpeople concerned:

On October 15 leaving certificates will be abolished, and workmen will be free to leave for other war work after giving their employer a week's notice, unless a longer period is provided for by their existing contracts of service.

If large numbers of men leave their work suddenly and a big movement of workpeople takes place, there is danger that the output of urgent munitions may be dislocated, and men at the front will suffer.

We, therefore, appeal on behalf of the trade-union advisory committee to all workmen not to change their employment without definite and substantial grounds, and to show that the output of munitions will not suffer by the abolition of leaving certificates.

Any man who is thinking of leaving is asked to consider these points:

(1) If you wish to leave because of the expense incurred in working away from home, remember that the war-munitions volunteer scheme has been extended. If you are eligible to enroll under that scheme, and have persons dependent on you, you will be able to get subsistence allowance under the ordinary conditions by enrolling and staying where you are. Ask for particulars from any employment exchange or trade-union.

(2) If you wish to leave because you are working away from your home, remember that the Government will now give to war-munitions volunteers who are, or have been, assigned to employment, free return railway passes to and from their homes for public holidays.

(3) If you feel bound to change your work, you can help your union and the country by giving notice on a form which you can get either from your employer, from your local union officials, or from any employment exchange. If you will fill up this form and return it to your local union official or nearest employment exchange, you will have the best chance both of helping your country and yourself.

(4) Finally, we appeal to all eligible workmen to put their services at the disposal of the Government by enrolling as war-munitions volunteers. Remember that the output of munitions depends on you.

THE LABOR MARKET AND THE NEW INDUSTRIAL CENSUS IN GERMANY.

GERMAN LABOR MARKET IN JUNE, 1917.[1]

The July, 1917, number of the Reichs-Arbeitsblatt contains the following statement with respect to the German labor market during June, 1917:

In the mining and smelting industry there is the same intensive activity as in preceding months; compared with the preceding year the activity has even increased. The same can be stated of the iron, steel, and metal industry. In several branches of the electrical and chemical industry there is increased activity as compared with June, 1916. Employment in the food-products industry has increased in part as compared with the preceding month and in part decreased. The situation in the building trades remains unchanged.

Sick-fund statistics show that on July 1, 1917, the number of employed members has decreased by 102,236, or 1.12 per cent, as compared with the number of employed members on June 1. The decrease for the corresponding period of the preceding year was 0.22 per cent. The Reichs-Arbeitsblatt states that this large decrease is chiefly due to decreased employment of men on account of further conscriptions for service in the army and navy, the number of employed male members having decreased during the month under review by 109,405, or 2.4 per cent. The number of female employed members increased during the month by 7,169, or 0.1 per cent. It should be noted that the sick-fund statistics on employment do not

[1] Bremer Bürger-Zeitung. Bremen, Aug. 3, 1917.

take into consideration the extensive employment in Germany of war prisoners.

Reports received by the Imperial Statistical Office from 33 federations of trade-unions with a total membership of 929,227 show that at the end of June, 1917, 7,967 members, or 0.9 per cent, were unemployed, as against 1 per cent at the end of May, 1917. If the state of unemployment of trade-union members in June, 1917, is compared with that existing during the same month of the three preceding years, a large decrease is found, for in June, 1914, 1915, and 1916, the rate of unemployment was in every year 2.5 per cent.

Statistics of the employment offices show a further decrease in the number of male and female applicants for employment. The number of male applicants per 100 vacant situations was 47 in June, 1917, as compared with 53 in the preceding month. The corresponding number of female applicants fell from 96 in May to 88 in June.

BERLIN LABOR MARKET IN JULY, 1917.[1]

The "Vorwärts" reports that the number of employed members of 105 Berlin sick funds decreased in July, 1917, by 6,400. The decrease in employment is ascribed to lack of raw materials, coal, and electric power. The number of employed male members decreased by 4,100 and that of female members by 2,300.

Conditions of the Greater Berlin labor market are reported as generally favorable. There is great demand for earth and building-trade workers. In the leather and paper industry the demand for labor considerably exceeded the supply. In the machinery industry the employment situation remained unchanged on account of lack of raw materials.

The employment offices of Greater Berlin report that the number of applicants per 100 vacancies was in the case of male applicants 62 and in the case of female applicants 73. The corresponding percentages for the preceding month were 66 and 76, and for July, 1916, 98 and 115.

NEW INDUSTRIAL CENSUS IN GERMANY.[2]

The German War Office (*Kriegsamt*) conjointly with the Imperial Department of the Interior issued an order for the taking of a new industrial census on August 15, 1917. This census is intended to furnish statistical data on the changes which industrial life in Germany has undergone during the war.

The census will include the handicrafts' industry, inclusive of home work, the building trades, mines and salt works, wholesale and retail commerce, hotels, saloons, and restaurants, sanatoriums con-

[1] Vorwärts. Der Berliner Arbeitsmarkt im Monat Juli, 1917. Berlin, Aug. 31, 1917.
[2] Vorwärts. Die gewerbliche Betriebszählung. Berlin, Aug. 7, 1917.

ducted for profit, private insurance institutes, private transportation enterprises, theatrical performances, fishing, and gardening carried on for profit but on a small scale. Agricultural establishments, hospitals conducted predominantly for welfare purposes, and large public establishments of the railroad, postal, telegraph and telephone service, with the exception of their factories and shops, will not be considered.

The taking of the census will be effected at the seat of each establishment where the owner or his representative will fill in a schedule. Each branch establishment will therefore be counted as a separate establishment. The schedules will in due time be distributed by the local police forces to the owners of each dwelling or their representatives, who in turn will distribute them to the individual industrial establishments located in their dwellings. The filled-in schedules are to be returned to the local police authorities on or before August 30, 1917. Imprisonment up to one year and fines up to 10,000 marks ($2,380) are provided in the order for false or incomplete statements.

The order solicits the voluntary cooperation of municipal and communal authorities and their local statistical offices, of officials and teachers, and of the general public.

CREATION OF AN IMPERIAL ECONOMIC DEPARTMENT IN GERMANY.[1]

Under date of August 9, 1917, the German daily paper, Vorwärts, reports that the social and economic divisions (divisions II and IV) of the Imperial Department of the Interior (*Reichsamt des Innern*) have been separated from this department and been established as an independent department under the name of Imperial Economic Department (*Reichswirtschaftsamt*) with an enlarged sphere of activities. Dr. Schwander, formerly mayor of Strassburg, has been appointed as director of the new department.

The large number of important activities assigned to the new department show clearly how necessary it was to detach these activities from the jurisdiction of the greatly overburdened Department of the Interior. The Economic Department will be organized into two large divisions, an economic and a social division.

The sphere of activities of the economic division will include commercial policies, commercial treaties, commerce in general, agriculture, industry, economic problems, the customs tariff, taxes, problems of production in Germany and foreign countries, statistics, the export

[1] From Vorwärts. Das Reichswirtschaftsamt. Berlin, Aug. 9, 1917.

and import trade, banks, and stock and produce exchanges. One of its principal tasks will consist in the devising of suitable measures for the period of transition from a war to a peace régime.

The following affairs were assigned to the social division: Workmen's accident, sickness, invalidity, and survivor's insurance, salaried employees' insurance, workmen's protective legislation, welfare institutions, and the labor market.

In a special article in the Vorwärts[1] it is stated that the Social Democratic Party has accepted the creation of the new economic department as a substitute for its demand for the creation of an imperial labor department as an independent ministry. The new department is merely a subdepartment under the imperial chancellor. The article summarizes the demands of organized labor with respect to the activities of the new department as follows:

During the period of transition from a war to a peace régime labor demands that representatives of all branches of labor be consulted in all matters coming before the department which involve labor problems and the interests of the working classes. The same is demanded with respect to the preparation of future commercial relations. For this purpose labor requests that the National Economic Advisory Council shall include representatives of labor of the industries and trades involved. As to legislation relating to monopolies and cartels the workmen's and salaried employees' federations have already submitted their demands to the former imperial chancellor.

From the social division labor expects in the first place that it will work for the granting of the right of free coalition. Restrictions of coalition contained in the criminal code must be removed, all unfair practices in this connection by the political authorities must cease, and agricultural workers and domestic servants as well as workmen and salaried employees in public establishments must be granted the right of coalition and the right to strike. With respect to workmen's representation, labor favors the creation of workmen's and salaried employees' chambers, but equipartisan (*paritätische*) labor chambers would also be acceptable provided that the representatives of labor be permitted to act separately in pure labor problems. In order that a social organism be built up labor demands the creation of labor offices in each urban and rural district, of State labor offices in each Federal State and each Province, and of an imperial labor office. An equipartisan representation of employers and workmen should be attached to these offices for cooperation in the preparation and enforcement of laws, decrees, orders, etc. Labor further demands that the procuring of employment be regulated by imperial legislation in the sense of the demands submitted by organized labor to the Reichstag and accepted by the latter in 1915, which provided for extension of the system of public welfare employment offices under equipartisan administration and of employment offices of employers and workmen's organizations operated on the basis of collective agreements. Finally, labor demands that housing work be promoted through ample loans from imperial and State funds, the granting of special facilities to communes and cooperative building societies engaged in housing work, and the creation of imperial and local housing offices.

[1] " Das neue Reichswirtschaftsamt " by Paul Umbreit. Vorwärts, Berlin, Aug. 14, 1917.

AGRICULTURAL LABOR PROBLEM IN GERMANY.[1]

The Berlin daily paper, Vorwärts, reports under date of August 8, 1917, that Dr. Paasche, a member of the Reichstag, interpellated the imperial chancellor as follows:

> The German Central Employment Office for agricultural labor [Deutsche Arbeiter zentrale, Berlin, a semiofficial employment office] has announced for 1917 the conditions under which foreign migratory agricultural laborers will be employed in Germany. In addition to minimum wages, payable in cash, these conditions provide for the following compensation in kind per worker and per week: Fifteen kilograms [33 pounds] of potatoes, 7 liters [7.4 quarts] of skimmed milk or 3½ liters [3.7 quarts] of unskimmed milk, 250 grams [0.55 pound] of flour, 1½ kilograms [3.31 pounds] of bread, 1 kilogram [2.20 pounds] of barley groats or oat meal, one-half kilogram [1.1 pounds] of legumes, 250 grams [0.55 pound] of meat, one-half kilogram [1.1 pounds] of sugar, and 250 grams [0.55 pound] of salt. Is the imperial chancellor ready to inform me how, in view of the fact that the rations for native workmen employed at heavy labor have been fixed much lower, it is possible to attract foreign labor to Germany with such promises, and whether there is any possibility that these promises can be kept in practice?

The above data as to foodstuffs to be furnished to foreign agricultural laborers are corroborated by an article in the Deutsche Tageszeitung of August 2, 1917. This paper reports that in Lobau, Saxony, a meeting of agriculturists expressed itself as opposed to the furnishing of such large quantities of foodstuffs to agricultural migratory laborers as part compensation, because the present scarcity and high prices of food make this impossible. At the same time the meeting voiced its opposition to commutation of this compensation in kind into compensation in cash at the market value of the foodstuffs involved, because this would mean an enormous wage increase for imported foreign labor. The participants in the meeting stated that it does not seem advisable to spoil these migratory laborers, and also expressed their apprehension that native agricultural labor would rightly demand the same high wages and compensation in kind as are being paid to foreign labor.

In this connection it should be stated that the State agricultural council of the Kingdom of Saxony, a semiofficial organization, which receives a State subsidy, has decreed the above minimum wages and compensation in kind as in force in Saxony for migratory foreign laborers. The Vorwärts states that this action invites comparison with the low food rations fixed by the Government for the urban population in Saxony and accepts it as further proof of the fact that agricultural authorities do not pay any attention to war food regulations.

[1] From Vorwärts. Zur landwirtschaftlichen Arbeiterfrage. Berlin, Aug. 8, 1917.

In its issue of June 5, 1917, the Vorwärts points out that the scarcity of agricultural labor is being much exaggerated by agricultural organizations, and in support of this assertion refers to the data on agricultural employment published by employment offices. The Vorwärts also refers to an article by Dr. Horst in the official bulletin of the agricultural chamber of Schleswig-Holstein, in which the agricultural labor market in the Province during 1917 is discussed. This article states that as a rule there is at present a surplus of agricultural labor and explains this phenomenon by the fact that agriculturists prefer to employ war prisoners because their employment costs less than that of native labor. Agriculturists, moreover, show themselves unwilling to give work to unemployed urban workers assigned to them.

PROVISION FOR DISABLED SOLDIERS.

FINDING JOBS FOR GREAT BRITAIN'S DISABLED SOLDIERS.[1]

BY MRS. M. A. GADSBY.

In Great Britain, at the beginning of the war, responsibility for such State provision as existed for the care of disabled officers and men was divided between the Admiralty, the War Office, and the Royal Hospital of Chelsea. The Admiralty dealt with all naval cases, the War Office with officers of the army, and the Royal Hospital of Chelsea awarded pensions to disabled soldiers and provided artificial limbs in amputation cases. Care of the men's families while they were in the service and for the disabled after discharge was undertaken by various voluntary societies and largely supported by voluntary funds.

With the progress of the war, the need for more systematic provision led in November, 1915, to the creation of the War Pensions Statutory Committee[2] having among its duties (1) the care of the disabled officers and men after they had left the service, including provision for their health, training and employment, and (2) the making of grants in special cases for the purpose of enabling the dependents of the deceased officers and men to obtain employment. For assisting in the execution of its duties, the committee was empowered to establish local committees for every county and large town in the country.

A more centralized administration was effected by the creation of the Ministry of Pensions in December, 1916.[3] All pensions work for disablement, handled by the Chelsea Hospital, the Admiralty, and the War Office was transferred to the new ministry, and the Statutory Committee with its attendant local committees was placed under its direction and control. For the further coordination of effort the whole country was divided into 20 or more districts and the local committees of each area were organized into a joint committee, without surrendering their local functions.

[1] Compiled from pamphlets and memoranda issued by the Ministry of Pensions and the employment department of the Ministry of Labor. For list of these citations see bibliography at the end of this article, p. 79.

[2] Naval and Military War Pensions, etc., Act, 1915, 5 and 6 Geo. V, ch. 83.

[3] Ministry of Pensions Act, 1916, 6 and 7 Geo. V, ch. 65.

Later, under authority of the Naval and Military War Pensions (Transfer of Powers) act, passed August 21, 1917,[1] the War Pensions Statutory Committee was entirely absorbed by the Ministry of Pensions and its name changed to the Special Grants Committee, its duties, however, remaining the same. Under the present arrangement, then, the entire work for the disabled is under supervision of the Ministry of Pensions, working in conjunction with other departments concerned.

Provision for the disabled man involves four lines of effort: (1) Medical and surgical treatment, including appliances by means of which his condition may be alleviated; (2) training, both functional and technical, for the purpose of fitting him for his former work or some new occupation when he is unable to resume the one to which he has been accustomed; (3) employment, the finding of suitable occupation for him when he is in condition to accept it; (4) maintenance, which includes pensions, and allowances for himself and family while he is in training or becoming adjusted to his new employment.

This article is limited in its scope to the employment phase of the problem as it is being met by the Special Grants Committee of the Ministry of Pensions working in close collaboration with the employment department of the Ministry of Labor. It is compiled from such pamphlets and memoranda issued by the Ministry of Pensions and the employment department as have reached this bureau.

Upon discharge from His Majesty's forces the address to which the disabled man proposes to proceed is sent to the employment exchange for that district. The exchange then writes to the man, inviting him to register in case he wishes assistance in obtaining employment. From May, 1915, when the above arrangement went into effect, to July 13, 1917, there were 127,300 such registrations and 59,400 cases of disabled men placed in employment. On July 13, 1917, there were 2,800 men on the register awaiting employment. This number represents the number of men on their way from the forces to civil employment and has remained practically uniform. The remainder represents cancellations, due either to the disabled man's finding employment through his own efforts or to his realization after registration that owing to his disablement he is not really capable of accepting normal employment.

The question of employment involves many serious difficulties. Thus, unless the state of the general labor market be carefully watched, the supply of men reeducated for any particular trade may exceed the demand. A system of coordination between schemes of training put forward by the different local or joint committees is

[1] 7 and 8, Geo. V, ch. 37.

therefore regarded as necessary. Furthermore, if employers are asked to pay a man more than he can actually earn, they might protect themselves by employing only the able-bodied. Again, less scrupulous employers might take advantage of the fact that the pensioned man may undersell his able-bodied competitors and pay the pensioner less than the fair market rate for his labor. The most serious difficulty, however, is that encountered by local committees in persuading employers' associations and trade-union branches concerned to agree upon occupations into which men are to be trained, the wages to be paid, and other conditions of employment. To avoid such difficulties, to ascertain the views and gain the interest and cooperation of the trade as a whole in these matters, committees have been and are being set up in all the principal towns and in each of the principal trades in which it is proposed to provide training for disabled men. These committees are of two sorts, the Trade Advisory Committee and the Advisory Wages Board.

TRADE ADVISORY COMMITTEES.

The Trade Advisory Committee consists of an equal number of employers and workpeople in a single industry or group of trades, elected by the associations of employers and workpeople, respectively. The chairman is appointed by the committee, or in case of its failure to agree, by the Ministry of Labor. A representative of the Special Grants Committee and a representative of the employment department of the Ministry of Labor attend the meetings in a consultative capacity.

The functions of the committee are as follows:

(a) To advise as to all questions that affect the reinstatement into employment of disabled men formerly employed in the trade.

(b) To make inquiries and to advise with regard to the possibility of the permanent employment of disabled men not hitherto working in the trade.

(c) To report upon any scheme of training either in technical institutes or in factories that may be necessary for disabled men, whether formerly employed in the trade or not, and to give advice as to suitable centers throughout the country in which such training might be given.

(d) To advise upon any general questions with regard to the rate of wages to be paid to disabled men in the trade.

It is intended that advice of the Trade Advisory Committees should be asked upon the kind of training needed, the period of training necessary and the number of men who can be safely trained, taking the trade as a whole into consideration.

The Trade Advisory Committees deal only with national industries. In case of industries which are confined to only one town or to a small area, any local committee may set up a small panel of employers and trade-unionists to advise with regard to local indus-

try, if, after communication with the Special Grants Committee, there is found to be no overlapping.

By July, 1917, Trade Advisory Committees for the following trades had been formed: (1) Cane and willow; (2) building; (3) furniture; (4) engineering and shipbuilding; (5) tailoring; (6) boot and shoe repairing; (7) boot and shoe manufacture; (8) gold, silver, and jewelry; (9) brush making; (10) printing and kindred trades; (11) paper; (12) leather goods; (13) cinematograph; (14) electricity substations; (15) mechanical dentistry. Proposals were also under consideration to form further Trade Advisory Committees for the electrical industry, the textile industries, coal mining, etc.

ADVISORY WAGES BOARDS.

The Trade Advisory Committee deals with general questions affecting rates of wages in a given trade, but is not to deal with the question as to the rate of wage that should be paid to any man so disabled as not to be able to produce, even after training, as much as an able-bodied man can produce. For this purpose advisory wages boards have been set up in all the principal towns, and to these boards such matters can be referred by local committees or by the individual man or employer affected.

The function of these advisory wages boards is to give an authoritative opinion as to the proper wages which should be paid to a disabled soldier or sailor in any particular case, having regard to the physical disability of the man, the current local rate of wages, and other relevant circumstances.

The Wages Board consists of a permanent chairman, appointed by the Ministry of Labor, one representative of employers, and one of workmen, drawn from panels of representatives formed for the purpose, together with not more than three members of the local pensions committee as assessors without right to vote. An officer of the Ministry of Labor acts as clerk of the board. Representatives hold office for such period, not less than 12 months from the first meeting of the board, as the Ministry of Labor may determine. Periodical meetings are arranged for according to the volume of work anticipated, with supplementary meetings whenever necessary. A definite area is assigned to each board. Their meetings are not open to the general public.

Any employer or workman directly interested in the matter, or the secretary of the local pensions committee for the workman's district, may apply to the Wages Board for advice as to the wage of any workman employed upon specific work, or the local pensions committee may apply for advice as to his earning capacity. In consider-

ing advice to be given in any case, the board is to disregard entirely the question of pensions.

The chairman of the Advisory Wages Board is in practically every case the chairman of the local court of referees set up under part 2 of the national insurance act, 1911. It is considered that the special knowledge of local ir ustrial conditions which he has gained upon the court of referees will be of value in connection with the work of the advisory wages boards.

The Wages Boards exist only to give advice in cases in which their advice is sought. They have no power to enforce their decisions upon either employer or workmen. It is expected, however, that the mere fact that such advice has been obtained from an official body created for this specific purpose will carry weight with the individuals concerned. These boards are regarded as experimental and it is proposed in a short time to review the working of the arrangements, in order to determine whether and how far the system should be extended.

According to a memorandum issued in July, the districts for which the advisory wages boards were to be formed were listed as follows:

Birmingham.	London.	Cardiff.
Bristol.	Manchester and Salford.	Edinburgh.
Bradford.	Newcastle-upon-Tyne.	Glasgow.
Kingston-upon-Hull.	Nottingham.	Belfast.
Leeds.	Portsmouth.	Dublin.
Leicester.	Sheffield.	
Liverpool.	Stoke-upon-Trent.	

INQUIRY REGARDING TRADES AND TRAINING SUITABLE FOR THE DISABLED.

In December, 1916, special investigators were appointed to make inquiries into possible openings in the various trades of the country for disabled men and the kind of training needed. A schedule of questions was drawn up with a view to obtaining more detailed information with regard to certain industrial processes. These schedules were sent to technical schools, Home Office factory inspectors, officials of the Employment Department, trade associations, manufacturers, and other persons whose detailed knowledge of the trade would enable them to select the processes suitable for the disabled man. Inasmuch as the object of the inquiry was to ascertain what particular processes could be performed by disabled men, a separate schedule was filled out for each separate process, e. g., in the tailoring trade, detailed information was asked for with regard to particular operations, such as cutting and trimming. In order to keep the number of schedules within a reasonable limit, all processes were ruled out in which the work was regarded as too hard or too unhealthy for the disabled man; those which before the war were

done by women and young persons; those in which the normal wage in peace times did not exceed 18s. ($4.38) per week, and those in which the trade is declining and in which there is a surplus of workers.

The character of the information asked for is explained in the following extract from the memorandum issued in connection with the schedule:[1]

With regard to disabilities, there is a widely prevalent idea that the only problem is that of finding work for the man who has lost an arm or a leg. In a return drawn up by the War Office relating to all casualties up to the end of June, 1916, only 4 per cent of the cases involved the amputation of a leg and only 2 per cent the amputation of a hand or an arm. In 16 per cent of the cases there were injuries of the legs not necessitating amputation, and in 20 per cent there were injuries to hands and arms. It will thus be seen that only 42 per cent of the cases involved injuries to arms, hands, and legs. In addition, 4 per cent involved injuries to the eyes.

The remaining classes fell into two main divisions. Either the disabled man is likely to be incapacitated in the future from working out in the open or where there is exposure to damp; or else he will in the future be unable to undertake heavy work, and it will be necessary for him to find work of a light character, in some cases preferably out of doors. Hence, it is important to collect information with regard to such questions as atmosphere, noise, vibration, etc.

The schedule includes the following questions:

PART I.—CENTERS IN WHICH TRADE IS CARRIED OUT.

Give list of towns or districts where this particular trade is carried out and approximate numbers of men, women, and young persons employed in each center.

(a) How far is the trade a seasonal one, and, if so, at what seasons is it busy?

(b) Is there normally much unemployment among men engaged in this trade?

(c) What are the normal working hours per day in this trade?

(d) Is there normally much overtime or night work?

PART II.—NATURE OF DISABILITIES.

1. Is the process usually performed by—
   (a) Machinery?
   (b) Hand?
2. Does the process usually involve—
   (a) Standing? (b) Sitting? (c) Kneeling? (d) Bending? (e) Reaching forward? (f) Walking?

Other remarks.

3. If pressure of legs is needed, is pressure from—
   (a) Hip? (b) Knee? (c) Ankle?

Other remarks.

[1] Inquiry into trades and training for disabled soldiers and sailors. Schedule of questions.

4. Does process involve use of—
   (a) Thumb? (b) Fingers on hand? (c) Raising above shoulder of arm? (d) Rotary or lateral motion of arm from shoulder? (e) Rotary or lateral motion of arm from elbow? (f) Strong arm pressure? (g) Motion of forearm for turning over hand? (h) Movement of wrist? (i) Strong grip pressure of hand?

Other remarks.

5. Could process be done by a man with a hook to replace—
   (1) Right hand?
   (2) Left hand?

6. Is good eyesight needed for—
   (a) Right eye?
   (b) Left eye?

7. Does process involve exposure to heat or glare?

8. Is process done out of doors?

9. If indoors, is the atmosphere—
   (a) Damp? (b) Cold? (c) Hot? (d) Normal? (e) Liable to change from hot to cold or vice versa? (f) Dusty? (g) Charged with fumes?

Other remarks.

10. Does the process involve—
   (a) Heavy work? (b) Medium work? (c) Light work?

11. Does process involve—
   (a) Much noise? (b) Much vibration?

12. Is a weak heart an obstacle?

13. Does process involve—
   (a) Special liability to accident? If so, what is the nature of the liability?
   (b) Special physical or mental strain?
   (c) Special liability to poisoning, and of what kind?

14. Does process need good hearing?

PART III.—TRAINING.

15. How long does it normally take for a person learning the process to become efficient, and at what age is it usually begun?

16. What is the shortest time in which, in your opinion, the particular process could be learned by an adult man of average intelligence?

17. Could the process be learned—
   (a) In a technical school alone?
   (b) In a factory alone?
   (c) If in both, how long in each?

18. Could the process be learned by a man formerly accustomed to unskilled work?

19. Would any previous experience, outside the process itself, be valuable; and if so, of what kind?

20. Has there been any previous experience in training in this process—
   (a) Adult men? (b) Women during the war? (c) Disabled soldiers? If so, give a short account of it.

21. Give any examples that you know of adaptations of machinery or subdivisions of processes that have been made with a view to employing disabled men.

22. Could you suggest any adaptations or subdivisions that would be of value for the employment of disabled men?

PART IV.—POSSIBILITIES OF PERMANENT WORK.

23. Has the process been done before the war; and if so, in what districts, by—
(a) Women?
(b) Young persons?

24. Has the process been done for the first time during the war; and if so, in what districts, by—
(a) Women?
(b) Young persons?

25. Is the work, in your opinion, too hard for women and juveniles?

26. Has the introduction during the war of either women or young persons been agreed upon by trade-unions? Give any details that you can.

27. Is there any present likelihood of the process being changed in character or abolished by the introduction of fresh processes?

28. To how many disabled men do employers estimate that they can give permanent employment? Give, if possible, an estimate for each different center.

29. How far is the demand for goods made by these processes likely to be brisk after the war?

30. How far has there been before the war a shortage of men in this process?

31. How far is there likely to be a shortage in the future? Can you give any indications from the number of men who have enlisted and the number already known to be killed?

The schedule was concerned with trades which were essentially of a national character or which cover a wide area. The local committees have made similar inquiries as to trades and industrial processes in their own areas.

Up to the present English experience is reported to have been that an employer finds work in his own factory for a disabled man previously employed, provided his disability permits. But a serious difficulty arises in finding employment for those formerly employed in mines or in rolling mills who are no longer fitted for such heavy work, for those in the building trades who had no regular employer, and for those who enlisted at 18 or under or were employed only as juveniles. It was one of the purposes of the schedule to ascertain what fresh trades could be found for these men.

HANDBOOKS ON OPENINGS IN INDUSTRY SUITABLE FOR THE DISABLED.

These investigations have been carried out in most of the principal trades of the country and from information thus obtained a series of pamphlets is being issued by the employment department of the Ministry of Labor in collaboration with the Special Grants Committee of the Ministry of Pensions, and with the sanction of the Trade Advisory Committee for the special trade concerned. To date the following "reports upon openings in industry suitable for disabled sailors and soldiers" have reached the Bureau of Labor Statistics:

I. Attendants at electricity substations.
II. Employment in picture theaters.
III. Tailoring.
IV. Agricultural tractor work in England and Wales.

The reports are similar in construction and divided into the following sections: Suitability of work for the disabled man; Training; General prospects for the worker in the trade; Maintenance during training; Wages and hours. The section on suitability of the work for the disabled man states in detail the conditions under which the worker would be placed, and the necessary requirements and peculiar disabilities which would unfit a man for the work.

The section on training includes information concerning the previous experience necessary, the minimum period of training required, the method of training, the number admitted to the course, the existing facilities and training centers planned. The information in these sections seems sufficiently suggestive to warrant its reproduction from each of the reports.

I. ATTENDANTS AT ELECTRICITY SUBSTATIONS.

Suitability of work for disabled men.

Substations are very varied in character, and there are some in which it would be dangerous to employ any disabled men at all. But there are others, especially the smaller ones, which offer suitable openings for the employment of such men. The following points must, however, be borne in mind:

In no case should a man work there who is suffering from a nervous breakdown or who has a weak heart. The work could be done by men who have lost one leg, so long as they could stand for at least two hours at a stretch. It could also be done by men who have lost the sight of one eye so long as the other eye is normal. Good hearing is essential, and a sense of smell is also needed in case of burning. There are also a few substations where there is no running machinery, where the work could be done by men who have lost either their right or their left arm so long as they have the full use of their other arm, hand, and fingers. The work is medium to light in character and is carried on in an equable indoor temperature. There are in some cases considerable noise and vibration. The work does not require much handicraft skill and could be taught to a man who had formerly been accustomed to unskilled work, so long as he was generally intelligent and adaptable. A man must be able to keep records, add up figures, and use the telephone. While it is desirable that the men should be under 35, men of 40 or even over can, in some cases, learn the work successfully.

Training.

In the March of 1916 the Council of the Institution of Electrical Engineers, in cooperation with the Education Committee of the London County Council and in consultation with the governing body of the Northampton Polytechnic Institute, appointed a joint committee to make arrangements for classes at the Northampton Polytechnic Institute, Clerkenwell, E. C., for giving a preliminary training to disabled sailors and soldiers as substation attendants. The minimum period of training at the Northampton Polytechnic has up to the present been three weeks, but this must be regarded as a probationary period. After a few further weeks in a substation a man would be expected to be fairly useful as an assistant in the same or a similar substation. He could

then continue to fit himself for more skilled work. The course of training adopted at the Northampton Institute is as follows:

(*a*) Workshop practice in wiring work and the use of simple tools.

(*b*) Power-house demonstrations to familiarize the students with switching gear and running machinery.

(*c*) Electrical and physical laboratory work of a simple nature.

(*d*) Class demonstrations in the elements of electrical engineering and simple engineering physics.

(*e*) The writing of reports upon the demonstration and laboratory work.

(*f*) A brief viva voce examination at the end of the course.

Any previous experience in connection with electrical work or with simple engineering, such as the use of tools, is helpful to a man.

The work might be learned entirely at a substation, but the advantage of preliminary training at a technical school is that it shortens the probationary period required in the actual substation and enables a man more readily to adapt himself to different types of substations.

The number of men who have been admitted by the selection committee to the courses at the Northampton Polytechnic since their commencement in June, 1916, down to February, 1917, is 111, while the number of men placed has been 78. Of the 33 men not placed, some had to give up owing to ill health, others were offered posts in other trades during the period of training, while a few failed to pass the examination.

A small number of men are also being trained as electricity substation attendants at the Regent Street Polytechnic. The men are first of all trained in general electrical work and are then passed on to the London United Tramways for completion of their generating and substation practice. The whole course takes from two to three months.

A course has also been started by the Newcastle-upon-Tyne Electric Supply Co. (Lt.), at the company's school at Carville power station, Wallsend-on-Tyne. The preliminary theoretical and practical training is given by the company itself in a course which lasts for six weeks. Thirty-six men started the first course; of these 26 finished the course and were placed at work within the company's own substations. Three gave up the course, while the remaining seven were found unfit for the particular work, and were placed elsewhere with the company.

A course of training has also been started at the Manchester School of Technology in connection with the Manchester local war pensions committee, and a similar course is being arranged at Edinburgh by the Edinburgh local war pensions committee.

II. THE CINEMATOGRAPH INDUSTRY.

(This report is confined to branches of the work peculiar to the industry.)

Suitability for disabled men.

(1) *Operators and operators' assistants.*—The worker needs the full use of both his arms and all his fingers, though no strong grip pressure is required. It is an excellent opening for men who have lost one leg, so long as they are able to walk about, as the operator can sit down part of the time. Several men have been already trained for this work who have been injured in the leg or have had a leg amputated. Good eyesight is essential, but good hearing is not. Some degree of nervous strain is involved. The work is light in character, and is carried out under cover, where there is little dust, noise, or vibration. In the

larger theaters the temperature in the operator's box is almost normal, but it must be noted that in the older types of picture theaters, and in some of the smaller modern ones, the operator's box is very small and the atmosphere very close and hot. Any man with a tendency to pulmonary disease should not be sent to this type of theater.

(2) *Doorkeeper.*—This is also work of a light character, performed partly indoors and partly out of doors, and is admirably suited for men who are certified by doctors to be fit only for light work, though it must be remembered that a man has to stand at the door in all weathers. In a small theater the doorkeeper might also be required to do the cleaning, but in a larger theater his only business is to supervise others. A man with one arm or without the use of his fingers could perform the work. In placing men in this position who have been injured in the leg it must be remembered that a great deal of standing is involved.

(3) *Attendant.*—The work is mainly carried on indoors, but owing to the amount of bodily movement required a man injured either in the arms or legs would be handicapped. At some theaters both doormen and attendants assist in distributing window bills and posters.

Training.

(1) *Operators and assistants.*—In London a training center solely for disabled sailors and soldiers has been established since the beginning of the war. The man receives his electrical tuition at the Polytechnic, Regent Street, and in some cases also at Roehampton, and his practical training in a private projection theater and workshop (the Cinematograph Training and Employment Bureau). Experience has shown that an intelligent man of an adaptable nature, even without previous knowledge of electricity or engineering, can in such an intensive course be taught and placed as a first-class assistant operator in about 12 weeks. The practice of the school has been to send a man on completion of his course to a picture theater for a trial period of one month, where, if he proves satisfactory, he is ready at the end of a further period of three months, to become a first-class operator. * * *

It was recommended that additional training centers on the model of the Cinematograph Training and Employment Bureau in London should be established in Birmingham, Cardiff, Glasgow, Leeds, Liverpool, Manchester, and Newcastle-upon-Tyne.

(2) *Doorkeepers and attendants.*—No previous training is needed.

III. TAILORING.

(The report deals only with the retail trade, the wholesale branch, involving important differences in the method of manufacture, being left for a later report.)

Suitability for Disabled Men.

The work falls into two divisions, (1) cutting and (2) making-up.

(1) *Cutting.*—The cutter is the most important and the most highly paid of tailors. He takes customers' measurements, drafts the patterns, does the fitting-on, and supervises the sewing and making-up, and generally acts as foreman of the tailor's workshop. A good knowledge of the work of a sewing tailor is considered indispensable, and most cutters have themselves risen from the ranks of the sewing tailors. A long training and extensive knowledge of the

trade are required in most cases, and this would seem to make the position unattainable by men with no tailoring experience, but it may be noted that a man who has already been a sewing tailor would not be debarred, by the loss of one or two fingers of his left hand, from filling a cutter's post. As a matter of fact, men thus disabled have already been trained with success as cutters.

(2) *Making-up.*—Here there would appear to be an excellent prospect for a partially disabled man, so long as he possessed the full use of both his hands with all his fingers and had good eye-sight. The loss of one leg, or even both, would not be a serious handicap; indeed, there has always been among tailors a certain number who were incapacitated by some injury to the legs. The only severe muscular exertion is in connection with the manipulation of a heavy iron used in pressing. The work otherwise is light and the conditions under which it is done in the workshops are normal, there is no noise of machinery, no vibration, no extremes of temperature or of moisture or dryness in the air. It would afford a very good opening for a young or youngish man, though less suitable to men over thirty. The work is done either in the private workshops which many of the firms engaged in the best class of work possess, or at the worker's own home, or in common workshops conducted on a cooperative basis, in which each tailor hires a "sitting." For the highest class of work considerable experience and dexterity are essential. A first-rate tailor is an artist, and there is much scope for individual taste and ingenuity.

Each man must be able to make garments throughout and, as a rule, he specializes in one particular type, so that there are three branches of the trade: (1) Coat making, (2) trousers making, and (3) vest making, which is often done by women.

Length of training required.

A thorough training is necessary, but the length of time would vary with the learner's adaptability. A year in a technical school during the usual hours of day trade schools would provide a good foundation, and, except in those sections of the trade in which craftsmanship of a high order is required, a man would afterwards probably be qualified for employment that would yield a living wage and should need no further maintenance allowance from the Ministry of Pensions. After introduction to the workshop he would acquire the knowledge of details and the varied skill which lie beyond the range of a school. In London and in many of the large towns classes exist for the training of tailors, but where such do not exist arrangements could be made with the local educational authorities for the formation of such classes.

A full-time day training course in tailoring has for some time past been in existence at Regent Street Polytechnic, and a special 12 months' course of training for disabled sailors and soldiers has recently been established, with the concurrence of the associations of employers and workpeople concerned.

This class has already been approved by the War Pensions Statutory Committee, and arrangements are being made at the Merchant Venturers' Technical College, Bristol, to start a course of a similar nature. It is suggested by the Trade Advisory Committee (disabled sailors and soldiers) that further training centers be established in Glasgow, Leeds, and Manchester as an experiment. If a further demand arise, it is suggested that training centers might also be established in Aberdeen, Birmingham, Cardiff, Edinburgh, Liverpool, and Plymouth.

The following recommendations have been made by the Trade Advisory Committee:

(1) That training be given in day trade training schools for a period of 12 months for the hours customary in such schools.

(2) That there be, in the case of each man accepted for training, a probationary period of four weeks, and that during the whole period of training the man remain under continuous supervision.

(3) That a syllabus of the training which should be given in training schools be framed by the Trade Advisory Committee.

(4) That local technical committees, consisting of representatives of employers and workpeople in the trade, be appointed in connection with each training center to superintend the training given.

(5) That questions arising with regard to the wages of individual disabled men be referred to the local advisory wages boards, and that the advisory wages boards should take steps to secure the advice of persons familiar with and representative of the trade.

(6) That the Trade Advisory Committee be kept informed of the number of disabled men to be trained for the tailoring trade, and have power to impose restrictions on the training of any number in excess of that which the trade can reasonably be expected to absorb.

IV. AGRICULTURAL MOTOR TRACTOR WORK IN ENGLAND AND WALES.

(The report states in effect: The use of motor machines for farm work is in its infancy in the United Kingdom, but it is likely to develop considerably. The best types of machines can be used not only in moving tractors but also as stationary power engines. As continuous cropping is also likely to be largely increased, the industry will probably offer a steady and secure field of employment. At present the work is being organized by the Board of Agriculture. There are openings for at least a thousand men, and suitable men will probably find work in their own counties.)

Suitability for disabled men.

The work for which men are required immediately is tractor plowing, and this is, of course, likely to be a very important part of the permanent work of the tractor after the war. As a general rule, this requires two men, one on the tractor and one on the plow. They should be capable of changing places and of helping one another, and both men should not have the same disabilities.

In selecting suitable men regard should be had to both these processes. Owing, however, to the variety of machines in use, it is impossible to say with certainty exactly what disablements would disqualify. Moreover, the types of machines and the methods of working are still to some extent in an experimental stage.

The tractor driver is usually seated. He is subject to a good deal of noise and vibration. The steering is harder work than on an ordinary motor. In some types there is considerable resistance; in others the steering wheel has to be spun rapidly with one hand when turning and spun back again when the turn is finished. Continuous attention is needed to keep a straight line, but the pace is slow, and sharp curves only occur at intervals. The reversing lever has also to be operated. The starting handle is considerably harder to work than that of an ordinary car. The driver must be able to reach over to get at parts that require adjustment.

The plowman rides on the plow; he is subject to oscillation. He has to work several levers—usually one for steering and one on each side for raising or lowering the plowshares, and sometimes one for determining the number of shares in operation at the same time, which may vary from one to four. These levers often require considerable strength and a wide hand grip; but, as in the tractor driving, the special muscular exertion is only needed at intervals.

With some types of machine the work could be done quite satisfactorily by a man with an artificial leg below the knee, provided that he were fairly active.

Generally speaking, it may be said that for the two processes full use of both hands and arms is needed, but the loss of one or two fingers would probably be no great obstacle so long as the hands were sufficiently sound to grip well and to tighten bolts, etc., connected with the machinery.

Only moderately good sight and hearing are required. The work is fairly heavy in character and involves considerable noise and vibration. There is little liability to accident.

The following grouping may be of assistance in a provisional selection of men for this work:

(1) Men sound in limb and muscularly strong, but disabled from their previous occupations by the after effects of shell shock, gas poisoning, neurasthenia, or tuberculosis, provided that they can, after suitably graduated training, do a full day's work in the open, especially men already experienced in other classes of motor driving, but unable to return to their former occupation owing to their inability to bear the strain of driving where much traffic is concerned.

(2) Men suffering from specific injuries, including, e. g., an artificial leg below the knee, but having the full use of both shoulders, arms, and hands.

Training.

The length of training needed depends largely upon the previous experience of the men concerned. A man already qualified as a motor driver should be able to learn the special mechanism of a tractor in from 5 to 10 days. A man with no previous knowledge of motors could learn to drive in about the same time, but would hardly become proficient, in the sense of being able not only to drive but also to keep the machine in order, in less than three months. In either case the management of the plow would be part of the training.

The work could be learned by an intelligent man even if formerly accustomed to unskilled work, but any mechanical knowledge or experience of farm work, especially of plowing, would be of value.

Two alternative methods of training will soon be in operation:

(a) A short course of training in actual driving and plowing, provided locally by the Board of Agriculture through its local tractor representatives, with a guarantee of immediate temporary local employment at the end of the course by the board itself, which will provide its own organization for supervision and repairs. The arrangements made by the board will be such as to ensure a reasonable prospect that the men employed by them after this elementary training will acquire, during their period of employment by the board, the additional skill necessary to qualify them for permanent private employment afterwards, including the care of the machine.

(b). A course of theoretical and practical training at a technical school for three months, followed by a short course of actual driving and plowing under the local tractor representative of the Board of Agriculture as in (a).

At the Battersea Polytechnic a three months' course has been in operation for some time for training disabled sailors and soldiers in motor tractor work and plowing, including a knowledge of the theory of the motor engine, and such workshop processes as will enable a man to take charge of the machine and do ordinary repairs. This course has been approved by the Statutory Committee. A few other local war-pensions committees are arranging for similar experimental courses in connection with local technical schools.

THE PROBLEM IN THE UNITED STATES.

Our military and naval forces are now actively engaged in fighting and before many months we shall be confronted by the necessity of restoring physically and mentally as completely and as quickly as possible the wounded and broken men who will inevitably come streaming back from the battle front, and putting them back into industry, where they can give a full "quid" for every "quo" they receive in the form of wages or payment for what they produce. Unfortunately we have done all too little in the way of proper medical, surgical, and hospital treatment of men injured in industry, and we have done almost nothing to restore the crippled man to industry. We must, therefore, meet the emergency practically as a new problem. Fortunately the Surgeon General of the Army and his staff are fully cognizant of the importance of this work and have enlisted the enthusiastic interest and cooperation of physicians and surgeons throughout the country in the medical and surgical aspects of the great task before them. Every agency, governmental or private, which can contribute anything to the solution of the problem of how to restore the wounded man to industry is hard at work assisting in organizing a system of training that will not only meet present requirements but that can be continued after the war to care for the industrial cripples. The Division of Military and Naval Insurance of the Bureau of War Risk Insurance, the Bureau of Labor Statistics, and the Federal Board for Vocational Education all have extremely important functions to perform toward the working out of such a system. They will be materially assisted in their constructive work by what has already been accomplished in Great Britain.

SOURCES.

Naval and Military War Pension Act, 1915.

Ministry of Pensions Act, 1916.

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Recalled to Life. London. June, 1917.

War Pensions Statutory Committee. Circular (Trade Advisory Committees). April 20, 1917.

Ministry of Labor. Employment Department. Advisory Wages Boards for disabled sailors and soldiers. Explanatory Memorandum. 1917.

Inquiry into trades and training for disabled soldiers and sailors. Schedule of questions. (D. S. S. 2) and accompanying explanatory Memorandum (D. S. S. 3).

Ministry of Labor. Employment Department. Reports upon openings in industry suitable for disabled sailors and soldiers.

I. Attendants at electricity substations. April, 1917.

II. Employment in picture theaters. May, 1917.

III. Tailoring. June, 1917.

IV. Agricultural motor tractor work in England and Wales, July, 1917.

BRITISH LABOR PARTY AND THE DISABLED.[1]

BY G. J. WARDLE, M. P.

The general attitude of the Labor Party to the question of the treatment of disablement caused in the war is that every possible opportunity for securing the best treatment should be afforded, and that every appliance that ingenuity can provide or skill suggest should be devoted to the restoration and aid of those who have become disabled. The Labor Party welcome the fact that Government is making itself responsible for the provision of artificial limbs, and for their repair and refitment. They are also glad to know that endeavor is being made to bring these facilities within reach in every district. It is most important that treatment should be available locally for every form of disability, so that men may not have to go long distances for it.

As regards pensions, there is now, thanks to the good offices of the late pensions minister and those who are working with him, no reason to complain of the system that is being pursued. The rates are on a better scale than ever before, and while it is never possible to say that further improvements may not have to be introduced hereafter, there is no ground for any general criticism at the moment.

In the matter of the training and reeducation of the disabled, to aid them to become self-supporting members of the community, the Labor Party strongly favor the opening of every possible avenue of training to every man who desires to avail himself of it. This applies not only to men who had no special trade before they joined up, it also concerns those already in possession of training, whose wage-earning capacity is capable of being improved by further instruction. It is not quite certain that adequate training facilities are yet in view in all parts of the country; but the setting up of local committees, in the smaller as well as in the larger districts, to deal with this matter, is a step in the right direction. The object to be kept in view should be the bringing of efficient training within easy reach of all.

Concerning the disabled man's position in regard to trades-unions, the situation is simple. Subject to there being no diminution in standard of living, or possibility of the disabled man being used to defeat the legitimate objects which the trades-unions have in view, the trades-unions are not only sympathetic but desire to assist

[1] Reprinted from Recalled to Life, No. 2, September, 1917, pp. 232 and 233.

the disabled in every possible way to secure employment on remunerative work. The question of the relation which the wages of the disabled should bear to those of men not suffering from disability may possibly become one of some importance eventually. Up to the present it has not been taken into consideration at all completely. It is understood that arrangements are being made to set up, throughout the country, joint committees of employers and trades-unions to regulate it. Some central clearing station with authority to coordinate the work of these joint committees will also be required, so that the policy adopted may be uniform throughout. The maintenance of standard rates of wages is so important to trades-unions that they can not be expected to set it aside lightly. If a disabled man is able to do the same work as others, the fact that he is in receipt of a pension must not be allowed to interfere with his receiving the same rate of wage. If he is not able to do this, such arrangements must be made, by joint agreement between trades-unions and employers, as shall effectually protect both the man himself and also those who are working alongside of him.

In conclusion, it can not be too strongly pointed out how deeply labor sympathizes with and is prepared to help in the solution of the problem of war disablement. The Labor Party have been working continuously in the interests of the men concerned, who are their own flesh and blood, and they will not desist from this course. There is no fear whatever that they will desert disabled men in their hour of need.

PRICES AND COST OF LIVING.

RETAIL PRICES OF FOOD IN THE UNITED STATES.

The price of food, as a whole, for October 15, 1917, shows an increase of 3 per cent over the price for September, 1917. Of the 27 articles for which prices are given, 17 increased in price, 5 decreased, and 5 articles remained the same.

Lard shows the greatest increase, or 25 per cent; bacon is 9 per cent higher; milk increased 8 per cent; and eggs show an increase of 5 per cent. Corn meal shows a decline of 15 per cent, flour of 4 per cent, and sugar of 2 per cent.

The following table shows the course of prices in the United States for September and October, 1917:

AVERAGE MONEY RETAIL PRICES AND RELATIVE RETAIL PRICES OF FOOD ON SEPT. 15 AND OCT. 15, 1917.

[The relative price shows the per cent that the average price on the 15th of each month was of the average price for the year 1916.]

Article.	Unit.	Average money price.		Relative price.	
		Sept. 15, 1917.	Oct. 15, 1917.	Sept. 15, 1917.	Oct. 15, 1917.
Sirloin steak	Pound	$0.333	$0.330	122	121
Round steak	do	.296	.309	121	126
Rib roast	do	.259	.257	122	121
Chuck roast	do	.218	.218	127	127
Plate beef	do	.163	.165	127	129
Pork chops	do	.388	.388	171	171
Bacon	do	.442	.482	154	168
Ham	do	.409	.426	139	145
Lard	do	.296	.371	169	212
Hens	do	.302	.312	128	132
Salmon, canned	do	.277	.283	137	140
Eggs	Dozen	.525	.551	140	147
Butter	Pound	.496	.508	126	129
Cheese	do	.335	.348	130	135
Milk	Quart	.118	.127	130	140
Bread	16 oz. loaf[1]	.088	.088	135	135
Flour	Pound	.073	.070	166	159
Corn meal	do	.082	.070	241	208
Rice	do	.108	.111	119	122
Potatoes	do	.030	.031	111	115
Onions	do	.046	.049	94	100
Beans, navy	do	.188	.189	171	172
Prunes	do	.163	.165	122	123
Raisins, seeded	do	.148	.150	115	116
Sugar	do	.098	.097	123	121
Coffee	do	.305	.305	102	102
Tea	do	.612	.612	112	112
All articles combined				134	138

[1] 16 ounces, weight of dough.

A comparison between October, 1916, and October, 1917, shows that food, as a whole, increased 30 per cent. No article shows a decline. Corn meal shows the greatest increase, being twice as high in 1917 as it was in 1916.

Taking October, 1917, as compared with October, 1913, food, as a whole, advanced 52 per cent. Lard shows the greatest increase, 133 per cent; corn meal with an increase of 124 per cent and flour with an increase of 115 per cent are next in order.

A table showing the average and relative retail prices of food in the United States on October 15, of each year, 1913 to 1917, inclusive, follows:

AVERAGE MONEY RETAIL PRICES AND RELATIVE RETAIL PRICES OF FOOD ON OCT. 15 OF EACH YEAR, 1913 TO 1917, INCLUSIVE.

[The relative price shows the per cent that the average price on the 15th of each month was of the average for the year 1916.]

Article.	Unit.	Average money price Oct. 15.					Relative price Oct. 15.				
		1913	1914	1915	1916	1917	1913	1914	1915	1916	1917
Sirloin steak	Pound	$0.257	$0.262	$0.259	$0.276	$0.330	94	96	95	101	121
Round steak	do	.233	.238	.233	.247	.309	95	97	95	101	126
Rib roast	do	.199	.206	.201	.212	.257	94	97	95	100	121
Chuck roast	do	.....	.174	.165	.174	.218	.....	101	96	101	127
Plate beef	do	.....	.128	.122	.129	.165	.....	100	95	101	129
Pork chops	do	.225	.229	.232	.247	.388	99	101	102	109	171
Bacon	do	.278	.287	.273	.298	.482	97	100	95	104	168
Ham	do	.276	.282	.265	.332	.426	94	96	90	113	145
Lard	do	.159	.156	.144	.231	.371	91	89	82	132	212
Hens	do	.212	.215	.205	.243	.312	90	91	87	103	132
Salmon, canned	do	.....	.....	.198	.204	.283	.....	.....	98	101	140
Eggs	Dozen	.416	.390	.401	.458	.551	111	104	107	122	147
Butter	Pound	.382	.374	.351	.418	.508	97	95	89	106	129
Cheese	do	.....	.....	.230	.268	.348	.....	.....	89	104	135
Milk	Quart	.090	.090	.088	.094	.127	99	99	97	103	140
Bread	16-oz. loaf [1]	.....	.057	.062	.072	.088	.....	88	95	111	135
Flour	Pound	.033	.037	.037	.051	.070	74	83	84	115	159
Corn meal	do	.031	.033	.033	.035	.070	92	97	96	104	206
Rice	do	.....	.....	.091	.091	.111	.....	.....	100	100	122
Potatoes	do	.018	.016	.016	.029	.031	68	58	61	106	115
Onions	do	.....	.....	.033	.047	.049	.....	.....	67	96	100
Beans, navy	do	.....	.....	.079	.122	.189	.....	.....	72	111	172
Prunes	do	.....	.....	.134	.135	.165	.....	.....	100	101	123
Raisins, seeded	do	.....	.....	.125	.130	.150	.....	.....	97	101	116
Sugar	do	.055	.072	.061	.082	.097	69	90	76	102	121
Coffee	do	.....	.....	.299	.299	.305	.....	.....	100	100	102
Tea	do	.....	.....	.546	.546	.612	.....	.....	100	100	112
All articles combined	.....	.....	.....	.....	.....	.....	91	93	90	106	138

[1] ounces, weight of dough.

Average retail prices are also given for 28 articles of food in 15 selected cities for October 15, 1913, October 15, 1916, and for September 15 and October 15, 1917.

For 30 cities the average retail prices for the same articles of food are shown for October 15, 1917.

AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 15 SELECTED CITIES FOR OCT. 15, 1913, 1916, AND 1917, AND SEPT. 15, 1917.

[The average prices shown below are computed from reports sent monthly to the bureau by retail dealers. As some dealers occasionally fail to report, the number of quotations varies from month to month.]

Article.	Unit.	Atlanta, Ga.				Baltimore, Md.				Boston, Mass.			
		Oct. 15, 1913.	Oct. 15, 1916.	1917		Oct. 15, 1913.	Oct. 15, 1916.	1917		Oct. 15, 1913.	Oct. 15, 1916.	1917	
				Sept. 15.	Oct. 15.			Sept. 15.	Oct. 15.			Sept. 15.	Oct. 15.
Sirloin steak	Lb.	$0.242	$0.254	$0.312	$0.311	$0.235	$0.252	$0.334	$0.326	$0.350	$0.427	$0.464	$0.442
Round steak	Lb.	.213	.219	.281	.278	.220	.240	.319	.315	.350	.372	.467	.449
Rib roast	Lb.	.197	.199	.237	.241	.173	.202	.259	.259	.256	.268	.327	.315
Chuck roast	Lb.	.154	.165	.203	.212	.153	.168	.225	.220	.180	.208	.273	.269
Plate beef	Lb.	.....	.111	.154	.157	.....	.138	.171	.169	.....	.....	.....	.....
Pork chops	Lb.	.250	.250	.373	.399	.196	.224	.395	.371	.244	.258	.405	.409
Bacon, sliced	Lb.	.322	.312	.439	.490	.225	.255	.454	.457	.254	.270	.439	.458
Ham, sliced	Lb.	.308	.325	.413	.439	.285	.350	.445	.477	.313	.345	.447	.456
Lard	Lb.	.154	.189	.294	.319	.148	.198	.299	.326	.157	.190	.295	.309
Lamb	Lb.	.202	.244	.324	.316	.180	.240	.326	.333	.205	.259	.346	.345
Hens	Lb.	.208	.225	.288	.337	.208	.257	.315	.321	.256	.282	.329	.344
Salmon, canned	Lb.	.....	.162	.229	.246	.....	.165	.254	.254	.....	.197	.294	.294
Eggs	Doz.	.341	.375	.475	.482	.363	.404	.491	.519	.533	.573	.652	.660
Butter	Lb.	.390	.432	.531	.551	.388	.426	.528	.538	.380	.406	.512	.524
Cheese	Lb.	.....	.291	.341	.355	.....	.270	.350	.360	.....	.265	.324	.328
Milk	Qt.	.106	.123	.150	.159	.087	.088	.117	.117	.089	.096	.130	.130
Bread	16-oz.[1]	.....	.069	.090	.091	.....	.062	.079	.082	.....	.064	.085	.081
Flour	Lb.	.035	.049	.072	.072	.032	.053	.075	.070	.036	.055	.078	.075
Corn meal	Lb.	.027	.028	.061	.059	.026	.029	.063	.064	.035	.042	.075	.075
Rice	Lb.	.....	.079	.104	.108	.....	.098	.110	.112	.....	.097	.112	.115
Potatoes	Lb.	.023	.035	.033	.038	.018	.030	.028	.030	.017	.029	.027	.034
Onions	Lb.	.....	.057	.059	.059	.....	.044	.052	.055	.....	.054	.057	.056
Beans, navy	Lb.	.....	.126	.186	.188	.....	.129	.180	.187	.....	.115	.184	.184
Prunes	Lb.	.....	.133	.176	.179	.....	.128	.164	.165	.....	.147	.167	.168
Raisins	Lb.	.....	.149	.150	.162	.....	.120	.145	.146	.....	.127	.150	.150
Sugar	Lb.	.058	.088	.104	.104	.049	.078	.092	.092	.054	.079	.097	.098
Coffee	Lb.	.....	.282	.285	.294	.....	.235	.279	.277	.....	.346	.340	.341
Tea	Lb.	.....	.617	.753	.796	.....	.550	.638	.634	.....	.600	.652	.646

Article.	Unit.	Buffalo, N. Y.				Chicago, Ill.				Cleveland, Ohio.			
Sirloin steak	Lb.	$0.223	$0.252	$0.318	$0.315	$0.248	$0.274	$0.315	$0.306	$0.254	$0.255	$0.312	$0.307
Round steak	Lb.	.193	.227	.298	.293	.216	.235	.281	.273	.229	.232	.291	.288
Rib roast	Lb.	.165	.187	.251	.247	.201	.223	.258	.247	.187	.198	.238	.232
Chuck roast	Lb.	.150	.167	.218	.220	.158	.171	.220	.213	.169	.177	.214	.211
Plate beef	Lb.	.....	.128	.173	.172	.....	.128	.165	.165	.....	.122	.158	.158
Pork chops	Lb.	.210	.255	.415	.388	.210	.233	.374	.358	.230	.250	.415	.387
Bacon, sliced	Lb.	.....	.255	.433	.461	.327	.329	.476	.475	.281	.307	.452	.468
Ham, sliced	Lb.	.267	.323	.425	.432	.320	.359	.439	.439	.....	.....	.421	.436
Lard	Lb.	.144	.182	.286	.306	.150	.184	.283	.299	.164	.198	.302	.318
Lamb	Lb.	.153	.195	.283	.289	.198	.223	.320	.314	.187	.222	.308	.306
Hens	Lb.	.210	.245	.314	.309	.184	.223	.294	.271	.209	.240	.327	.317
Salmon, canned	Lb.	.....	.176	.263	.275	.....	.230	.283	.300	.....	.180	.262	.270
Eggs	Doz.	.366	.490	.536	.551	.333	.383	.465	.469	.427	.507	.542	.570
Butter	Lb.	.371	.401	.493	.510	.354	.394	.484	.487	.392	.437	.516	.530
Cheese	Lb.	.....	.256	.325	.333	.....	.277	.344	.368	.....	.283	.332	.350
Milk	Qt.	.080	.080	.110	.130	.080	.090	.100	.129	.080	.090	.120	.120
Bread	16-oz.[1]	.....	.064	.086	.089	.....	.065	.093	.093	.....	.066	.090	.089
Flour	Lb.	.030	.049	.069	.065	.029	.049	.069	.066	.031	.052	.073	.071
Corn meal	Lb.	.025	.030	.062	.070	.028	.036	.065	.071	.030	.037	.069	.073
Rice	Lb.	.....	.093	.106	.108	.....	.094	.103	.103	.....	.094	.106	.111
Potatoes	Lb.	.017	.029	.029	.031	.017	.027	.027	.028	.019	.033	.029	.032
Onions	Lb.	.....	.046	.056	.056	.....	.047	.039	.048	.....	.049	.049	.050
Beans, navy	Lb.	.....	.119	.185	.182	.....	.125	.183	.186	.....	.131	.186	.191
Prunes	Lb.	.....	.135	.150	.156	.....	.129	.159	.161	.....	.136	.165	.165
Raisins	Lb.	.....	.107	.130	.137	.....	.132	.147	.145	.....	.124	.143	.143
Sugar	Lb.	.054	.093	.095	.100	.052	.074	.091	.088	.055	.083	.098	.097
Coffee	Lb.	.....	.286	.286	.293	.....	.300	.284	.285	.....	.288	.294	.291
Tea	Lb.	.....	.436	.496	.534	.....	.540	.564	.573	.....	.475	.565	.566

[1] Loaf; 16 ounces, weight of dough.

AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 15 SELECTED CITIES FOR OCT. 15, 1913, 1916, AND 1917, AND SEPT. 15, 1917—Continued.

Article.	Unit.	Denver, Colo.				Detroit, Mich.				Milwaukee, Wis.			
		Oct. 15, 1913.	Oct. 15, 1916.	1917		Oct. 15, 1913.	Oct. 15, 1916.	1917		Oct. 15, 1913.	Oct. 15, 1916.	1917	
				Sept. 15.	Oct. 15.			Sept. 15.	Oct. 15.			Sept. 15.	Oct. 15.
Sirlon steak	Lb.	$0.239	$0.248	$0.317	$0.307	$0.254	$0.260	$0.313	$0.305	$0.236	$0.243	$0.300	$0.293
Round steak	Lb.	.214	.219	.283	.285	.208	.222	.283	.275	.216	.218	.281	.280
Rib roast	Lb.	.178	.189	.239	.232	.200	.208	.252	.242	.188	.194	.240	.238
Chuck roast	Lb.	.158	.169	.206	.207	.154	.162	.205	.197	.164	.166	.219	.217
Plate beef	Lb.	.....	.105	.140	.144	.....	.126	.161	.158	.....	.124	.161	.160
Pork chops	Lb.	.208	.229	.399	.402	.216	.242	.403	.369	.212	.230	.383	.370
Bacon, sliced	Lb.	.280	.325	.480	.520	.235	.257	.448	.457	.286	.299	.452	.472
Ham, sliced	Lb.	.317	.338	.464	.463	.270	.230	.425	.436	.290	.299	.418	.436
Lard	Lb.	.161	.200	.310	.329	.165	.188	.303	.314	.158	.198	.294	.315
Lamb	Lb.	.146	.194	.302	.303	.164	.210	.316	.313	.195	.231	.321	.316
Hens	Lb.	.194	.212	.285	.284	.198	.242	.331	.314	.188	.216	.297	.272
Salmon, canned	Lb.	.....	.185	.275	.264	.....	.195	.289	.288	.....	.213	.266	.277
Eggs	Doz.	.371	.438	.493	.503	.356	.448	.511	.532	.350	.389	.454	.482
Butter	Lb.	.390	.395	.494	.495	.370	.407	.497	.502	.350	.405	.485	.499
Cheese	Lb.	.....	.263	.352	.352	.....	.266	.329	.344	.....	.285	.331	.369
Milk	Qt.	.084	.083	.115	.116	.090	.100	.120	.120	.070	.070	.090	.110
Bread	16-oz.[1]	.....	.076	.091	.089	.....	.065	.080	.084	.....	.075	.093	.089
Flour	Lb.	.026	.041	.058	.057	.031	.049	.071	.068	.030	.052	.073	.069
Corn meal	Lb.	.026	.028	.059	.061	.028	.033	.072	.075	.037	.038	.080	.078
Rice	Lb.	.....	.093	.113	.111	.....	.089	.113	.116	.....	.097	.113	.114
Potatoes	Lb.	.014	.026	.025	.023	.016	.030	.028	.029	.016	.029	.029	.027
Onions	Lb.	.....	.034	.039	.039	.....	.046	.048	.049	.....	.043	.046	.047
Beans, navy	Lb.	.....	.113	.091	.185	.....	.128	.190	.194	.....	.129	.188	.193
Prunes	Lb.	.....	.135	.183	.179	.....	.126	.170	.170	.....	.142	.159	.165
Raisins	Lb.	.....	.141	.145	.144	.....	.110	.140	.140	.....	.132	.150	.148
Sugar	Lb.	.054	.083	.095	.089	.054	.081	.099	.104	.055	.078	.094	.091
Coffee	Lb.	.....	.300	.304	.300	.....	.284	.310	.307	.....	.283	.273	.263
Tea	Lb.	.....	.510	.572	.573	.....	.430	.559	.545	.....	.523	.599	.584

Article.	Unit.	New York, N. Y.				Philadelphia, Pa.				Pittsburgh, Pa.			
Sirloin steak	Lb.	$0.261	$0.283	$0.368	$0.356	$0.312	$0.326	$0.402	$0.392	$0.277	$0.284	$0.365	$0.356
Round steak	Lb.	.255	.277	.368	.360	.264	.288	.374	.365	.237	.250	.337	.329
Rib roast	Lb.	.216	.231	.298	.298	.221	.235	.295	.291	.217	.230	.279	.274
Chuck roast	Lb.	.160	.176	.235	.236	.182	.193	.258	.252	.178	.179	.242	.241
Plate beef	Lb.	.....	.163	.211	.213	.....	.126	.171	.174	.....	.120	.170	.171
Pork chops	Lb.	.229	.260	.394	.399	.233	.268	.403	.400	.232	.253	.403	.406
Bacon, sliced	Lb.	.257	.275	.440	.464	.275	.299	.447	.467	.306	.321	.462	.483
Ham, sliced	Lb.	[2] .205	[2] .228	[2] .300	[2] .314	.319	.359	.470	.479	.299	.351	.453	.465
Lard	Lb.	.163	.196	.294	.313	.156	.198	.303	.328	.157	.201	.308	.328
Lamb	Lb.	.152	.200	.295	.284	.191	.231	.335	.331	.200	.246	.353	.363
Hens	Lb.	.218	.259	.316	.323	.231	.271	.327	.344	.255	.287	.371	.378
Salmon, canned	Lb.	.....	.238	.332	.334	.....	.179	.251	.260	.....	.211	.297	.301
Eggs	Doz.	.479	.517	.592	.627	.425	.470	.531	.548	.380	.420	.509	.528
Butter	Lb.	.375	.408	.507	.515	.431	.462	.559	.562	.395	.424	.517	.527
Cheese	Lb.	.....	.255	.338	.340	.....	.273	.355	.361	.....	.279	.338	.357
Milk	Qt.	.090	.098	.124	.138	.080	.085	.110	.110	.088	.098	.125	.125
Bread	16-oz.[1]	.....	.068	.088	.088	.....	.054	.079	.079	.....	.065	.092	.092
Flour	Lb.	.032	.053	.079	.078	.032	.052	.076	.075	.032	.053	.075	.072
Corn meal	Lb.	.035	.044	.076	.082	.028	.033	.066	.071	.030	.036	.079	.081
Rice	Lb.	.....	.093	.107	.115	.....	.097	.112	.118	.....	.095	.106	.110
Potatoes	Lb.	.024	.034	.033	.038	.023	.030	.035	.038	.019	.030	.030	.032
Onions	Lb.	.....	.054	.050	.059	.....	.050	.054	.056	.....	.054	.050	.052
Beans, navy	Lb.	.....	.119	.185	.185	.....	.112	.182	.185	.....	.132	.184	.188
Prunes	Lb.	.....	.139	.164	.167	.....	.137	.157	.164	.....	.134	.162	.165
Raisins	Lb.	.....	.125	.145	.146	.....	.121	.138	.139	.....	.134	.147	.148
Sugar	Lb.	.049	.074	.092	.097	.050	.075	.091	.094	.057	.084	.099	.101
Coffee	Lb.	.....	.269	.256	.265	.....	.283	.277	.283	.....	.271	.303	.299
Tea	Lb.	.....	.460	.536	.521	.....	.530	.583	.583	.....	.575	.693	.702

[1] Loaf; 16 ounces, weight of dough.

[2] Whole.

AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 15 SELECTED CITIES FOR OCT. 15, 1913, 1916, AND 1917, AND SEPT. 15, 1917—Concluded.

Article.	Unit.	St. Louis, Mo.				San Francisco, Cal.				Seattle, Wash.			
		Oct. 15, 1913.	Oct. 15, 1916.	1917		Oct. 15, 1913.	Oct. 15, 1916.	1917		Oct. 15, 1913.	Oct. 15, 1916.	1917	
				Sept. 15.	Oct. 15.			Sept. 15.	Oct. 15.			Sept. 15.	Oct. 15.
Sirloin steak	Lb.	$0.260	$0.258	$0.308	$0.308	$0.214	$0.203	$0.230	$0.236	$0.243	$0.224	$0.264	$0.267
Round steak	Lb.	.243	.247	.307	.301	.197	.193	.225	.231	.207	.200	.250	.251
Rib roast	Lb.	.195	.203	.253	.256	.213	.207	.226	.232	.193	.186	.218	.225
Chuck roast	Lb.	.156	.165	.214	.206	.152	.133	.159	.162	.160	.133	.178	.181
Plate beef	Lb.	.....	.128	.163	.166	.....	.129	.154	.157	.....	.109	.150	.153
Pork chops	Lb.	.197	.222	.382	.374	.242	.237	.335	.363	.243	.236	.401	.400
Bacon, sliced	Lb.	.269	.278	.463	.486	.344	.350	.470	.519	.325	.320	.494	.490
Ham, sliced	Lb.	.273	.288	.439	.456	.340	.333	.456	.475	.300	.310	.410	.431
Lard	Lb.	.131	.183	.291	.293	.180	.191	.290	.302	.171	.184	.285	.301
Lamb	Lb.	.183	.218	.296	.308	.167	.201	.274	.306	.177	.210	.269	.287
Hens	Lb.	.168	.203	.271	.275	.245	.273	.291	.315	.243	.210	.262	.271
Salmon, canned	Lb.	.....	.168	.277	.284	.....	.179	.245	.249	.....	.188	.269	.277
Eggs	Doz.	.310	.365	.459	.460	.564	.558	.538	.608	.500	.531	.528	.652
Butter	Lb.	.379	.420	.509	.526	.400	.404	.530	.545	.400	.428	.530	.546
Cheese	Lb.	.....	.256	.340	.369	.....	.238	.316	.316	.....	.244	.308	.312
Milk	Qt.	.088	.080	.110	.132	.100	.100	.121	.121	.097	.098	.120	.120
Bread	16-oz.[1]	.....	.067	.094	.093	.....	.058	.083	.083	.....	.....	.092	.092
Flour	Lb.	.029	.048	.066	.063	.034	.045	.068	.064	.029	.041	.065	.060
Corn meal	Lb.	.025	.033	.065	.066	.035	.038	.071	.074	.033	.038	.075	.075
Rice	Lb.	.....	.086	.100	.106	.....	.085	.102	.105	.....	.084	.104	.109
Potatoes	Lb.	.019	.029	.028	.029	.018	.025	.032	.031	.014	.018	.024	.023
Onions	Lb.	.....	.045	.043	.047	.....	.036	.026	.032	.....	.038	.031	.040
Beans, navy	Lb.	.....	.121	.191	.192	.....	.121	.180	.177	.....	.113	.191	.190
Prunes	Lb.	.....	.130	.169	.173	.....	.124	.146	.152	.....	.131	.147	.146
Raisins	Lb.	.....	.139	.170	.167	.....	.110	.143	.143	.....	.131	.145	.145
Sugar	Lb.	.053	.079	.093	.089	.054	.075	.089	.082	.064	.085	.095	.089
Coffee	Lb.	.....	.242	.280	.283	.....	.317	.304	.303	.....	.326	.313	.316
Tea	Lb.	.....	.543	.617	.628	.....	.517	.540	.534	.....	.500	.533	.542

[1] Loaf; 16 ounces, weight of dough.

AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 30 CITIES FOR OCT. 15, 1917.

[The average prices shown below are computed from reports sent monthly to the bureau by retail dealers. As some dealers occasionally fail to report, the number of quotations varies from month to month.]

Article.	Unit.	Birmingham, Ala.	Bridgeport, Conn.	Butte, Mont.	Charleston, S. C.	Cincinnati, Ohio.	Columbus, Ohio.	Dallas, Tex.	Fall River, Mass.	Indianapolis, Ind.	Jacksonville, Fla.
Sirloin steak	Lb.	$0.355	$0.428	$0.300	$0.277	$0.274	$0.329	$0.311	$0.427	$0.329	$0.323
Round steak	Lb.	.314	.395	.272	.258	.261	.303	.300	.367	.325	.293
Rib roast	Lb.	.266	.333	.243	.247	.229	.258	.261	.293	.236	.253
Chuck roast	Lb.	.212	.272	.200	.191	.189	.226	.230	.251	.218	.199
Plate beef	Lb.	.170	.172	.135	.150	.153	.176	.185	.....	.165	.154
Pork chops	Lb.	.389	.391	.403	.392	.371	.386	.386	.386	.404	.397
Bacon, sliced	Lb.	.509	.509	.560	.471	.467	.472	.535	.434	.488	.484
Ham, sliced	Lb.	.450	.503	.480	.441	.425	.447	.483	.436	.446	.420
Lard	Lb.	.308	.301	.311	.308	.306	.325	.298	.294	.318	.301
Lamb	Lb.	.433	.315	.326	.339	.284	.300	.358	.342	.250	.300
Hens	Lb.	.286	.355	.333	.343	.325	.301	.272	.327	.278	.316
Salmon, canned	Lb.	.278	.350	.355	.266	.259	.281	.277	.282	.238	.278
Eggs	Doz.	.494	.706	.693	.507	.464	.475	.480	.692	.461	.545
Butter	Lb.	.560	.504	.559	.534	.515	.499	.500	.499	.517	.531
Cheese	Lb.	.356	.341	.350	.345	.363	.338	.383	.324	.387	.349
Milk	Qt.	.152	.140	.150	.160	.120	.110	.148	.130	.100	.137
Bread	16-oz.[1]	.094	.093	.104	.091	.081	.087	.088	.085	.085	.093
Flour	Lb.	.072	.075	.078	.078	.124	.071	.068	.077	.073	.076
Corn meal	Lb.	.054	.085	.073	.069	.066	.069	.069	.074	.059	.066
Rice	Lb.	.122	.119	.132	.094	.117	.111	.111	.117	.121	.106
Potatoes	Lb.	.037	.034	.020	.036	.031	.030	.037	.031	.031	.040
Onions	Lb.	.058	.060	.046	.051	.046	.054	.048	.053	.052	.054
Beans, navy	Lb.	.197	.185	.195	.161	.190	.191	.178	.173	.203	.197
Prunes	Lb.	.160	.165	.173	.168	.162	.168	.183	.165	.178	.181
Raisins	Lb.	.160	.157	.153	.149	.144	.149	.150	.145	.168	.178
Sugar	Lb.	.102	.101	.107	.096	.096	.104	.101	.100	.102	.100
Coffee	Lb.	.328	.319	.416	.288	.274	.290	.336	.323	.295	.326
Tea	Lb.	.740	.623	.755	.664	.683	.704	.823	.487	.743	.735

[1] Loaf; 16 ounces, weight of dough.

AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 30 CITIES FOR OCT. 15, 1917—Concluded.

Article.	Unit.	Kansas City, Mo.	Little Rock, Ark.	Los Angeles, Cal.	Louisville, Ky.	Manchester, N. H.	Memphis, Tenn.	Minneapolis, Minn.	Newark, N. J.	New Haven, Conn.	New Orleans, La.
Sirloin steak	Lb	$0.317	$0.306	$0.277	$0.285	$0.448	$0.307	$0.256	$0.378	$0.437	$0.271
Round steak	Lb	.292	.278	.247	.271	.409	.280	.245	.382	.399	.246
Rib roast	Lb	.235	.255	.229	.232	.277	.246	.209	.297	.323	.233
Chuck roast	Lb	.198	.197	.186	.203	.248	.210	.181	.254	.287	.183
Plate beef	Lb	.165	.168	.152	.175	.....	.173	.136	.188	.....	.155
Pork chops	Lb	.382	.381	.372	.365	.393	.389	.356	.410	.401	.401
Bacon, sliced	Lb	.477	.513	.546	.523	.455	.495	.486	.455	.498	.503
Ham, sliced	Lb	.433	.463	.513	.438	.419	.432	.436	[1].333	.505	.425
Lard	Lb	.323	.335	.301	.320	.317	.301	.304	.317	.313	.301
Lamb	Lb	.270	.308	.288	.310	.330	.353	.248	.345	.345	.314
Hens	Lb	.265	.297	.319	.297	.348	.301	.247	.348	.363	.327
Salmon, canned	Lb	.296	.298	.268	.253	.294	.277	.316	.329	.322	.304
Eggs	Doz	.449	.485	.610	.473	.640	.448	.441	.674	.733	.469
Butter	Lb	.502	.544	.535	.539	.552	.508	.475	.538	.516	.519
Cheese	Lb	.350	.375	.339	.382	.332	.351	.332	.361	.336	.350
Milk	Qt	.122	.167	.120	.120	.123	.146	.120	.140	.128	.130
Bread	16-oz.[2]	.096	.089	.082	.100	.082	.096	.092	.082	.089	.077
Flour	Lb	.066	.073	.065	.071	.076	.070	.061	.075	.076	.079
Corn meal	Lb	.062	.065	.078	.059	.077	.060	.063	.084	.075	.072
Rice	Lb	.105	.103	.104	.112	.104	.102	.103	.111	.114	.100
Potatoes	Lb	.031	.035	.032	.048	.032	.031	.025	.037	.034	.041
Onions	Lb	.046	.054	.033	.042	.052	.046	.038	.059	.053	.045
Beans, navy	Lb	.195	.199	.179	.196	.187	.194	.188	.183	.184	.176
Prunes	Lb	.159	.178	.158	.161	.155	.166	.159	.165	.170	.177
Raisins	Lb	.152	.151	.152	.167	.150	.153	.145	.146	.148	.160
Sugar	Lb	.095	.095	.084	.102	.102	.099	.091	.096	.100	.099
Coffee	Lb	.288	.330	.318	.279	.335	.305	.313	.304	.337	.269
Tea	Lb	.608	.803	.590	.733	.585	.709	.489	.564	.535	.625

Article.	Unit.	Omaha, Nebr.	Portland, Oreg.	Providence, R. I.	Richmond, Va.	Rochester, N. Y.	St. Paul, Minn.	Salt Lake City, Utah.	Scranton, Pa.	Springfield, Ill.	Washington, D. C.
Sirloin steak	Lb	$0.319	$0.255	$0.524	$0.325	$0.314	$0.293	$0.275	$0.341	$0.344	$0.350
Round steak	Lb	.295	.246	.435	.305	.298	.258	.259	.305	.328	.337
Rib roast	Lb	.232	.236	.333	.260	.257	.234	.234	.275	.240	.278
Chuck roast	Lb	.203	.183	.301	.227	.238	.199	.199	.232	.226	.243
Plate beef	Lb	.154	.147	.....	.187	.182	.142	.159	.166	.183	.191
Pork chops	Lb	.378	.373	.425	.378	.398	.370	.414	.386	.394	.415
Bacon, sliced	Lb	.465	.510	.467	.480	.456	.473	.483	.464	.504	.497
Ham, sliced	Lb	.438	.445	.506	[1].351	.428	.439	.423	.429	.441	.438
Lard	Lb	.318	.310	.313	.322	.323	.300	.336	.303	.321	.318
Lamb	Lb	.332	.275	.357	.320	.306	.247	.290	.344	.369	.360
Hens	Lb	.265	.248	.363	.308	.342	.255	.321	.344	.240	.325
Salmon, canned	Lb	.282	.325	.289	.226	.294	.276	.283	.281	.262	.236
Eggs	Doz	.453	.600	.663	.496	.638	.436	.573	.592	.497	.546
Butter	Lb	.496	.543	.541	.559	.515	.477	.550	.507	.525	.534
Cheese	Lb	.363	.341	.337	.357	.346	.337	.341	.331	.381	.351
Milk	Qt	.120	.112	.130	.133	.127	.120	.111	.123	.118	.140
Bread	16-oz.[2]	.096	.086	.090	.084	.089	.081	.090	.093	.099	.090
Flour	Lb	.062	.059	.073	.073	.072	.062	.055	.076	.071	.075
Corn meal	Lb	.065	.073	.073	.062	.076	.066	.075	.....	.071	.062
Rice	Lb	.107	.108	.115	.114	.113	.106	.104	.109	.121	.115
Potatoes	Lb	.026	.024	.035	.036	.029	.024	.020	.032	.031	.031
Onions	Lb	.045	.042	.052	.059	.049	.038	.034	.053	.048	.054
Beans, navy	Lb	.198	.180	.184	.199	.183	.206	.206	.191	.207	.201
Prunes	Lb	.166	.138	.173	.147	.187	.153	.162	.165	.172	.178
Raisins	Lb	.163	.140	.146	.145	.147	.144	.146	.139	.172	.154
Sugar	Lb	.092	.089	.099	.099	.097	.092	.093	.098	.103	.094
Coffee	Lb	.314	.320	.341	.291	.295	.321	.350	.319	.300	.281
Tea	Lb	.604	.540	.565	.682	.503	.536	.631	.561	.658	.592

[1] Whole.

[2] Loaf; 16 ounces, weight of dough.

RETAIL PRICES OF DRY GOODS IN THE UNITED STATES.

Average retail prices for eight articles of dry goods on May 15 and October 15, 1917, are shown in the following tables. The bureau

secures these prices in May and October of each year from firms in 45 cities.

AVERAGE RETAIL PRICES OF 8 ARTICLES OF DRY GOODS IN 45 CITIES, MAY 15, 1917, AND OCTOBER 15, 1917, BY ARTICLES.

Article.	Unit.	Atlanta, Ga.		Baltimore, Md.		Birmingham, Ala.		Boston, Mass.		Bridgeport, Conn.	
		May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.
Calico	Per yard.	$0.100	$0.108	$0.098	$0.130	$0.094	$0.121	$0.100	$0.118	$0.107	$0.117
Percale	...do.....	.158	.243	.190	.230	.190	.258	.177	.190	.170	.190
Gingham, apron	...do.....	.131	.185	.122	.190	.138	.150	.125	.190	.123	.143
Gingham, dress	...do.....	.146	.196	.160	.240	.162	.228	.166	.210	.163	.215
Muslin, bleached	...do.....	.146	.203	.152	.214	.146	.187	.157	.223	.158	.186
Sheeting, bleached	...do.....	.423	.529	.430	.550	.385	.450	.465	.518	.443	.605
Sheets, bleached	Per sheet.	1.068	1.362	1.058	1.342	.960	1.170	1.242	1.358	1.140	1.370
Outing flannel	Per yard.	.142	.186	.157	.223	.158	.170	.160	.193	.125	.170
		Buffalo, N. Y.		Butte, Mont.		Charleston, S. C.		Chicago, Ill.		Cincinnati, Ohio.	
Calico	Per yard.	$0.102	$0.134	$0.100	$0.108	$0.113	$0.144	$0.100	$0.125	$0.098	$0.120
Percale	...do.....	.190	.235	.197	.233	.178	.223	.195	.250	.170	.250
Gingham, apron	...do.....	.130	.168	.100	.125	.116	.156	.125	.140	.125	.175
Gingham, dress	...do.....	.170	.201	.187	.221	.154	.203	.186	.216	.165	.202
Muslin, bleached	...do.....	.164	.230	.158	.188	.142	.215	.151	.213	.137	.179
Sheeting, bleached	...do.....	.470	.588	.479	.533	.411	.561	.439	.607	.398	.508
Sheets, bleached	Per sheet.	1.279	1.539	1.483	1.717	1.197	1.464	1.218	1.600	1.063	1.288
Outing flannel	Per yard.	.162	.198	.173	.190	.148	.217	.174	.205	.150	.172
		Cleveland, Ohio.		Columbus, Ohio.		Dallas, Tex.		Denver, Colo.		Detroit, Mich.	
Calico	Per yard.	$0.090	$0.108	$0.110	$0.118	$0.098	$0.125	$0.100	$0.122	$0.101	$0.143
Percale	...do.....	.168	.210	.185	.219	.159	.198	.200	.225	.193	.225
Gingham, apron	...do.....	.117	.142	.125	.150	.119	.158	.117	.175	.130	.160
Gingham, dress	...do.....	.157	.197	.215	.300	.150	.200	.180	.255	.198	.238
Muslin, bleached	...do.....	.158	.185	.170	.213	.140	.191	.167	.233	.180	.231
Sheeting, bleached	...do.....	.486	.564	.456	.590	.391	.473	.496	.621	.471	.594
Sheets, bleached	Per sheet.	1.190	1.476	1.214	1.450	.981	1.173	1.461	1.732	1.320	1.608
Outing flannel	Per yard.	.146	.180	.164	.194	.150	.210	.188	.206	.159	.198
		Fall River, Mass.		Indianapolis, Ind.		Jacksonville, Fla.		Kansas City, Mo.		Little Rock, Ark.	
Calico	Per yard.	$0.090	$0.090	$0.102	$0.121	$0.125	$0.150	$0.100	$0.125	$0.100	$0.125
Percale	...do.....	.163	.177	.183	.200	.200	.250	.178	.235	.185	.225
Gingham, apron	...do.....	.120	.150	.124	.150	.150	.190	.133	.187	.125	.163
Gingham, dress	...do.....	.150	.177	.188	.209	.180	.200	.166	.216	.158	.193
Muslin, bleached	...do.....	.150	.220	.147	.193	.173	.238	.160	.211	.157	.204
Sheeting, bleached	...do.....	.440	.545	.441	.564	.460	.525	.441	.553	.450	.528
Sheets, bleached	Per sheet.	1.183	1.413	1.070	1.319	1.145	1.375	1.150	1.400	1.108	1.340
Outing flannel	Per yard.	.145	.207	.149	.180	.150	.190	.158	.185	.150	.190
		Los Angeles, Cal.		Louisville, Ky.		Manchester, N. H.		Memphis, Tenn.		Milwaukee, Wis.	
Calico	Per yard.	$0.098	$0.119	$0.093	$0.127	$0.117	$0.122	$0.099	$0.120	$0.100	$0.116
Percale	...do.....	.194	.231	.181	.217	.163	.190	.200	.220	.180	.207
Gingham, apron	...do.....	.138	.171	.123	.188	.125	.125	.133	.150	.124	.150
Gingham, dress	...do.....	.190	.248	.161	.234	.159	.213	.167	.238	.177	.207
Muslin, bleached	...do.....	.159	.213	.148	.194	.160	.230	.146	.204	.155	.175
Sheeting, bleached	...do.....	.455	.598	.400	.482	.469	.581	.466	.563	.434	.572
Sheets, bleached	Per sheet.	1.275	1.590	1.147	1.348	1.293	1.530	1.181	1.411	1.367	1.604
Outing flannel	Per yard.	.161	.190	.156	.208	.142	.204	.168	.178	.160	.200

AVERAGE RETAIL PRICES OF 8 ARTICLES OF DRY GOODS IN 45 CITIES, MAY 15, 1917, AND OCTOBER 15, 1917, BY ARTICLES—Concluded.

Article.	Unit.	Minneapolis, Minn.		Newark, N. J.		New Haven, Conn.		New Orleans, La.		New York N. Y.	
		May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.
Calico	Per yard.	$0.107	$0.127	$0.095	$0.125	$0.097	$0.131	$0.100	$0.150	$0.109	$0.139
Percale	...do.....	.187	.240	.183	.235	.177	.218	.150	.220	.180	.208
Gingham, apron	...do.....	.129	.161	.117	.150	.125	.161	.117	.163	.117	.154
Gingham, dress	...do.....	.194	.246	.179	.244	.167	.212	.150	.197	.168	.216
Muslin, bleached	...do.....	.149	.202	.149	.213	.150	.210	.125	.183	.152	.213
Sheeting, bleached	...do.....	.427	.523	.450	.546	.417	.501	.....	.....	.428	.569
Sheets, bleached	Per sheet.	1.142	1.406	1.150	1.370	1.120	1.340	.900	1.150	1.112	1.392
Outing flannel	Per yard.	.155	.189	.154	.191	.151	.173	.....	.....	.170	.188

Article.	Unit.	Omaha, Nebr.		Philadelphia, Pa.		Pittsburgh, Pa.		Portland, Oreg.		Providence, R. I.	
		May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.
Calico	Per yard.	$0.095	$0.134	$0.125	$0.133	$0.100	$0.119	$0.094	$0.127	$0.098	$0.130
Percale	...do.....	.175	.250	.197	.235	.187	.223	.175	.228	.176	.188
Gingham, apron	...do.....	.113	.168	.119	.171	.113	.166	.108	.147	.133	.170
Gingham, dress	...do.....	.150	.205	.162	.202	.165	.215	.147	.196	.160	.188
Muslin, bleached	...do.....	.140	.187	.157	.213	.159	.201	.143	.200	.152	.217
Sheeting, bleached	...do.....	.406	.530	.454	.553	.447	.578	.450	.542	.418	.498
Sheets, bleached	Per sheet.	1.100	1.342	1.206	1.443	1.147	1.412	1.213	1.467	1.105	1.422
Outing flannel	Per yard.	.144	.189	.149	.182	.153	.193	.167	.176	.....	.....

Article.	Unit.	Richmond, Va.		Rochester, N. Y.		St. Louis, Mo.		St. Paul, Minn.		Salt Lake City, Utah.	
		May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.
Calico	Per yard.	$0.103	$0.131	$0.086	$0.095	$0.103	$0.141	$0.087	$0.108	$0.110	$0.142
Percale	...do.....	.171	.221	.158	.200	.190	.250	.175	.210	.200	.238
Gingham, apron	...do.....	.122	.168	.115	.150	.125	.150	.115	.147	.125	.167
Gingham, dress	...do.....	.157	.234	.191	.223	.170	.245	.147	.172	.173	.234
Muslin, bleached	...do.....	.169	.222	.144	.201	.142	.193	.169	.208	.149	.203
Sheeting, bleached	...do.....	.446	.581	.424	.508	.554	.540	.386	.474	.442	.571
Sheets, bleached	Per sheet.	1.107	1.392	1.167	1.387	1.090	1.318	1.078	1.370	1.363	1.638
Outing flannel	Per yard.	.148	.184	.156	.200	.156	.195	.142	.170	.168	.216

Article.	Unit.	San Francisco, Cal.		Scranton, Pa.		Seattle, Wash.		Springfield, Ill.		Washington, D. C.	
		May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.	May 15, 1917.	Oct. 15, 1917.
Calico	Per yard.	.....	.....	$0.088	$0.125	$0.103	$0.150	$0.100	$0.125	$0.102	$0.130
Percale	...do.....	$0.208	$0.250	.190	.220	.200	.250	.....	.....	.178	.217
Gingham, apron	...do.....	.125	.193	.110	.158	.125	.190	.125	.165	.134	.192
Gingham, dress	...do.....	.163	.214	.151	.185	.164	.219	.146	.207	.194	.257
Muslin, bleached	...do.....	.161	.230	.145	.198	.170	.209	.146	.190	.154	.219
Sheeting, bleached	...do.....	.493	.626	.422	.546	.526	.626	.448	.520	.461	.601
Sheets, bleached	Per sheet.	1.270	1.540	1.070	1.320	1.313	1.538	1.225	1.625	1.138	1.563
Outing flannel	Per yard.	.162	.213	.150	.190	.170	.214	.142	.173	.168	.198

PRICE CHANGES, WHOLESALE AND RETAIL, IN THE UNITED STATES.

Price changes, both wholesale and retail, among important articles of food in a few selected cities of the United States are shown in figures compiled by the Bureau of Labor Statistics. From these it is evident that retail prices, while showing a less degree of variation, have fluctuated in much the same manner as have wholesale prices in recent months.

In collecting data for the comparison it was found that in some instances slight differences of grade or quality existed between the

articles for which wholesale prices were obtainable and those for which retail prices could be secured. It was found impracticable, also, in most instances to obtain both kinds of quotations for the same date. The retail prices shown are uniformly those prevailing on the 15th of the month, while the wholesale prices are for a variable date, usually several days in advance of the 15th. For these reasons exact comparison of retail with wholesale prices can not be made. The figures are believed to be of interest, however, in showing price variations in the retail as compared with the wholesale markets.

In the table which follows, the wholesale price represents, in each case, the mean of the high and the low quotations on the date selected, while the retail price is the simple average of all prices reported for the article and city in question. For convenience of comparison with retail prices, beans and corn meal are here quoted by the pound, wholesale, instead of the customary 100 pounds. Similarly, to facilitate comparison with the wholesale price, flour at retail is priced by the barrel instead of the one-eighth barrel. In this table the wholesale price of fancy patent flour at St. Louis is shown instead of the first patent flour included in the table published in the November issue of the MONTHLY REVIEW, as this is believed to offer a better comparison with the brand quoted at retail.[1] The initials W. and R. are used to designate wholesale and retail prices, respectively.

WHOLESALE AND RETAIL PRICES OF IMPORTANT FOOD ARTICLES IN SELECTED CITIES, OCTOBER, 1913 TO 1916, AND JANUARY, APRIL, JULY, AUGUST, SEPTEMBER, AND OCTOBER, 1917.

[The initials W=wholesale; R=retail.]

Article and city.	Unit.	October.				1917					
		1913	1914	1915	1916	Jan.	Apr.	July.	Aug.	Sept.	Oct.
Bacon, short clear sides, Chicago....W..	Lb.	$0.129	$0.137	$0.113	$0.162	$0.158	$0.218	$0.247	$0.261	$0.274	$0.318
Bacon, sliced, Chicago.....R..	Lb.	.327	.334	.314	.329	.316	.395	.439	.429	.476	.475
Beans, medium, choice, New York.....W..	Lb.	.038	.047	.059	.088	.108	.130	.154	.150	.135	.138
Beans, navy, small, white, New York.....R..	Lb.	.....	.....	.087	.119	.149	.162	.188	.189	.185	.185
Beef:											
Fresh, carcass, Chicago...W..	Lb.	.130	.144	.138	.138	.138	.160	.163	.168	.190	.190
Round steak, Chicago....R..	Lb.	.216	.238	.254	.235	.227	.256	.266	.273	.281	.273
Fresh, sides, New York..W..	Lb.	.130	.135	.128	.130	.133	.173	.163	.170	.185	.183
Rib roast, bone in, New York.....R..	Lb.	.216	.222	.226	.231	.238	.270	.279	.286	.298	.298
Butter, creamery, extra, Chicago.....W..	Lb.	.290	.295	.275	.345	.370	.440	.375	.394	.425	.435
Butter, creamery, extra, Chicago.....R..	Lb.	.354	.340	.324	.394	.438	.484	.432	.448	.484	.487
Butter, creamery, extra, New York.....W..	Lb.	.308	.310	.291	.350	.395	.450	.395	.408	.444	.443
Butter, creamery, extra, New York.....R..	Lb.	.375	.372	.339	.408	.460	.513	.453	.470	.507	.515
Butter, creamery, extra, San Francisco.....W..	Lb.	.335	.305	.270	.340	.355	.390	.385	.435	.435	.460

[1] Wholesale prices of fancy patent flour at St. Louis for the months shown in the November issue of the MONTHLY REVIEW and not in the present issue are as follows: September, 1913, $4.300; September, 1914, $5.324; September, 1915, $5.200; September, 1916, $7.300.

WHOLESALE AND RETAIL PRICES OF IMPORTANT FOOD ARTICLES IN SELECTED CITIES, ETC.—Concluded.

Article and city.	Unit.	October.				1917					
		1913	1914	1915	1916	Jan.	Apr.	July.	Aug.	Sept.	Oct.
Butter, creamery, extra, San Francisco.....R..	Lb.	$0.400	$0.379	$0.342	$0.404	$0.425	$0.452	$0.455	$0.504	$0.530	$0.545
Cheese, whole milk, American twins, Chicago.....W..	Lb.	.153	.128	.140	.186	.218	.223	.216	.215	.240	.246
Cheese, full cream, American, Chicago.....R..	Lb.	.....	.....	.230	.277	.321	.327	.339	.342	.344	.368
Cheese, whole milk, State, New York.....W..	Lb.	.161	.145	.148	.208	.220	.245	.238	.229	.244	.255
Cheese, full cream, American, New York.....R..	Lb.	.....	.....	.234	.255	.301	.335	.328	.331	.338	.340
Cheese, fancy, California flats, San Francisco.....W..	Lb.	.165	.130	.165	.165	.180	.215	.200	.235	.235	.220
Cheese, full cream, American, San Francisco.....R..	Lb.	.....	.....	.226	.238	.242	.297	.297	.306	.316	.316
Eggs, fresh, firsts, Chicago....W..	Doz.	.255	.220	.253	.308	.485	.305	310	.323	.385	.370
Eggs, strictly fresh, Chicago..R..	Doz.	.333	.301	.340	.383	.525	.376	.406	.428	.465	.469
Eggs, fresh, firsts, New York.W..	Doz.	.290	.250	.300	.345	.405	.330	.350	.380	.413	.400
Eggs, strictly fresh, New York.....R..	Doz.	.479	.421	.456	.517	.667	.424	.477	.544	.592	.627
Eggs, fresh, extra, pullets', San Francisco.....W..	Doz.	.350	.335	.385	.435	.380	.280	.320	.370	.430	.435
Eggs, strictly fresh, San Francisco.....R..	Doz.	.564	.533	.542	.558	.480	.374	.392	.475	.538	.608
Flour, winter patents, Kansas City.....W..	Bbl.	4.075	5.075	5.050	7.550	8.950	11.450	11.150	12.900	10.700	10.500
Flour, Aristos, Kansas City...R..	Bbl.	5.900	6.534	7.300	9.700	10.600	13.689	13.680	14.320	13.289	13.066
Flour, standard patents, Minneapolis.....W..	Bbl.	4.450	5.750	5.550	8.850	9.450	11.025	12.000	13.200	11.350	10.550
Flour, Pillsbury's Best, Minneapolis.....R..	Bbl.	5.600	7.000	6.400	10.000	10.800	13.200	13.424	14.336	12.208	11.984
Flour, fancy patents, St. Louis.W..	Bbl.	4.150	5.075	5.325	7.600	8.675	11.375	11.375	12.875	10.800	11.250
Flour, Gold Medal, St. Louis.R..	Bbl.	6.200	7.400	6.880	9.667	10.587	12.853	13.200	14.800	13.700	13.100
Ham, smoked, Chicago.....W..	Lb.	.164	.173	.163	.193	.188	.243	.243	.233	.263	.283
Ham, smoked, sliced, Chicago.R..	Lb.	.320	.346	.328	.359	.333	.382	.414	.407	.439	.439
Lamb, dressed, round, Chicago.....W..	Lb.	.135	.135	.155	.170	.200	.220	.260	.230	.280	.270
Lamb, leg of, yearling, Chicago.....R..	Lb.	.198	.204	.204	.223	.232	.263	.287	.288	.320	.314
Lard, prime, contract, New York.....W..	Lb.	.107	.102	.100	.152	.159	.215	.201	.226	.240	.246
Lard, pure, tub, New York...R..	Lb.	.163	.159	.150	.196	.213	.263	.274	.275	.294	.313
Meal, corn, fine, yellow, New York.....W..	Lb.	.016	.019	.017	.021	.027	.031	.040	.052	.050	.049
Meal, corn, New York.....R..	Lb.	.035	.036	.035	.044	.051	.057	.070	.067	.076	.082
Milk, fresh, Chicago.....W..	Qt.	.040	.043	.039	.045	.045	.054	.047	.051	.051	.074
Milk, fresh, bottled, delivered, Chicago.....R..	Qt.	.080	.080	.080	.090	.100	.100	.100	.100	.100	.129
Milk, fresh, New York.....W..	Qt.	.040	.040	.038	.050	.051	.049	.050	.060	.060	.072
Milk, fresh, bottled, delivered, New York.....R..	Qt.	.090	.090	.090	.098	.100	.109	.114	.125	.124	.138
Milk, fresh, San Francisco....W..	Qt.	.039	.039	.038	.038	.038	.038	.043	.043	.058	.059
Milk, fresh, bottled, delivered, San Francisco.....R..	Qt.	.100	.100	.100	.100	.100	.100	.100	.100	.121	.121
Potatoes, white, good to choice, Chicago.....W..	Bu.	.605	.480	.615	1.200	1.750	2.700	2.625	1.600	1.250	1.135
Potatoes, Chicago.....R..	Bu.	1.020	.775	.796	1.640	2.370	3.455	2.975	2.012	1.623	1.184
Poultry, dressed fowls, New York.....W..	Lb.	.185	.195	.220	.230	.220	.265	.248	.240	.258	.285
Poultry, hens, dressed, New York.....R..	Lb.	.218	.223	.220	.259	.261	.293	.287	.288	.316	.323
Rice, head, Honduras, New Orleans.....W..	Lb.	.051	.048	.043	.043	.048	.049	.071	.072	.070	.077
Rice, head, Louisiana, New Orleans.....R..	Lb.	.....	.....	.070	.073	.074	.088	.101	.103	.101	.100
Sugar, granulated, New York.W..	Lb.	.042	.059	.048	.070	.066	.081	.074	.082	.082	.082
Sugar, granulated, New York.R..	Lb.	.049	.066	.054	.074	.074	.087	.084	.090	.092	.097

A comparison of wholesale and retail price fluctuations, expressed as percentages of the price in October, 1913, is contained in the table that follows. It will be seen from this table that the wholesale prices of practically all articles in October, 1917, had increased

to a larger extent than had retail prices. This is particularly noticeable in the case of bacon, flour, ham, lamb, lard, meal, milk, and potatoes. Of the 22 articles included in this table, only 1, granulated sugar, showed a larger per cent of increase in the retail than in the wholesale price. In nearly all instances retail prices were relatively lower in the other months shown in the table than were wholesale prices.

RELATIVE PRICES, WHOLESALE AND RETAIL, OF IMPORTANT FOOD ARTICLES IN SELECTED CITIES, IN OCTOBER, 1914, 1915, AND 1916, AND IN JANUARY, APRIL, JULY, AUGUST, SEPTEMBER, AND OCTOBER, 1917, COMPARED WITH OCTOBER, 1913.

[The initials W=wholesale; R=retail.]

Article and city.	October.				1917					
	1913	1914	1915	1916	Jan.	Apr.	July.	Aug.	Sept.	Oct.
Bacon, short clear sides, Chicago....W..	100	106	88	126	122	169	191	202	212	247
Bacon, sliced, Chicago.....R..	100	102	96	101	97	121	134	131	146	145
Beef:										
Fresh, carcass, Chicago.....W..	100	111	106	106	106	123	125	129	146	146
Round steak, Chicago.....R..	100	110	118	109	105	119	123	126	130	126
Fresh sides, New York.....W..	100	104	98	100	102	133	125	131	142	141
Rib roast, bone in, New York...R..	100	103	105	107	110	125	129	132	138	138
Butter, creamery, extra, Chicago....W..	100	102	95	119	128	152	129	136	147	150
Butter, creamery, extra, Chicago....R..	100	96	92	111	124	137	122	127	137	138
Butter, creamery, extra, New York..W..	100	101	94	114	128	146	128	132	144	144
Butter, creamery, extra, New York..R..	100	99	90	109	123	137	121	125	135	137
Butter, creamery, extra, San Francisco.....W..	100	91	81	101	106	116	115	130	130	137
Butter, creamery, extra, San Francisco.....R..	100	95	86	101	106	113	114	126	133	136
Eggs, fresh, firsts, Chicago.....W..	100	86	99	121	190	120	122	127	151	145
Eggs, strictly fresh, Chicago.....R..	100	90	102	115	158	113	122	129	140	141
Eggs, fresh, firsts, New York.....W..	100	86	103	119	174	114	121	131	142	138
Eggs, strictly fresh, New York.....R..	100	88	95	108	139	89	100	114	124	131
Eggs, fresh, extra, pullets', San Francisco.....W..	100	96	110	124	109	80	91	106	123	124
Eggs, strictly fresh, San Francisco...R..	100	95	96	99	85	66	70	84	95	108
Flour, winter patents, Kansas City..W..	100	125	124	185	220	281	274	317	263	258
Flour, Aristos, Kansas City.....R..	100	111	124	164	180	232	232	243	225	221
Flour, standard patents, Minneapolis.....W..	100	129	125	199	212	248	270	297	255	237
Flour, Pillsbury's Best, Minneapolis..R..	100	125	114	179	193	236	240	256	218	214
Flour, fancy patents, St. Louis.....W..	100	122	128	183	209	274	274	310	260	271
Flour, Gold Medal, St. Louis.....R..	100	119	111	156	171	207	213	239	221	211
Ham, smoked, Chicago.....W..	100	105	99	118	115	148	148	142	160	173
Ham, smoked, sliced, Chicago.....R..	100	108	103	112	104	119	129	127	137	137
Lamb, dressed, round, Chicago.....W..	100	100	115	126	148	163	193	170	207	200
Lamb, leg of, yearling, Chicago.....R..	100	103	103	113	117	133	145	145	162	159
Lard, prime, contract, New York...W..	100	95	93	142	149	201	188	211	224	230
Lard, pure, tub, New York.....R..	100	98	92	120	131	161	168	169	180	192
Meal, corn, fine, yellow, New York..W..	100	119	106	131	169	194	250	325	313	306
Meal, corn, New York.....R..	100	103	100	126	146	163	200	191	217	234
Milk, fresh, Chicago.....W..	100	108	98	113	113	135	118	128	128	185
Milk, fresh, bottled, delivered, Chicago.....R..	100	100	100	113	125	125	125	125	125	161
Milk, fresh, New York.....W..	100	100	95	125	128	123	125	150	150	180
Milk, fresh, bottled, delivered, New York.....R..	100	100	100	109	111	121	127	139	138	153
Milk, fresh, San Francisco.....W..	100	100	97	97	97	97	110	110	149	151
Milk, fresh, bottled, delivered, San Francisco.....R..	100	100	100	100	100	100	100	100	121	121
Potatoes, white, good to choice.....W..	100	79	102	198	289	446	434	264	207	188
Potatoes, Chicago.....R..	100	76	78	161	232	339	292	197	159	116
Poultry, dressed fowls, New York..W..	100	105	119	124	119	143	134	130	139	154
Poultry, hens, dressed, New York...R..	100	102	101	119	120	134	132	132	145	148
Sugar, granulated, New York.....W..	100	140	114	167	157	193	176	195	195	195
Sugar, granulated, New York.....R..	100	135	110	151	151	178	171	184	188	198

WHOLESALE PRICES IN THE UNITED STATES, JANUARY TO SEPTEMBER, 1917.

Information collected by the Bureau of Labor Statistics shows that steep increases took place in the wholesale prices of many important commodities in the United States during the first eight months of the present year. The rise was most pronounced in the period from March to May, particularly among farm products and articles used for food. From June to August some commodities advanced in price while others declined. Considered in the aggregate, September prices were below those of August.

Among the articles showing a decrease in September as compared with the preceding month were cotton, oats, wheat, flour, corn meal, rice, potatoes, bituminous coal, copper, pig iron, and steel. In the case of wheat, bituminous coal, and steel, the prices of which have been placed under Government regulation, decided decreases took place. Increases between August and September were recorded for corn, hay, cattle, hogs, sheep, tobacco, butter, eggs, meats, wool, anthracite coal, and petroleum. The bureau's weighted index number for September, based on 292 separate articles or price series, stood at 149, as compared with 151 in July and 122 in January.

In the following table are shown the index numbers of wholesale prices for the first nine months of 1917 by groups of commodities. The table also shows the number of articles or price series in each group, together with the per cent of increase in September as compared with January.

INDEX NUMBERS OF WHOLESALE PRICES, JANUARY TO SEPTEMBER, 1917.

(1916=100.)

Commodity group.	Number of articles or price series included.	Index numbers, 1917.[1]									Per cent of increase in September compared with January.
		Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	
Farm products	30	120	123	132	147	160	160	162	167	166	38.3
Food, etc	90	119	127	127	144	151	148	142	142	141	18.5
Cloths and clothing	65	127	127	128	132	136	140	145	150	149	17.3
Fuel and lighting	15	147	154	157	154	162	167	168	152	149	1.4
Metals and metal products	25	124	128	134	140	146	161	173	168	154	24.2
Lumber and building materials	30	105	107	109	113	116	126	130	131	133	26.7
Drugs and chemicals	10	101	103	106	109	115	116	130	139	143	41.6
House-furnishing goods	6	116	117	117	137	137	148	150	150	150	29.3
Miscellaneous	21	114	115	116	120	122	126	125	129	128	12.3
All commodities	292	122	126	130	139	147	150	151	151	149	22.1

[1] Preliminary.

FOOD AND FUEL CONTROL.

RULES AND REGULATIONS OF THE FOOD ADMINISTRATOR GOVERNING LICENSING OF DEALERS IN CERTAIN STAPLE FOOD COMMODITIES.

The licensing of all dealers doing an annual business of more than $100,000 in certain staple food commodities enumerated in the President's proclamation of October 8[1] became effective on November 1, after which time no unlicensed person is permitted to trade in the commodities mentioned. In order to make the licensing system effective, as contemplated by the food-control law under which it is authorized, the Food Administration has prescribed complete and definite rules and regulations, the announced object being: (1) To limit the prices charged by every licensee to a reasonable amount over expenses, and to forbid the acquisition of speculative profits from a rising market; (2) to keep all food commodities moving in as direct a line and with as little delay as practicable to the consumer; and (3) to limit, as far as practicable, contracts for future delivery and dealings in future contracts.

Under the Food Control Act, in addition to the power to promulgate rules, the President is given broad powers to deal with individual cases, and this will be exercised, if necessary, to accomplish the purposes above set out. Violation of the rules and regulations is cause for revocation of license, as well as subjecting the offender to such criminal penalties as may be prescribed. It is not necessary to note here the large number of general rules governing all licensees, together with additional special regulations for various trades in which there are special conditions or specific abuses to be governed. Attention, however, may be called to a few of the more important rules and regulations.

The elimination of excessive prices charged by small retailers, who are not subject to license, will be helped by a rule forbidding licensees to sell foods to any person who is violating section 4 of the Food Control Act by taking excessive profits or speculating.

An important rule provides that no licensee shall "import, manufacture, store, distribute, sell, or otherwise handle any food com-

[1] An account of this licensing system and the list of commodities affected was given in the MONTHLY REVIEW for November, 1917, pp. 85 and 86.

modities on an unjust, exorbitant, unreasonable, discriminatory, or unfair commission, profit, or storage charge."

With respect to a large group of commodities, particularly nonperishables, the regulations require that profits shall be no greater than a reasonable advance over the actual purchase price of the particular goods sold, without regard to the market or replacement value.

In determining the amount of such advance, the Food Administration announces that the licensee may average the cost of goods of each class. For example, the cost of all canned corn on hand may be averaged and a reasonable advance over such average will be deemed a fair sale price for canned corn; but the licensee will not be permitted to average the cost of all licensed commodities on hand and add an advance over such average.

Resales within the trade without reasonable justification, especially if tending to result in higher market prices, will be dealt with as unfair practices.

Whenever practicable all shipments are to be made in car lots, in cars loaded to maximum capacity.

Another rule reads: "The licensee shall not knowingly commit waste, or willfully permit preventable deterioration in connection with the production, importation, manufacture, storage, distribution, or sale of any food commodities."

The storage or control by a licensee, by contract or otherwise, of food commodities in a quantity in excess of the reasonable requirements of his business, for use or sale by him during the period of 60 days, is prohibited, with exceptions in specified commodities and under certain conditions.

Handling foods in such ways as to monopolize or restrict the supply is guarded against.

Special rules require that foods which have been held in cold storage for more than 30 days shall be marked "Cold Storage Goods" when offered for sale; prohibit speculation in futures on canned goods; forbid the shipment of potatoes which have been seriously damaged; protect the producer who ships his products to markets on consignment against unfair charges by commission men, brokers, and auctioneers; and cover many other special points.

Licensees are required to keep records, to make regular reports upon forms that will be furnished by the Food Administration, giving complete information regarding transactions in the controlled foods, and to permit representatives of the Food Administration to inspect their property or records. Information obtained in this way is to be carefully safeguarded and kept confidential by the Food Administration.

The Food Administration makes clear that no one is expected to do business at a loss and that the regulations have been drawn with the purpose of protecting all legitimate dealers, strengthening them in the performance of useful functions, and avoiding interference with normal activities.

The speculator, the hoarder, the waster of food do harm not only to the public but to all honest and patriotic merchants.

With this kind of competition eliminated, the great majority of food handlers who have consistently tried to abide by the law and the program of the Food Administration will find that they are doing business under greatly improved conditions and that they can obtain a normal, reasonable return for the important services which they render to the Nation.

PRESIDENT ORDERS LICENSING OF BAKERS.

It having been determined that the licensing provision of the Food Control Act is properly applicable to those manufacturing bread or other bakery products, the President on November 7 issued a proclamation requiring all bakers, hotels, restaurants, and others using at least 10 barrels of flour monthly to procure a license before December 10. This proclamation, after reciting the provisions of law under which the action is taken, proceeds as follows:

Now, therefore, I, Woodrow Wilson, President of the United States of America, by virtue of the powers conferred upon me by said act of Congress, hereby find and determine and by this proclamation do announce that it is essential, in order to carry into effect the purposes of said act, to license the manufacture of necessaries to the extent hereinafter specified.

All persons, firms, corporations, and associations who manufacture for sale bread in any form, cake, crackers, biscuits, pastry, or other bakery products (excepting, however, those whose consumption of any flour and meal in the manufacture of such products is in the aggregate less than 10 barrels a month), are hereby required to procure a license on or before December 10, 1917. This includes hotels, restaurants, other public eating places, and clubs who serve bread or other bakery products of their own baking.

Application for license must be made to the United States Food Administration, Washington, D. C., law department, license division, on forms prepared by it for that purpose, which may be obtained on request.

Any person, firm, corporation, or association, other than those hereinbefore excepted, who shall engage in or carry on any business hereinbefore specified after December 10, 1917, without first procuring such license, will be liable to the penalty prescribed by said act of Congress.

On November 13 the Food Administration announced some of the general rules and regulations governing all licenses covered by the President's proclamation of November 7. They are:

The licensee, in selling bakery products, shall keep such products moving to the consumer in as direct a line as practicable and without unreasonable delay. Resales within the same trade without reasonable justification, especially if tending to result in a higher market price to the retailer or consumer, will be dealt with as an unfair practice.

The licensee shall not buy, contract for, sell, store, or otherwise handle or deal in any food commodities for the purpose of unreasonably increasing the price or restricting the supply of such commodities or of monopolizing, or attempting to monopolize, either locally or generally, any of such commodities.

The licensee shall not destroy any bakery products and shall not knowingly commit waste or willfully permit preventable deterioration in connection with the manufacture, distribution, or sale of any bakery products.

The licensee shall not accept returns of bread or other bakery products, nor make cash payments, nor allow credit, to any retailer for any unsold bread or other unsold bakery products, nor shall the licensee exchange any bread or bakery products for other bread or bakery products which he has sold.

The special rules and regulations governing licensees manufacturing bread and rolls have been made public:

Rule 1. The licensee shall manufacture bread and offer it for sale only in the following specified weights or multiples thereof, which shall be net weights, unwrapped, 12 hours after baking:

16-ounce units (not to run over 17 ounces).

24-ounce units (not to run over 25½ ounces).

Where twin or multiple loaves are baked each unit of the twin or multiple loaf shall conform to the weight requirements of this rule.

Rule 2. The licensee shall manufacture rolls and offer them for sale only in units weighing from 1 to 3 ounces, but no rolls shall be manufactured or offered for sale which shall weigh, unwrapped, 12 hours after baking, less than 1 ounce or more than 3 ounces.

Rule 3. The standard weights herein prescribed shall be determined by averaging the weight of not less than 25 loaves of bread of any one unit, or five dozen rolls of any one unit, and such average shall not be less than the minimum nor more than the maximum prescribed by these rules and regulations for such units.

Rule 4. The licensee in mixing any dough for bread or rolls shall not use the following ingredients in amounts exceeding those specified below, per unit of 196 pounds of any flour or meal or any mixture thereof:

Sugar: Not to exceed 3 pounds of cane or beet sugar, or in lieu thereof 3½ pounds of corn sugar. Where sweetened condensed milk is used the licensee, in determining the permitted amount of sugar, shall deduct the added sugar content of such condensed milk from the net amount of other sugar of the kinds herein designated.

Milk: Not to exceed 6 pounds of fresh milk from which the butter fats have been extracted, or the equivalent thereof.

Shortening: No shortening shall be used except as follows: Not to exceed 2 pounds of "compounds" containing not more than 15 per cent of animal fats. In lieu of such "compounds" the licensee may use not to exceed 2 pounds of vegetable fats.

The licensee in making any bread or rolls shall not add any sugars or fats to the dough during the process of baking, or to the bread or rolls when baked.

FOOD ADMINISTRATOR AUTHORIZED TO REQUISITION FOODS AND FEEDS.

The President, on October 23, issued an order authorizing the Food Administrator to requisition foods and feeds, the text of the order being as follows:

Under and by virtue of an act of Congress, entitled "An act to provide further for the national security and defense by encouraging the production, conserving

the supply, and controlling the distribution of food products and fuel," approved August 10, 1917, I, Woodrow Wilson, President of the United States, hereby authorize and direct Herbert Hoover, United States Food Administrator, from time to time, to requisition any and all foods and feeds, and storage facilities for the same, that said Herbert Hoover, United States Food Administrator, may deem are necessary for any public use connected with the common defense, other than the support of the Army or the maintenance of the Navy, and to ascertain and pay a just compensation therefor.

Done in the District of Columbia this twenty-third day of October, in the year of our Lord one thousand nine hundred and seventeen, and of the independence of the United States of America the one hundred and forty-second.

FOOD CONTROL IN GERMANY AND GREAT BRITAIN.

As a preliminary statement it may be said that food conservation in the United States has been developed along the line of securing voluntary cooperation as far as possible from both the public and the producers and the handlers of food articles.

In Germany a policy of rationing the consumer has been adopted, the food value of this ration, according to the United States Food Administration, being insufficient properly to maintain bodily health and vigor. The Food Administration announces that under this system the amounts now being allowed to each person per week are as follows:

Flour, 3.45 pounds; potatoes, 7.05 pounds; cereals (oats, beans, and peas), 7 ounces; meat, 8.8 ounces; sugar, 3 ounces; butter and margarine, 2.8 ounces; and other fats, 2.8 ounces.

Stated in terms of American housekeeping, these items amount to sufficient flour to bake 4½ pounds of bread; one-half peck of potatoes; a cupful of beans, peas, and oatmeal; one-half pound of meat; 12 dominoes of sugar; 6 individual patties of butter; and an equal amount of other fats.

For the population of that portion of northern France occupied by the Germans the allowance is as follows: Sufficient flour for five pounds of bread; one-fifth peck of potatoes; one cupful of cereals; 12⅛ ounces of bacon and lard; and 10 dominoes of sugar.

Here meat, butter, and margarine are all replaced by bacon and lard. The allowance of flour and cereals is slightly increased, but the allowance of potatoes is less than half the German ration, while that of sugar is also reduced even below the meager German allowance.

The ration for the civilian population of the occupied portion of Belgium is similar to that of northern France, except bacon and lard are replaced by meat and butter.

The German ration, compared with the ration used as standard for purposes of comparison by the Food Administration, shows that in body building protein the Germans have 0.41 of a pound, and the standard ration has 1.08 pounds. In fats the German ration contains 0.43 of a pound, as compared with standard 0.7 pound. In carbohydrates the German ration contains 4.17 pounds, as compared with 9.9 pounds for the standard ration. In total calories the German ration aggregates 10,542, as compared with 24,000 in the standard ration.

The standard ration is regarded as sufficient only for a person in a sedentary occupation, or one involving relatively slight physical labor; and yet it provides two and one-half times as much body-building protein and nearly twice as much fat and nearly two and one-half times as much carbohydrates as the German ration.

In the ration for northern France the substitution of bacon and lard makes the weekly allowance of protein equal only three-fourths of the German ration and only one-third of the standard ration.

BRITISH IDEA OF FOOD CONTROL.

The British idea of food control lies between that of the United States and Germany. As little compulsory rationing as possible is imposed upon the general public, but there is a far-reaching and rigid supervision of all food articles by regulating the manufacturers and merchants; by the establishment of maximum prices, and by the issuance, after December 30, of rationing cards for sugar. A statement recently issued by Lord Rhondda, the British Food Controller, offers a concise outline of the system there in force, and is interesting by way of comparison with the system practiced in this country. Lord Rhondda says:

My aim is to safeguard the interests of the consumer, to do away with profiteering altogether, and to prevent excessive profits of any kind. The framework of our machinery is formed on the civil service. They are the administrators, but in all cases we secure the best available business men to advise them, as well as a number of expert committees dealing with almost every food commodity. The policy is to limit profits at every step from the producer to the consumer, and at the same time to regulate supply.

A costings department, under the direction of chartered accountants, has been set up, through which the profits made by any manufacturer or retailer of food can be ascertained. The country has been divided into separate areas, in each of which a leading firm of accountants has been appointed by this department to do the necessary work. Reasonable profit based on prewar rates is added to the present cost, and price limits agreed on that basis, after consultation with the representatives of the trades concerned.

Decentralization is obtained by dividing Great Britain into 16 food divisions, consisting of so many counties. Each division is under the superintendence of a commissioner appointed by the Food Controller. In each of these divisions the borough, urban or rural district councils, or other local authorities, appoint local food committees, with limited powers and certain discretion, to carry out such regulations as regards price and distribution as may be issued from headquarters.

Local tradesmen are registered with their local committees, and if any tradesman does not carry out regulations and orders he may be struck off the register and prevented from further trading. The various orders fixing or amending the maximum prices of meat, milk, potatoes, bread, etc., are communicated to the local committees, and the trades and public are informed through the daily and trades press. A staff of inspectors is kept at headquarters, and a number of sentences have been imposed by magistrates throughout the country for contravention of the regulations. The general penalty is a fine not exceeding £100 ($486.65), or a term of six months' imprisonment with or without hard

labor, or both. This punishment may be inflicted for every several offense. I purpose to make the penalties more severe.

While the prices of practically all essential foods are now under control no compulsory rationing is imposed on the general public, although all public eating places are rationed as to the amount of meat, flour, bread, and sugar which may be used in every week on the basis of an average for each meal. After December 30 only a half-pound of sugar per capita (per week) will be permitted. This will be obtainable through a system of each consuming householder or consumer registering with a specified retailer and securing from the local food committee a card entitling his household or himself to the ration. The retailer will keep a record of his deliveries to insure his not supplying any one customer in one week with more than the proper allowance. Arrangements for the issue of these cards are in progress, and they will form the groundwork should it become necessary later on to ration other foodstuffs.

There are many restrictions in manufacturing. Flour made from wheat must be straight-run flour, milled to 81 per cent extraction, and it is compulsory to mix in 20 per cent of flour from other cereals and pulse, and permissible to mix in up to 50 per cent, while no bread may be sold unless 12 hours old. Following on restrictions of 50 per cent and 40 per cent manufacturers are now restricted to the use of only 25 per cent of the amount of sugar they used in 1915. Speaking generally, the use of foodstuffs for industrial purposes and for the feeding of animals has been either restricted or prohibited. Waste of bread is a criminal offense.

Appeals for economy in consumption have been made, and a new campaign is being organized to this end. The maximum price of the quartern loaf has been reduced to 9d. (18.3 cents) for cash over the counter. It was found possible to do this by subsidizing flour. I find it necessary to control practically all essential commodities. The danger that in reducing prices we may restrict supplies and increase consumption is obvious, but I think it can be largely overcome. It has been suggested that our recent fixing of meat prices will lead to excessive slaughtering. If it does we are in a position to control the transport of meat, and we are taking steps to license the slaughterhouses. A condition of the license will be that no more than a certain number of cattle are to be slaughtered per week. We also propose to control the sales through the auctions, and we can limit the quantity there. In the course of a month or two we hope to be able to determine approximately what quantity of meat ought to go to each industrial area, and to limit the quantity if necessary. Maximum wholesale meat prices for the whole Kingdom have been fixed independently of the cost of transport, but we hope to meet the danger that producing areas, because of this, might get more than their fair share of supplies, by fixing a flat railway rate. As regards nearly all imported commodities, adequate distribution is being secured, as the sole control is in the hands of the Government, and importers or wholesalers are required to supply in fair proportion the needs of their usual customers.

WAGES AND HOURS OF LABOR.

WAGE INCREASES IN NAVY YARDS.

The schedule of wages for employees in certain navy yards of the United States, as revised, has been made effective from November 1, 1917.

In most cases an increase of wages has been decided upon. In many of the skilled trades workmen were heretofore divided into five grades. Under the new schedule the number has been reduced to three. In the revised schedule wages for the lowest-paid grade of skilled labor in each trade are fixed in nearly all cases at $1.04 per day below the maximum rate paid in that trade.

An effort has been made to equalize and standardize the rates of wages so far as circumstances would permit. For this reason the rates of increase have not been uniform in all trades, and vary as between yards.

Owing to these variations and to the elimination of two of the intermediate grades in many trades, the increase in per cent as it affects a trade, an establishment, or the service as a whole is not readily computed. The increases in the maximum wages, considered as a whole, seem to be a little below 10 per cent.

The following table has been prepared from data furnished by the office of the Secretary of the Navy, and shows the maximum rate of wages for workmen by groups (common labor, semiskilled, and skilled trades) in force January 1, and November 1, 1917. Minimum and intermediate wages in the skilled trades are not shown.

New scales for the Mare Island and the Puget Sound navy yards have not been decided upon, but are now under consideration.

MAXIMUM SCALE OF DAILY WAGES FOR WORKERS IN SPECIFIED NAVY

Line No.	Occupation.	Portsmouth: Scale effective—		Boston: Scale effective—		Newport: Scale effective—		New York: Scale effective—	
		Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.
	GROUP I.								
1	Attendant, battery								
2	Attendant, dispensary	$2.56	$2.80	$2.56	$2.80			$2.56	$2.64
3	Attendant, powder factory								
4	Boy	1.52	1.68	1.60	1.76	$1.60	$1.76	1.52	1.68
5	Charwoman								
6	Coal handler								
7	Deck hand					2.24	2.80		
8	Deck hand, ferry boat					2.40	2.88		
9	Hod carrier					2.56	3.20	3.20	3.20
10	Janitor	2.48	2.72	2.48	2.72	2.48	2.72	2.48	2.72
11	Laborer, common	2.48	2.72	2.48	2.72	2.40	2.72	2.48	2.72
12	Stable keeper	2.48	2.72	2.48	2.72	2.40	2.72	2.48	2.72
13	Team, double								
14	Teamster	2.64	2.96	2.72	2.96	2.40	2.80	2.88	2.96
15	Teamster, with team								
	GROUP II.								
1	Cupola man								
2	Cupola tender								
3	Dredger								
4	Hammer man								
5	Hammer runner	3.04	3.36	3.12	3.36				
6	Helper, blacksmiths'					2.48	2.88		
7	Helper, boat builders'								
8	Helper, boilermakers'	2.56	2.96	2.56	2.96			2.56	2.96
9	Helper, coppersmiths'	2.56	2.96	2.56	2.96			2.56	2.96
10	Helper, divers'	3.04	[1]					2.80	2.96
11	Helper, electricians'	2.56	2.96	2.56	2.96	2.48	2.88	2.56	2.96
12	Helper, flange turners'		3.04						
13	Helper, forgers,' heavy			2.96	3.28				
14	Helper, general	2.56	2.96	2.56	2.96	2.48	2.88	2.56	2.96
15	Helper, laboratory			2.72	2.96	2.56	2.96	2.72	2.96
16	Helper, machinists'	2.56	2.96	2.56	2.96	2.48	2.88	2.56	2.96
17	Helper, metal workers'							2.56	2.96
18	Helper, molders'	2.56	2.96	2.56	2.96	2.48	2.88	2.56	2.96
19	Helper, ordnance							2.64	2.96
20	Helper, painters'			2.56	2.96				
21	Helper, pipefitters'	2.64	2.96	2.64	2.96				2.96
22	Helper, plumbers'								
23	Helper, riggers'			2.56	2.96				
24	Helper, ropemakers'			2.56	2.96				
25	Helper, sheet metal workers'								
26	Helper, shipfitters'	2.64	2.96	2.64	2.96				
27	Helper, shipsmiths'	2.72	3.04	2.72	3.04			2.96	3.04
28	Helper, shipwrights'								
29	Helper, smiths'								
30	Helper, steel workers'								
31	Helper, woodworkers'	2.56	2.96	2.56	2.96			2.56	2.96
32	Holder-on	2.80	3.04	2.80	3.04			3.20	3.52
33	Oiler								
34	Primer worker (female)					2.48	2.56		
35	Rivet heater	2.00	2.24	2.00	2.24			2.24	2.56
	GROUP III.								
1	Acetylene operator	3.76	4.16	3.76	4.16			4.00	4.24
2	Anglesmith	4.24	4.80	4.24	4.80			4.64	4.88
3	Armature winder								
4	Blacksmith	3.28	[1]			3.60	4.00	4.00	[1]
5	Block maker			3.36	3.36				
6	Boat builder	4.00	4.64	4.24	4.64			4.48	4.88
7	Boilermaker	4.08	4.80	4.24	4.80	3.84	4.80	4.24	4.88
8	Bolter-up								
9	Boxmaker			3.12	3.52				
10	Buffer and polisher	3.12	3.52					3.28	3.68
11	Butcher					3.04	3.04		
12	Cabinetmaker								
13	Cable splicer								
14	Calker, wood	3.84	4.56	4.16	4.56			4.32	4.72
15	Calker and chipper, iron	3.84	[2]4.80	3.84	[2]4.80			4.00	[2]4.88

[1] Position abolished.

YARDS OF THE UNITED STATES, EFFECTIVE NOV. 1, 1917.

Philadelphia: Scale effective—		Washington: Scale effective—		Indian Head: Scale effective—		Norfolk: Scale effective—		Charleston: Scale effective—		New Orleans: Scale effective—		Pensacola: Scale effective—		Line No.
Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	
				$3.20	$3.36									1
$2.32	$2.56	$2.48	$2.64			$2.24	$2.24			$2.24	$2.24			2
				3.68	3.84									3
1.28	1.52			1.28	1.44	1.12	1.28	$1.28	$1.44	1.28	1.44	$0.80	$1.20	4
			2.00											5
2.48	2.88													6
														7
														8
3.20	3.20	2.56	2.80	2.48	2.80	2.48	2.48	2.24	2.24	2.24	2.24			9
2.24	(1)	2.40	2.64	2.40	2.64	2.00	[2] 2.08	2.00	2.00	2.00	2.24	1.68	2.00	10
2.24	2.64	2.32	2.64	2.24	2.64	1.84	2.08	1.60	1.84	2.00	2.24	1.84	2.00	11
2.56	2.64	2.56	2.64	2.40	2.64	2.24	2.24	2.24	2.24					12
				5.04	5.20									13
2.56	2.96					1.84	2.16	1.68	2.08	2.00	2.24			14
														15
								2.24	2.48					1
3.76	3.76	3.76	4.08									2.00	2.32	2
								2.24	2.48					3
										2.24	2.80			4
2.80	3.20	3.04	3.44											5
		2.56	2.88	2.56	2.88			2.24	2.64			2.24	2.64	6
2.48	2.88													7
2.48	2.88		2.88			2.24	2.64	2.24	2.64	2.24	2.64	2.24	2.64	8
2.48	2.88	2.56	2.88			2.24	2.64	2.08	2.48			2.24	2.64	9
						2.24	2.64							10
2.48	2.88	2.56	2.88	2.56	2.88	2.24	2.64	2.08	2.48			2.24	2.64	11
														12
														13
2.48	2.88	2.56	2.88	2.56	2.88	2.24	2.64	2.08	2.48	2.24	2.64	2.24	2.64	14
		2.56	2.88	3.28	3.52							2.24	2.64	15
2.48	2.88	2.56	2.88	2.56	2.88	2.24	2.64	2.24	2.64	2.24	2.64	2.24	2.64	16
														17
2.56	2.96	2.56	2.88		2.88	2.24	2.64	2.08	2.48	2.24	2.64	2.24	2.64	18
2.56	2.96					2.32	2.72							19
2.48	2.88							1.84	2.24	2.24	2.64	2.24	2.64	20
2.48	2.88	2.56	2.88	2.56	2.88	2.24	2.64	2.08	2.48			2.24	2.64	21
				2.56	2.88									22
2.48	2.88						2.64	1.84	2.24					23
														24
2.48	2.88	2.56	2.88	2.56	2.88	2.24	2.64	2.08	2.48	2.24	2.64	2.24	2.64	25
2.48	2.88					2.24	2.64	2.24	2.64	2.24	2.64	2.24	2.64	26
2.48	2.88					2.32	2.72							27
2.48	2.88													28
										2.24	2.64			29
								2.08	2.48					30
2.48	2.88	2.56	2.88	2.56	2.88	2.24	2.64	1.84	2.24	2.24	2.64	2.24	2.64	31
2.80	3.04						3.04	2.56	2.96			2.00	(1)	32
2.48	2.96	2.80	2.96	2.56	2.96	2.48	2.80					2.48	[2] 2.80	33
														34
1.68	2.08						2.00	1.44	1.84					35
3.84	4.24					3.20	4.00	3.44	3.84	3.44	3.84	3.76	4.16	1
4.24	4.72							4.00	4.72					2
		4.32	4.96					4.24	4.72					3
3.60	(1)	4.48	4.96	4.48	4.96			3.28	(1)			4.24	4.72	4
						3.04	3.20							5
4.32	4.72					4.00	4.64	4.00	4.40	4.00	4.40	3.32	4.40	6
4.24	4.72	4.48	4.96	4.00	4.96	4.24	4.72	4.24	4.72	4.16	4.72	4.24	4.72	7
								2.96	2.96					8
		3.04	3.44											9
		4.00	4.40			2.56	3.04	2.80	3.20			3.04	3.44	10
							3.04							11
								4.00	4.40					12
		4.40	4.96					3.84	4.08			4.00	4.48	13
3.76	4.24	3.60	4.32			3.28	4.24	3.44	4.16	4.00	4.16			14
3.84	[24] 4.72					3.84	[24] 4.72	3.84	[24] 4.72	3.76	[24] 4.72			15

[2] Authorized Nov. 12, 1917.

MAXIMUM SCALE OF DAILY WAGES FOR WORKERS IN SPECIFIED NAVY

Line No.	Occupation.	Portsmouth: Scale effective—		Boston: Scale effective—		Newport: Scale effective—		New York: Scale effective—	
		Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.
	GROUP III—continued.								
16	Canvas worker								
17	Carpenter, house	$4.24	$4.64	$4.24	$4.64	$4.16	$4.64	$4.24	$4.88
18	Casting cleaner	2.72	3.12						
19	Cement finisher								
20	Chauffeur	2.72	3.04	3.20	3.20	3.20	3.20	3.20	3.20
21	Checker								
22	Concrete worker			4.00	4.00				
23	Cooper			3.36	3.60			3.52	3.60
24	Coppersmith	4.32	4.80	4.40	4.80	4.08	4.80	4.56	4.88
25	Coremaker								
26	Craneman			2.88	3.20			2.88	3.20
27	Diesinker	5.04	5.44	5.28	5.52			5.28	5.52
28	Diver			6.00	6.00	6.08	6.72	9.60	9.60
29	Driller	3.36	3.76	3.20	3.76			3.60	3.84
30	Driver								3.28
31	Electrician	4.48	4.80	4.80	[1]			4.80	4.88
32	Electrician, chronograph								
33	Electrician, radio	5.28	5.28	5.28	5.28				
34	Electrician, storage battery			6.00	6.00			6.00	6.00
35	Electric dredge operator								
36	Electric welder								
37	Electroplater	3.68	4.08	3.68	4.08		4.24	4.00	4.40
38	Engineer	3.52	4.72	3.60	4.72	3.60	4.72	4.00	4.72
39	Engineer, fire								
40	Engineer, marine								4.48
41	Engineer, pile driver							4.24	4.24
42	Fabric worker								
43	Fireman	2.96	3.04	2.96	3.04	2.64	3.04	2.96	3.04
44	Flagmaker								
45	Flange turner	4.72	5.12	4.72	5.12			4.72	5.12
46	Forger, drop			4.72	5.12			4.72	5.12
47	Forger, heavy	5.04	5.76	4.80	5.20	4.32	4.80	5.76	6.16
48	Foundry chipper					2.64	2.88	3.04	3.04
49	Frame bender	4.64	5.28						
50	Furnaceman, forge								
51	Furnaceman, foundry					3.28	3.68		
52	Galvanizer	3.36	3.60	3.36	3.60			3.36	3.60
53	Gardener	2.72	3.04	3.12	3.12	3.12	3.12	3.04	3.12
54	Heater, furnace			3.60	3.60				
55	Instrument maker							5.52	6.00
56	Ironworker								
57	Joiner	4.24	4.64					4.40	4.88
58	Joiner, ship			4.24	4.64				
59	Lead burner								
60	Leather worker	2.72	3.12						
61	Lens grinder, telescope								
62	Letterer and grainer					3.76	4.16	4.48	4.48
63	Leveler	4.48	4.48	4.00	4.00				
64	Lineman								
65	Loftsman			5.04	5.28				
66	Machine operator					3.84	4.24		
67	Machinist	4.32	4.80	4.40	4.80			4.48	4.88
68	Machinist, all around					4.48	4.88		
69	Machinist, electrical	4.32	4.80			4.16	4.80		
70	Machinist, floor or vise hand								
71	Machinist, toolmaker								
72	Machinist, torpedo					4.96	5.36		
73	Marine engine erector								
74	Mason, brick	4.40	4.80	5.20	5.20	4.80	5.12	5.20	5.20
75	Mason, stone	4.40	4.80	5.20	5.20	4.80	5.12	4.56	4.80
76	Mattress maker								
77	Mechanic, electrical								
78	Melter	3.28	3.52	3.44	3.52			3.44	3.52
79	Melter, open-hearth								
80	Metallic cartridge-case maker								
81	Millman			4.00	4.64			4.40	4.88
82	Millwright			4.48	4.80				
83	Model maker, wood								
84	Model tester								
85	Molder	4.24	4.80	4.24	4.80	4.24	4.80	4.24	4.88
86	Molder, irregular woodwork	4.24	4.64						

[1] Position abolished.

YARDS OF THE UNITED STATES, EFFECTIVE NOV. 1, 1917—Continued.

Philadelphia: Scale effective—		Washington: Scale effective—		Indian Head: Scale effective—		Norfolk: Scale effective—		Charleston: Scale effective—		New Orleans: Scale effective—		Pensacola: Scale effective—		Line No.
Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	
		$3.60	$4.64											16
$4.32	$4.72			$4.32	$4.80	$4.00	$4.64	$3.12	$4.00	$3.84	$4.40	$3.36	$4.00	17
2.52	2.72	3.12	3.44											18
4.40	4.40						4.40						4.00	19
2.56	2.96	3.04	3.20			2.32	2.56	2.56	2.88			2.48	2.48	20
						2.48	2.64							21
2.24	2.72					4.00	(1)	3.60	4.00	3.20	3.20	3.28	(1)	22
						3.20	3.44							23
4.24	4.72	4.32	4.96			4.24	4.72	4.00	4.72	4.00	4.72	4.32	4.72	24
										2.72	2.72			25
2.88	3.20	3.20	3.44			2.88	3.20	2.64	2.96					26
		4.80	5.20			5.04	5.44			5.04	5.44			27
8.00	8.00					8.00	9.04	8.00	8.00	10.00	10.00			28
3.04	3.76					2.96	3.44	2.96	3.44	2.72	3.44			29
														30
						4.24	4.72	4.24	4.72	4.24	4.72	3.84	4.72	31
				5.28	5.28									32
5.28	5.52	5.28	5.28			5.28	6.00	5.20	5.20		5.28	5.28	5.28	33
						6.00	6.00							34
								4.48	4.72					35
		4.40	4.96						4.72					36
4.00	4.40					4.00	4.40			4.00	4.40	5.04	5.04	37
4.00	4.72	3.76	4.72	3.36	4.72	4.00	4.72	3.36	4.72	3.52	4.72	3.52	4.72	38
														39
				3.76	4.24									40
4.00	4.00											3.04	3.52	41
												3.04	3.52	42
2.72	2.96	2.72	3.04	2.48	3.04	2.40	2.72	2.32	2.40	2.72	3.04	2.32	[2]2.72	43
														44
3.52	4.24					4.64	5.12	4.48	5.04					45
		4.80	5.20			5.44	5.60							46
5.20	5.60	5.20	5.60			5.04	5.76	5.04	5.44					47
														48
4.80	5.12							4.80	5.12					49
		3.36	3.68			3.04	3.20			2.72	3.12			50
3.36	3.84	3.36	3.68			2.64	3.04					2.80	2.80	51
3.60	3.60					3.60	3.60	3.36	3.60	3.36	3.60			52
3.04	3.12	2.56	2.80	2.40	2.80	2.80	2.80	2.24	2.24	2.24	3.04	2.00	2.40	53
		3.36	3.68											54
												5.04	5.20	55
				4.64	4.96									56
4.32	4.72	4.32	4.80			4.00	4.64			4.00	4.40	3.52	4.40	57
		4.32	4.80					4.00	4.40					58
				6.88	6.88									59
		3.60	4.00											60
		4.56	4.96											61
		4.32	4.64											62
4.00	4.00													63
								3.04	3.04			2.88	3.04	64
4.80	5.28							5.04	5.28					65
		3.76	3.84											66
4.32	4.72					4.32	4.72	4.32	4.72	4.32	4.72			67
		4.56	4.96	4.56	4.96							4.40	4.72	68
4.32	4.72	4.56	4.96	4.56	4.96							4.40	4.72	69
		4.56	4.96											70
		4.56	4.96									4.40	4.72	71
														72
														73
5.28	5.28	5.20	5.36	5.20	5.36	5.04	5.20	4.00	4.00	5.20	5.20	4.48	5.04	74
4.80	4.80	5.20	5.36			5.04	5.20	4.00	4.00					75
3.20	3.52													76
										4.40	4.72			77
														78
		6.00	6.48											79
		3.52	3.92											80
3.76	4.24	3.52	4.00					3.60	4.00			3.28	4.00	81
3.52	4.24											3.24	4.72	82
		4.32	4.80											83
		3.52	3.92											84
4.24	4.72	4.48	4.96			4.24	4.72	4.00	4.72	4.00	4.72	4.00	4.72	85
														86

[2] Authorized Nov. 12, 1917.

MAXIMUM SCALE OF DAILY WAGES FOR WORKERS IN SPECIFIED NAVY

Line No.	Occupation.	Portsmouth: Scale effective—		Boston: Scale effective—		Newport: Scale effective—		New York: Scale effective—	
		Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.
	GROUP III—concluded.								
87	Molder, steel-casting	.....	.....	.....	.....	.....	.....	.....	.....
88	Motorman	.....	.....	.....	.....	.....	.....	.....	.....
89	Oakum spinner	.....	.....	$2.64	$2.80	.....	.....	.....	.....
90	Ordnance man	$3.52	$3.84	4.00	4.08	$3.84	$4.08	$4.00	$4.08
91	Packer	2.72	3.04	2.64	3.04	3.04	3.12	2.88	3.04
92	Painter	3.52	4.08	3.68	4.16	3.52	4.16	3.60	4.16
93	Pattern maker	4.32	4.80	4.40	4.80	4.32	4.80	4.56	4.88
94	Paver	.....	.....	4.48	4.48	.....	.....	4.48	4.48
95	Pile driver	3.44	(2)	.....	.....	2.72	(2)	.....	.....
96	Pilot, ferryboat	.....	.....	.....	.....	3.76	4.00	.....	.....
97	Pipe coverer	.....	.....	.....	.....	.....	.....	.....	.....
98	Pipe fitter	4.00	4.80	4.00	4.80	4.00	4.80	4.16	4.88
99	Plasterer	4.00	4.40	4.72	4.96	4.80	4.96	4.80	4.96
100	Plumber, house	4.32	4.80	4.48	4.80	4.24	4.80	4.48	4.88
101	Plumber, ship	4.32	4.80	4.40	4.80	.....	.....	4.48	4.88
102	Pressman	.....	.....	.....	.....	.....	.....	2.80	3.04
103	Puncher and shearer	3.36	3.76	3.28	3.68	.....	.....	3.76	4.00
104	Railroad conductor	.....	.....	.....	.....	.....	.....	.....	.....
105	Rigger	4.00	4.40	4.00	4.40	3.68	4.16	4.16	[1] 4.56
106	Riveter	3.84	[1] 4.80	3.84	[1] 4.80	.....	.....	4.00	[1] 4.88
107	Riveter, machine	.....	.....	.....	.....	.....	.....	.....	.....
108	Roller, brass and copper	.....	.....	.....	.....	.....	.....	.....	.....
109	Rodman	3.52	3.76	.....	.....	.....	.....	3.76	3.76
110	Roofer	3.52	(2)	4.80	4.80	.....	.....	4.80	4.88
111	Ropemaker	.....	.....	3.52	3.76	.....	.....	.....	.....
112	Sailmaker	4.00	4.40	4.00	4.40	.....	.....	4.00	4.40
113	Sand blaster	.....	.....	3.64	3.44	.....	.....	.....	.....
114	Saw filer	3.76	4.16	5.04	5.04	.....	.....	5.44	5.44
115	Seamstress	.....	.....	.....	.....	.....	.....	2.32	2.40
116	Sewing-machine operator	.....	.....	.....	.....	.....	.....	.....	.....
117	Sheet-metal worker	4.32	4.80	4.40	4.80	.....	.....	4.40	4.88
118	Ship fitter	4.32	4.80	4.48	4.80	.....	.....	4.48	4.88
119	Shipsmith	4.32	4.80	4.16	4.80	.....	.....	4.48	4.88
120	Shipwright	4.00	4.64	4.16	4.64	.....	.....	4.32	4.88
121	Spar maker	4.24	4.64	.....	.....	.....	.....	.....	.....
122	Steamfitter	.....	.....	.....	.....	.....	.....	.....	.....
123	Steel worker	.....	.....	.....	.....	.....	.....	.....	.....
124	Stevedore	.....	.....	.....	.....	.....	.....	3.04	3.20
125	Stonecutter	3.76	4.16	4.00	4.16	.....	.....	.....	.....
126	Switchman	.....	.....	2.88	2.96	.....	.....	2.88	2.96
127	Tinner	.....	.....	.....	.....	3.84	4.48	2.72	3.12
128	Tool dresser	3.68	4.08	4.00	4.08	.....	.....	.....	.....
129	Toolmaker	4.56	4.80	4.56	4.80	.....	.....	.....	.....
130	Tool sharpener	.....	.....	.....	.....	.....	.....	.....	.....
131	Towerman	.....	.....	.....	.....	.....	.....	.....	.....
132	Trackman	2.56	2.88	2.96	2.96	.....	.....	.....	.....
133	Turbine blader	.....	.....	.....	.....	.....	.....	.....	.....
134	Upholsterer	4.00	4.00	3.76	4.00	.....	.....	4.00	4.00
135	Varnisher and polisher	.....	.....	.....	.....	.....	.....	4.00	4.16
136	Water tender	.....	.....	.....	.....	.....	.....	3.20	3.20
137	Wharf builder	3.84	4.24	3.92	4.32	3.76	4.24	4.00	4.10
138	Wheelwright	.....	.....	3.52	3.92	.....	.....	3.52	3.92
139	Wireman	4.24	(2)	4.56	4.80	.....	.....	.....	.....
140	Wireworker	.....	.....	.....	.....	.....	.....	3.52	3.76
141	Woodworker, areo	.....	.....	.....	.....	.....	.....	.....	.....

[1] Authorized Nov. 12, 1917.

YARDS OF THE UNITED STATES, EFFECTIVE NOV. 1, 1917—Concluded.

Phliadelphia: Scale effective—		Washington: Scale effective—		Indian Head: Scale effective—		Norfolk: Scale effective—		Charleston: Scale effective—		New Orleans: Scale effective—		Pensacola: Scale effective—		Line No.
Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	Jan. 1, 1917.	Nov. 1, 1917.	
$4.24	$4.72	$4.48	$4.96	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	87
3.20	3.20	.....	.....	$3.12	$3.20	.....	.....	.....	.....	.....	.....	.....	.....	88
.....	.....	.....	.....	.....	.....	$1.84	$2.00	.....	.....	.....	.....	.....	.....	89
3.76	4.08	3.84	4.08	3.76	4.08	3.76	4.08	$3.28	$3.60	.....	.....	.....	.....	90
.....	.....	.....	.....	.....	.....	2.08	2.48	2.80	3.04	.....	.....	$2.80	$3.04	91
3.68	4.16	3.92	4.16	3.92	4.16	3.68	4.16	3.20	4.08	$3.52	[1]$4.08	3.44	4.08	92
4.32	4.72	4.64	4.96	4.48	4.96	4.32	4.72	4.24	4.72	4.08	4.72	4.32	4.72	93
4.24	4.48	.....	.....	.....	.....	3.84	4.00	3.52	3.84	.....	.....	.....	.....	94
3.44	(2)	.....	.....	.....	.....	2.24	3.20	.....	.....	.....	4.00	3.28	4.00	95
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	96
4.00	4.40	.....	.....	.....	.....	4.00	4.40	3.36	3.76	3.04	3.44	3.04	3.44	97
4.24	4.72	4.40	4.96	4.32	4.96	4.24	4.72	3.60	4.72	3.84	4.72	3.84	4.72	98
5.04	5.04	5.20	5.56	.....	.....	5.04	5.04	4.40	4.80	4.48	4.80	4.56	4.80	99
4.40	4.72	4.40	4.96	4.32	4.96	4.40	4.72	4.40	4.72	.....	.....	4.40	4.72	100
4.24	4.72	.....	.....	.....	.....	4.24	4.72	4.24	4.72	4.48	4.72	.....	.....	101
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	102
3.36	3.76	.....	.....	.....	.....	2.80	3.20	2.72	3.20	2.80	3.20	.....	.....	103
.....	.....	.....	.....	.....	.....	3.60	3.60	.....	.....	.....	.....	.....	.....	104
3.76	4.16	3.92	4.40	3.52	4.40	3.76	4.24	3.76	4.16	3.60	4.08	3.28	3.76	105
3.84	[1]4.72	.....	.....	.....	.....	3.84	[1]4.72	.....	[1]4.72	3.76	[1]4.72	.....	.....	106
3.84	(2)	.....	.....	.....	.....	.....	.....	3.84	4.32	.....	.....	.....	.....	107
.....	.....	3.60	4.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	108
3.52	3.76	3.12	3.44	3.04	3.44	3.04	3.44	.....	.....	3.04	3.44	3.52	3.52	109
.....	.....	4.32	(2)	.....	.....	4.00	4.72	3.28	3.68	.....	.....	4.00	(2)	110
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	111
4.00	4.40	.....	.....	.....	.....	4.00	4.40	3.76	4.16	3.44	3.84	.....	.....	112
.....	.....	3.44	3.68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	113
5.28	5.28	.....	.....	.....	.....	5.28	5.28	4.00	4.40	.....	.....	.....	.....	114
.....	3.04	2.32	2.56	.....	.....	.....	2.56	.....	.....	.....	.....	.....	.....	115
3.04	3.04	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	116
4.00	4.72	.....	.....	4.16	4.72	4.00	4.72	4.00	4.72	4.00	4.72	4.00	4.72	117
4.48	4.80	.....	.....	.....	.....	4.48	4.80	4.48	4.80	4.24	4.80	4.32	4.80	118
4.24	4.72	.....	.....	.....	.....	4.24	4.72	4.24	4.72	4.16	4.72	.....	.....	119
4.32	4.72	4.08	4.80	.....	.....	4.00	4.64	4.00	4.40	3.84	4.40	.....	.....	120
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	121
.....	.....	.....	.....	.....	.....	.....	.....	4.00	4.72	.....	.....	.....	.....	122
.....	.....	4.32	4.72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	123
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	124
.....	.....	4.24	4.24	.....	.....	4.48	4.48	.....	.....	.....	.....	.....	.....	125
2.48	2.96	.....	.....	.....	.....	.....	.....	3.28	3.28	.....	.....	.....	.....	126
.....	.....	4.24	4.64	.....	.....	.....	.....	.....	.....	.....	.....	4.00	4.40	127
.....	.....	.....	.....	.....	.....	.....	.....	4.00	4.08	.....	.....	.....	.....	128
4.32	4.72	.....	.....	.....	.....	4.32	4.72	4.32	4.72	4.32	4.72	.....	.....	129
.....	.....	.....	.....	.....	.....	3.12	3.28	2.96	2.96	.....	.....	.....	.....	130
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	131
.....	.....	3.52	3.92	3.28	3.92	3.76	4.00	2.88	3.20	.....	.....	2.56	2.56	132
.....	.....	.....	.....	.....	.....	.....	.....	4.48	4.72	.....	.....	.....	.....	133
4.00	4.00	3.36	3.52	.....	.....	4.00	4.00	3.76	3.76	.....	.....	2.32	(2)	134
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	135
3.04	3.12	.....	.....	3.20	3.20	2.64	2.88	2.80	3.04	.....	.....	.....	.....	136
3.76	4.16	.....	.....	.....	.....	3.52	4.24	3.52	4.00	3.52	4.00	3.20	3.92	137
.....	.....	.....	.....	.....	.....	3.44	3.84	3.44	3.84	.....	.....	.....	.....	138
.....	.....	4.40	4.96	4.40	4.96	.....	.....	3.28	3.68	3.76	4.16	.....	.....	139
3.60	3.76	.....	.....	.....	.....	.....	.....	3.28	3.52	.....	.....	3.28	3.60	140
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.32	4.64	141

[2] Position abolished.

COAL PRICES ADVANCED IN CONNECTION WITH INCREASE IN WAGES OF MINERS.

On October 27 the President issued an order, effective at 7 a. m. October 29, based on information furnished him by the Fuel Administrator, granting an increase of 45 cents per ton over the scale of prices for bituminous coal at the mine as prescribed in the Executive order of August 21, 1917. This increase, however, is subject to two restrictions: (1) It shall not apply to any coal sold at the mine under an existing contract containing a provision for an increase in the price of coal thereunder in the case of an increase of wages paid to miners, and (2) it shall not apply in any district in which the operators and miners fail to agree upon a penalty provision satisfactory to the Fuel Administrator for the automatic collection of fines in the spirit of the agreement entered into between the operators and miners at Washington on October 6, 1917.

The Washington agreement provides for wage increases and became effective the first pay period following the President's order of October 27, to which reference has been made. These increases in wages were effected as a result of a conference held in Washington between operators and the miners of the central field, and include an advance of 10 cents per ton to miners, advances ranging from 75 cents to $1.40 a day to laborers, and an advance of 15 per cent for yardage and day workers. The text of the agreement is as follows:

The following agreement, supplemental to the existing interstate and district agreements, is entered into with the hope and belief that the advance in wages will result in an increased production of coal and the abolition of local strikes.

It is agreed:

First. That the mining prices for mining mine-run coal, pick and machine, in the present contract be advanced 10 cents per ton.

In the Block Coal Field of Indiana the screen coal price to be advanced 12½ cents per ton.

Second. That all day labor and monthly men except trappers and other boys be advanced $1.40 per day. Trappers to be advanced 75 cents per day. Boys now being paid more than $1.90 per day and less than men's wages shall be advanced $1 per day.

Third. That all yardage, deadwork, and room turning be advanced 15 per cent.

Fourth. Subject to the next biennial convention of the United Mine Workers of America, the mine workers' representatives agree that the present contract be extended during the continuation of the war, not to exceed two years from April 1, 1918.

Whereas, stoppage of work in violation of the agreement has become so serious as to menace the success and perpetuity of the United Mine Workers of America and our joint relations, this conference instructs the respective district executive boards to meet the operators in their various districts for the purpose of agreeing on a penalty clause where none now exists, and if necessary meet to amend and strengthen existing clauses so as to make the penalty more effective in preventing strikes and violations of agreements.

All fines provided for in all agreements shall be automatically collected, and any operator failing to collect and forward to proper parties such fine shall pay a penalty of $2 for each employee subject to be fined, the same to be collected and retained in the miners' district organization. And in no case shall any fine be refunded except by mutual agreement of the accredited representatives of the operators and miners.

It is further agreed that where any employee enters suit in the civil courts to recover any fine collected in accordance herewith the district organization shall reimburse the operator for expense incurred on account of such suit.

This agreement is subject to and will become effective only on the condition that the selling price of coal shall be advanced by the United States Government sufficient to cover the increased cost in the different districts affected, and will take effect on the first day of the pay period following the order advancing such increased prices.

In recommending to the President the 45-cent advance in prices of bituminous coal as indicated, the Fuel Administrator stated that these wage increases mean an advance over the wages of April 1, 1914, of 50 per cent to miners and of 78 per cent to the best-paid laborers, which "are not in excess of the advance in the cost of living for that period." It is further explained in this communication to the President that the Fuel Administrator, in reaching the conclusion that prices of coal should be increased, was influenced partly by the provisions of the agreement intended to secure an increased and uninterrupted production of coal. The communication continues:

Under the provisions of the draft law, miners are not excluded as a class. Considerable inroads have been made, as a result of the first draft, upon mine labor. Moreover, the conditions surrounding the industry in ordinary times account for the fact that the average number of days' work in the year has been from 200 to 230 only. They also, in part, account for the fact that the average hours of labor per day have fallen considerably below the 8 hours stipulated in wage agreements. It is the deliberate judgment of the best informed among the representatives of the miners' union that if the miners now at work should labor in the mines eight hours during even five days of the week, there would be no shortage of coal. It is the purpose of the proposed supplemental agreement to secure an approximation at least of this result by means of fines automatically collected. These fines are quite distinct from the penalizing fines sometimes attempted to be imposed by employers for their own benefit.

MINIMUM WAGE.

MINIMUM WAGE FOR MINORS IN THE STATE OF WASHINGTON.

The following order relating to minimum wages and to conditions of labor of minors was issued by the Industrial Welfare Commission of the State of Washington September 14, 1917:

Pursuant to the authority vested in it by chapter 174, Session Laws of Washington for 1913, the Industrial Welfare Commission, after due investigation of wages and conditions of labor of minors employed in the industries hereinafter mentioned and due determination of wages and conditions of labor suitable for such minors hereby orders:

(1) That the word "person" is used in this order to include corporations, copartnerships, and associations as well as individuals.

(2) That no person shall employ any minor in or in connection with any mercantile, manufacturing, printing, laundering, or dye-works establishment, sign-painting, machine, or repair shop, or parcel-delivery service, at a weekly wage rate of less than $6 for minors under 16 years of age, or of less than $7 for minors between 16 and 18 years of age; nor shall such minor be employed or permitted to work in any such industry more than eight hours in any day or more than six days in any week, or after the hour of 7 p. m. or before the hour of 6 a. m. (See paragraph (5) below.)

(3) That no person shall employ any minor in or in connection with any telephone or telegraph establishment, at a weekly wage rate of less than $6 for minors under 16 years of age, or of less than $7 for minors between 16 and 18 years of age: *Provided*, That this order shall not apply to messengers in rural communities and cities of less than 3,000 population who are not continuously employed and who are paid by piece rate for their services; nor shall any minor be employed in such occupation before 6 a. m. or after 9 p. m.: *Provided*, That if, after investigation by the commission of any particular establishment, conditions are found not to be detrimental to the health or morals of minors, permits may be issued by the commission to male minors for night employment. (See paragraph (5) below.)

(4) That no person shall employ any minor in the occupation of stenographer, bookkeeper, typist, billing clerk, filing clerk, cashier, checker, invoicer, comptometer operator, or any clerical office work whatsoever, including assistants and helpers in doctors' and dentists' offices, at a weekly wage rate of less than $6 for minors under 16 years of age, or of less than $7.50 for minors between 16 and 18 years of age. (See paragraph (5) below.)

(5) That no person shall employ any minor between the age of 16 and 18 years in any of the occupations mentioned in paragraphs 2, 3, and 4 of this order without increasing the weekly wages of such minor by 50 cents per week after every six months of service, or until the minimum wage of adult females is paid.

(6) That no person shall employ any minor in any hotel, lodging house, restaurant, or lunch-room occupation at a weekly wage rate of less than $7

for minors under 16 years of age or of less than $8 for minors between 16 and 18 years of age: *Provided*, That where lodging is furnished by the employer to any minor employed in such occupation as part payment of wages not more than $2 per week may be deducted therefor from the weekly minimum wage of such employee, and if a room be furnished for such lodging it must be properly heated and ventilated and of size and condition conforming to the general standard of rooms in the locality which are rented for the amount thus deducted from the wages: *And provided*, That where board or meals are furnished by the employer to such minor employee as part payment of wages, not more than $3.50 per week may be deducted from the weekly minimum wage of such employee for a full week's board of 21 meals, or a proportionate amount for less than a week's board: *And provided*, That where both board and lodging are furnished by the employer to such minor employee as part payment of wages not more than $5 per week may be deducted from the weekly minimum wage, and the lodging thus furnished shall comply with the requirements hereinabove set forth.

(7) That no person shall employ any female under the age of 18 years as "shaker" in a laundry, such occupation being hereby declared injurious to the health of minor girls, nor as clerk in selling cigars or tobacco, nor as messenger or delivery girl in out-door messenger or delivery service, such occupations being hereby declared injurious to the morals of minor girls.

(8) That this order shall become effective 60 days from the date hereof, to wit, on November 14, 1917, and shall supersede the following-described orders of the commission: No. 2, dated April 28, 1914; No. 4, dated June 2, 1914; No. 6, dated June 25, 1914; No. 9, dated August 7, 1914; No. 11, dated December 21, 1914; and No. 13, dated June 18, 1915.

DETERMINATION OF WAGES BY THE STATE IN GERMANY, AUSTRIA, AND SWITZERLAND.[1]

Of late there have been repeated instances in which Governments have fixed minimum wages in the interest of labor. In Germany the first step to induce the Government to fix minimum wages was taken in January, 1911, by the conference of German home workers, which in a resolution requested the Government to fix by legislation minimum wages for home workers, so that in order to earn a living they would no longer be forced to work excessive overtime. This resolution brought no immediate results, but during the present war the Government in awarding contracts for war material has often prescribed minimum wages for home workers, and the national auxiliary service law, while making labor compulsory, also provides that the wage and general labor conditions must correspond to present living conditions.

The Austrian auxiliary service law, which is much stricter than the corresponding German law, also provides that the wages of labor employed under the law must correspond to local living and labor conditions and provides special commissions for the enforcement of

[1] From Vorwärts. Staatliche Lohnfestsetzung. Berlin, Aug. 1, 1917.

this provision. These commissions have authority to decide all disputes relating to wages or general labor conditions, such as hours of labor, rest periods, safety and sanitary conditions, and housing and boarding of workers. The parties to a dispute brought before such a commission may be represented by trade representatives or organizations, managers, or employees. Employers or their authorized representatives who do not pay the wages or observe the labor conditions which the commission has determined may be punished with imprisonment up to three months or a fine up to 20,000 crowns ($4,060), and the law makes the employer liable for fines imposed upon his authorized representatives.

In Switzerland the embroidery industry has suffered considerably from the war. To alleviate the distress of employees of embroidery establishments caused by unemployment or part-time employment the Federal Council, in December, 1916, issued a decree creating in several cantons emergency funds for the embroidery industry, from which needy employees receive subsidies. The capital of these funds was raised through assessment of the embroidery manufacturers and voluntary donations. The manufacturers were assessed one-fourth of 1 per cent of the value of their average yearly output during the years 1913 to 1915.

Some employers of the embroidery industry attempted to reduce the wages of their workmen. This led to an order, based on the above decree of the Federal Council, establishing minimum piece and time wages for embroidery workers. The minimum piecework wages were fixed at from 35 to 37 rappen (6.8 to 7.1 cents) per 100 stitches and the minimum time wages at from 22 to 60 rappen (4.2 to 11.6 cents) per hour. Contraventions of the order are punishable with a fine up to 10,000 francs ($1,930) or with imprisonment up to three months, or with both. Both parties are punishable for contraventions of the provisions relating to minimum piecework wages, while only the employer is liable for contraventions of the provisions relating to time wages.

EMPLOYMENT AND UNEMPLOYMENT.

WORK OF FEDERAL, STATE, AND MUNICIPAL EMPLOYMENT OFFICES IN THE UNITED STATES AND OF PROVINCIAL EMPLOYMENT OFFICES IN CANADA.

In the following table statistics are presented showing the operations of public employment offices during the month of October, 1917, and the corresponding month in 1916. For the United States the table includes figures for Federal employment offices in 27 States and the District of Columbia, Federal-State employment offices in 4 States, Federal-State-county-municipal employment offices in 2 States, Federal-municipal employment offices in 2 States, State employment offices in 16 States, State-municipal employment offices in 3 States, municipal employment offices in 7 States, and a municipal-private employment office in 1 State. The total number of employment offices in the United States represented in the table is 152. Figures for two Canadian employment offices are also given.

OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, OCTOBER, 1916 AND 1917.

UNITED STATES.

State, city, and kind of office.	Applications from employers.		Persons asked for by employers.		Persons applying for work.				Persons referred to positions.		Positions filled.	
					New registrations.		Renewals.					
	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.
Alabama.												
Mobile (Federal)	.....	.....	.....	.....	[1] 6	[1] 4	(2)	(2)	.....	.....	.....	.....
Arkansas.												
Little Rock (State)	.....	67	.....	475	.....	101	.....	176	.....	302	.....	126
California.												
Fresno (State)	.....	774	.....	2,070	.....	994	.....	(2)	.....	1,815	.....	1,688
Los Angeles (Federal)	1	74	1	99	[1] 90	[1] 410	(2)	(2)	1	124	1	80
Los Angeles (State-municipal)[3]	3,337	4,798	5,565	8,985	2,305	[1] 3,344	(2)	(2)	5,365	7,934	4,852	7,239
Oakland (State)	578	1,651	965	3,485	502	1,187	375	(2)	1,003	2,423	713	1,830
Sacramento (Federal)	.....	7	.....	514	.....	24	.....	(2)	.....	13	.....	6
Sacramento (State)	428	728	1,310	2,267	791	931	361	(2)	1,104	1,780	1,032	1,681
Sacramento (municipal)	(2)	262	336	(2)	65	61	(2)	(2)	336	(2)	336	344
San Diego (Federal)	431	763	883	1,845	[1] 854	[1] 961	(2)	(2)	923	1,412	726	1,211
San Francisco (Federal)	425	810	616	3,344	[1] 1,320	[1] 2,765	(2)	(2)	776	2,406	457	1,845
San Francisco (State)	1,264	3,125	3,114	7,125	2,713	3,209	1,041	(2)	2,880	6,597	2,178	5,165
Santa Barbara (Federal)	.....	1	.....	20	.....	10	.....	(2)	.....	2	.....	2
Total	.....	.....	.....	.....	.....	.....	.....	.....	12,388	24,506	10,295	12,388

[1] Number applying for work. [2] Not reported. [3] Includes Los Angeles district, 8 counties.

OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, OCTOBER, 1916 AND 1917—Continued.

UNITED STATES—Continued.

State, city, and kind of office.	Applications from employers.		Persons asked for by employers.		Persons applying for work.				Persons referred to positions.		Positions filled.	
					New registrations.		Renewals.					
	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.
Colorado.												
Colorado Springs (State)	(1)	706	593	706	682	[2] 575	(1)	(1)	565	(1)	(1)	485
Denver (Federal)	4	7	43	46	[2] 23	[2] 96	(1)	(1)	8	96	2	.....
Denver No. 1 (State)	(1)	958	588	958	404	[2] 686	(1)	(1)	378	(1)	(1)	594
Denver No. 2 (State)	(1)	1,191	468	1,191	374	[2] 684	(1)	(1)	286	(1)	(1)	629
Grand Junction (State)[3]	.....	112	.....	240	.....	[2] 312	.....	(1)	.....	(1)	.....	240
Pueblo (State)	(1)	753	717	753	672	[2] 642	(1)	(1)	617	(1)	(1)	634
Total	.....	.....	.....	.....	.....	.....	.....	.....	1,854	96	2	2,582
Connecticut.												
Bridgeport (State)	(1)	(1)	822	787	[2] 1,070	[2] 875	(1)	(1)	(1)	(1)	739	714
Hartford (State)	(1)	(1)	1,272	1,294	[2] 1,576	[2] 1,577	(1)	(1)	(1)	(1)	947	1,150
New Haven (State)	(1)	(1)	1,072	1,210	[2] 1,226	[2] 1,280	(1)	(1)	(1)	(1)	868	1,052
Norwich (State)	(1)	(1)	180	262	[2] 200	[2] 305	(1)	(1)	(1)	(1)	170	251
Waterbury (State)	(1)	(1)	154	177	[2] 168	[2] 234	(1)	(1)	(1)	(1)	111	136
Total	.....	.....	.....	.....	.....	.....	.....	.....	(1)	(1)	2,835	3,303
Delaware												
Wilmington (Federal)	21	29	70	1,308	[2] 52	[2] 314	(1)	(1)	60	307	51	280
District of Columbia.												
Washington (Federal)	.....	590	.....	3,235	.....	[2] 1,832	.....	(1)	.....	1,605	.....	1,469
Florida.												
Jacksonville (Federal)	1	1	500	950	[2] 21	[2] 887	(1)	(1)	.....	1,286	.....	430
Miami (Federal)	9	7	19	20	[2] 45	[2] 43	(1)	(1)	16	10	15	3
Total	.....	.....	.....	.....	.....	.....	.....	.....	16	1,296	15	433
Georgia.												
Savannah (Federal)	3	5	50	150	[2] 129	[2] 115	(1)	(1)	36	30	36	22
Idaho.												
Boise (municipal)	94	125	94	150	94	113	(1)	(1)	94	113	83	103
Moscow (Federal)	.....	50	.....	600	.....	[2] 57	.....	(4)	.....	57	.....	57
Total	.....	.....	.....	.....	.....	.....	.....	.....	94	170	83	160
Illinois.												
Chicago (Federal)	318	406	1,820	2,399	[2] 1,885	[3] 2,611	(1)	(1)	1,757	2,135	1,730	1,872
Chicago (State)	4,459	4,492	11,216	14,031	11,056	13,434	1,747	1,055	11,729	14,089	8,830	11,210
East St. Louis (State)	667	792	1,536	1,399	771	587	589	581	1,300	1,159	1,137	1,099
Peoria (State)	873	1,109	1,426	1,815	245	523	808	981	1,003	1,476	996	1,470
Rock Island-Moline (State)	(1)	1,040	727	3,048	1,231	1,481	(1)	732	(1)	2,087	615	1,934
Rockford (State)	619	864	1,258	1,401	708	921	211	167	863	893	762	796
Springfield (State)	558	726	780	1,176	255	401	422	662	614	1,029	582	792
Total	.....	.....	.....	.....	.....	.....	.....	.....	17,266	22,868	14,652	19,173
Indiana.												
Evansville (State)	(1)	207	(1)	379	(1)	(1)	(1)	(1)	(1)	461	(1)	379
Indianapolis (Federal)	111	213	583	1,022	[4] 407	[4] 1,449	(1)	(1)	401	784	377	618
Indianapolis (State)	479	1,455	884	1,488	429	1,284	55	137	397	1,421	397	1,421
South Bend (State)	328	281	1,074	540	427	300	90	141	481	430	407	407
Terre Haute (State)	(1)	175	(1)	328	(1)	190	(1)	41	(1)	231	(1)	212
Total	.....	.....	.....	.....	.....	.....	.....	.....	1,279	3,327	1,181	3,037

[1] Not reported.
[2] Number applying for work.
[3] Temporary office, conducted during fruit season.
[4] Figures for this office showing number referred to positions are incomplete.

OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, OCTOBER, 1916 AND 1917—Continued.

UNITED STATES—Continued.

State, city, and kind of office.	Applications from employers.		Persons asked for by employers.		Persons applying for work.				Persons referred to positions.		Positions filled.	
					New registrations.		Renewals.					
	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.
Iowa.												
Des Moines (Federal-State)	60	106	317	2,844	136	550	19	29	138	[1] 572	69	356
Kansas.												
Topeka (State)	19	100	118	650	73	478	(2)	2	60	410	59	390
Kentucky.												
Louisville (State)	687	282	687	266	(2)	[1] 304	(2)	(2)	873	266	873	266
Louisville (municipal-private)	(2)	385	285	589	332	258	705	442	290	481	128	192
Total	.....	.....	.....	.....	.....	.....	.....	.....	1,163	747	1,001	458
Louisiana.												
New Orleans (Federal-State)	82	122	100	1,540	[2] 348	[1] 140	(2)	(2)	168	1,558	39	1,437
Maine.												
Portland (Federal)	1	1	1	135	.....	[1] 6	(2)	(2)	1	3	1	3
Maryland.												
Baltimore (Federal)	153	77	217	169	[3] 240	[3] 567	(2)	(2)	164	573	160	457
Massachusetts.												
Boston (Federal)	.....	169	.....	1,092	[3] 50	[3] 2,432	(2)	(2)	5	2,001	5	930
Boston (State)	2,497	2,002	2,728	2,352	[4] 1,485	[4] 1,635	(2)	(2)	[5] 3,721	[5] 3,697	1,593	1,509
Springfield (State)	1,067	1,025	1,500	1,473	[4] 516	[3] 743	(2)	(2)	[5] 1,673	[5] 1,832	1,117	1,119
Worcester (State)	1,005	1,019	1,301	1,269	[4] 608	[3] 654	(2)	(2)	[5] 1,407	[5] 1,520	713	806
Total	.....	.....	.....	.....	.....	.....	.....	.....	6,806	9,050	3,428	4,364
Michigan.												
Battle Creek (State)	96	281	192	482	154	450	(2)	(2)	143	450	143	450
Bay City (State)	38	44	120	143	84	145	(2)	(2)	84	137	84	127
Detroit (State)	510	1,219	6,531	4,696	(2)	4,696	(2)	(2)	5,992	4,696	5,992	4,684
Flint (State)	86	448	886	1,731	771	1,037	(2)	(2)	771	1,014	771	976
Grand Rapids (State)	476	579	896	1,053	891	1,077	(2)	(2)	872	996	872	896
Jackson (State)	359	452	828	686	838	666	(2)	(2)	810	666	794	648
Kalamazoo (State)	305	340	460	657	430	750	(2)	(2)	415	664	415	376
Lansing (State)	96	134	275	697	262	704	(2)	(2)	246	691	246	670
Muskegon (State)	60	77	230	724	235	237	(2)	(2)	222	199	205	193
Saginaw (State)	183	182	946	680	790	463	(2)	(2)	790	463	790	463
Total	.....	.....	.....	.....	.....	.....	.....	.....	11,329	9,976	11,236	9,483
Minnesota.												
Duluth (State)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	1,379	1,509
Minneapolis (Federal)	19	3	22	4	[3] 28	[3] 63	(2)	(2)	10	.....	9	.....
Minneapolis (State)	(2)	(2)	(2)	4,584	(2)	[3] 4,077	(2)	(2)	(2)	3,957	2,573	2,995
St. Paul (State)	(2)	(3)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	1,586	1,563
Total	.....	.....	.....	.....	.....	.....	.....	.....	10	3,957	5,547	6,067
Mississippi.												
Gulfport (Federal)	.....	3	.....	544	[3] 63	[3] 166	(2)	(2)	.....	55	.....	40

[1] Figures for this office showing number referred to positions are incomplete.
[2] Not reported.
[3] Number applying for work.
[4] Number who were registered.
[5] Number of offers of positions.

OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, OCTOBER, 1916 AND 1917—Continued.

UNITED STATES—Continued.

State, city, and kind of office.	Applications from employers.		Persons asked for by employers.		Persons applying for work.				Persons referred to positions.		Positions filled.	
					New registrations.		Renewals.					
	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916	Oct., 1917.	Oct., 1916.	Oct., 1917.
Missouri.												
Kansas City (Federal-State)	847	1,319	2,689	2,797	[2] 2,215	[2] 2,162	(1)	(1)	2,024	1,939	1,679	1,861
St. Joseph (State)	735	847	1,570	1,485	1,055	1,030	(1)	(1)	1,055	1,030	1,052	1,026
St. Louis (Federal-State)	265	295	647	2,304	[2] 378	1,870	(1)	(1)	365	1,805	354	1,784
Total									3,444	4,774	3,085	4,671
Montana.												
Butte (municipal)	606	(1)	380	503	640	[2] 507	(1)	(1)	560	(1)	345	474
Helena (Federal)					3	1	(1)	(1)		1		
Total									560	1	345	474
Nebraska.												
Lincoln (Federal)		166		450		[2] 406		(1)		391		306
Omaha (Federal-State-county-municipal)		1,115		2,277		770		616		1,283		1,061
Total										1,674		1,367
Nevada.												
Reno (Federal)	52	105	192	388	[2] 178	[2] 182	(1)	(1)	178	182	178	18
New Jersey.												
Jersey City (Federal-State)	50	106	548	977	[2] 313	582	(1)	(1)	195	823	163	804
Newark (Federal-State)	819	3,192	2,929	1,161	[2] 3,423	1,643	(1)	(1)	2,556	4,810	1,854	5,683
Orange (Federal-State)		358		1,016		301		(1)		392		371
Total									2,741	6,025	2,017	6,858
New York.												
Albany (State)	570	669	838	972	600	539	272	373	939	978	516	640
Buffalo (Federal)	160	1,482	1,104	2,323	[2] 1,181	2,792	(1)	(1)	1,150	2,500	986	2,084
Buffalo (State)	1,067	1,483	2,118	2,234	1,605	1,508	104	193	2,118	2,429	2,134	1,884
New York City (Federal)	148	3,662	343	7,986	[2] 1,063	[2] 9,341	(1)	(1)	499	6,185	450	4,183
New York City (State)	1,757	2,288	2,495	2,852	1,325	1,450	598	980	2,694	2,931	1,601	1,858
New York City (municipal)	2,977	2,793	3,304	2,962	2,528	2,274	(1)	2,517	4,311	3,818	2,138	2,469
Rochester (State)	1,608	1,720	2,262	2,673	945	1,547	343	618	1,896	2,546	1,183	1,716
Syracuse (State)	926	1,111	1,293	1,741	579	937	123	305	1,029	1,861	790	1,108
Total									14,636	23,248	9,798	15,942
Ohio.												
Akron (State-municipal)	(1)	(1)	2,063	2,415	780	729	1,401	1,861	1,629	1,923	1,382	1,630
Athens (State-municipal)		(1)		136		42		56		100		87
Canton (State-municipal)		(1)		645		564		207		610		372
Chillicothe (State-municipal)		(1)		1,426		910		179		1,425		1,423
Cincinnati (State-municipal)	(1)	(1)	1,819	2,889	1,342	2,249	2,382	3,263	1,983	2,983	1,078	2,159
Cleveland (Federal)	7	17	11	127	[2] 91	[2] 153	(1)	(1)	82	136	31	50
Cleveland (State-municipal)	(1)	(1)	8,184	8,019	2,961	2,958	7,571	8,272	7,232	7,179	5,969	5,742
Columbus (State-municipal)	(1)	(1)	2,673	4,007	896	2,065	2,590	2,998	2,290	3,579	1,872	2,891

[1] Not reported.

[2] Number applying for work.

OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, OCTOBER, 1916 AND 1917—Continued.

UNITED STATES—Continued.

State, city, and kind of office.	Applications from employers.		Persons asked for by employers.		Persons applying for work.				Persons referred to positions.		Positions filled.	
					New registrations.		Renewals.					
	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.
Ohio—Concluded.												
Dayton (State-municipal)	(1)	(1)	1,138	1,875	640	1,106	905	1,226	910	1,707	813	1,362
Hamilton (State-municipal)	.....	(1)	.....	289	.....	229	.....	100	.....	288	.....	208
Lima (State-municipal)	.....	(1)	.....	490	.....	423	.....	161	.....	490	.....	411
Mansfield (State-municipal)	.....	(1)	.....	326	.....	193	.....	96	.....	240	.....	201
Marietta (State-municipal)	.....	(1)	.....	307	.....	193	.....	117	.....	275	.....	231
Marion (State-municipal)	.....	(1)	.....	346	.....	312	.....	141	.....	418	.....	324
Portsmouth (State-municipal)	.....	(1)	.....	423	.....	430	.....	126	.....	455	.....	322
Sandusky (State-municipal)	.....	(1)	.....	342	.....	266	.....	107	.....	288	.....	201
Springfield (State-municipal)	.....	(1)	.....	336	.....	223	.....	179	.....	242	.....	148
Steubenville (State-municipal)	.....	(1)	.....	657	.....	418	.....	302	.....	654	.....	554
Tiffin (State-municipal)	.....	(1)	.....	344	.....	290	.....	143	.....	319	.....	288
Toledo (State-municipal)	(1)	(1)	4,898	4,996	1,762	2,633	2,570	4,951	3,093	5,074	2,640	4,477
Washington C. H. (State-municipal)	.....	(1)	.....	180	.....	122	.....	59	.....	202	.....	148
Youngstown (State-municipal)	(1)	(1)	1,198	2,076	625	1,095	1,089	1,455	1,123	1,843	971	1,596
Zanesville (State-municipal)	.....	(1)	.....	191	.....	163	.....	75	.....	172	.....	87
Total	.....	.....	.....	.....	.....	.....	.....	.....	18,342	30,602	14,756	24,912
Oklahoma.												
Enid (State)	(1)	130	111	267	(1)	[2] 129	(1)	(1)	(1)	126	156	118
Muskogee (State)	(1)	408	257	844	(1)	[2] 321	(1)	(1)	(1)	308	231	274
Oklahoma City (State)	(1)	343	641	1,060	(1)	[2] 721	(1)	(1)	(1)	696	592	587
Tulsa (State)	(1)	1,053	825	2,609	(1)	[2]1,348	(1)	(1)	(1)	1,284	809	1,276
Total	.....	.....	.....	.....	.....	.....	.....	.....	(1)	2,414	1,788	2,255
Oregon.												
Astoria (Federal)	58	9	344	669	[2] 366	[2] 47	(1)	(1)	189	13	184	13
Portland (Federal-municipal)	1,507	1,544	5,720	5,137	[2]4,260	4,744	(1)	(1)	4,114	4,857	3,908	4,615
Total	.....	.....	.....	.....	.....	.....	.....	.....	4,303	4,870	4,092	4,628
Pennsylvania.												
Altoona (State)	(1)	56	67	203	16	81	6	46	26	66	25	65
Erie (State)	.....	178	.....	513	.....	119	.....	2	.....	93	.....	84
Harrisburg (State)	(1)	131	437	180	240	178	77	94	222	245	192	222
Johnstown (State)	(1)	79	180	173	50	68	10	16	55	77	46	70
Philadelphia (Federal)	119	257	468	754	[2] 266	969	(1)	(1)	245	816	182	779
Philadelphia (State)	(1)	1,064	1,186	3,606	806	5,027	511	678	1,121	3,170	946	3,037
Pittsburgh (Federal)	33	25	412	1,339	[2] 788	460	(1)	(1)	512	429	461	406
Pittsburgh (State)	(1)	187	789	1,308	700	386	143	117	544	389	479	356
Scranton (State)	.....	50	.....	79	.....	64	.....	.....	.....	37	.....	37
Williamsport (State)	.....	123	.....	431	.....	244	.....	44	.....	108	.....	96
Total	.....	.....	.....	.....	.....	.....	.....	.....	2,725	5,530	2,331	5,152
Rhode Island.												
Providence (Federal)	.....	26	.....	705	.....	545	.....	(1)	.....	368	.....	246
Providence (State)	256	257	279	418	141	309	95	155	(1)	(1)	279	418
Total	.....	.....	.....	.....	.....	.....	.....	.....	(1)	368	279	664

[1] Not reported.

[2] Number applying for work.

OPERATIONS OF PUBLIC EMPLOYMENT OFFICES, OCTOBER, 1916 AND 1917—Concluded.

UNITED STATES—Continued.

State, city, and kind of office.	Applications from employers.		Persons asked for by employers.		Persons applying for work.				Persons referred to positions.		Positions filled.	
					New registrations.		Renewals.					
	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.	Oct., 1916.	Oct., 1917.
South Carolina.												
Charleston (Federal)	1	3	1	3	[1] 62	[1] 365	(2)	(2)	44	419	44	419
Tennessee.												
Memphis (Federal)	2	12	15	1,433	[1] 39	[1] 1,261	(2)	(2)	17	1,024	.....	638
Texas.												
Dallas (municipal)	272	(2)	502	246	49	42	6	(2)	536	392	456	295
El Paso (Federal)	.....	29	.....	55	.....	[1] 53	.....	(2)	.....	41	.....	10
Fort Worth (Federal)	.....	8	.....	4,476	.....	[1] 1,996	.....	(2)	.....	479	.....	302
Fort Worth (municipal)	149	105	417	515	(2)	[3] 635	(2)	9	299	369	283	351
Galveston (Federal)	10	3	61	4	[1] 27	[1] 19	(2)	(2)	10	610	7	498
Houston (Federal)	3	4	3	150	[1] 26	[1] 17	(2)	(2)	1	7	1	7
Total	.....	.....	.....	.....	.....	.....	.....	.....	846	1,898	747	1,463
Virginia.												
Norfolk (Federal)	13	8	281	795	[1] 110	[1] 230	(2)	(2)	45	181	24	25
Richmond (municipal)	270	277	403	379	434	410	(2)	(2)	535	473	225	213
Total	.....	.....	.....	.....	.....	.....	.....	.....	580	654	249	238
Washington.												
Aberdeen (Federal)	12	8	280	36	[1] 361	[1] 84	(2)	(2)	63	36	63	36
Bellingham (Federal-municipal)	146	149	295	268	[1] 238	[1] 257	(2)	(2)	251	183	211	165
Everett (municipal)	(2)	(2)	740	(2)	(2)	(2)	(2)	(2)	(2)	(2)	516	324
North Yakima (Federal)	2,460	1,316	2,250	2,806	[1] 2,076	[1] 2,507	(2)	(2)	2,044	2,206	1,883	2,056
Seattle (Federal)	144	163	624	1,605	[1] 1,041	[1] 3,837	(2)	(2)	254	1,273	219	1,212
Seattle (municipal)	3,561	4,224	6,646	7,610	(2)	(2)	(2)	(2)	6,593	7,598	6,203	6,943
Spokane (Federal)	114	118	169	463	[1] 1,518	[1] 565	(2)	(2)	157	415	155	403
Spokane (municipal)	2,932	2,117	4,275	2,680	(2)	(2)	(2)	(2)	3,986	2,528	3,935	2,492
Tacoma (Federal-municipal)	580	657	1,418	1,605	[1] 1,731	[1] 2,036	(2)	(2)	1,418	1,436	1,401	1,401
Walla Walla (Federal)	98	375	190	455	[1] 132	[1] 365	(2)	(2)	118	168	102	151
Wenatchee (Federal)	.....	672	.....	708	.....	[1] 566	.....	(2)	.....	542	.....	542
Total	.....	.....	.....	.....	.....	.....	.....	.....	14,884	16,385	14,688	15,707
Wisconsin.												
La Crosse (State-municipal)	223	160	137	283	[1] 224	185	(2)	(2)	179	166	98	83
Milwaukee (Federal-State-county-municipal)[4]	2,162	2,177	4,246	5,173	[1] 3,679	[1] 4,370	(2)	(2)	3,901	4,660	2,941	3,368
Oskosh (State-municipal)	316	140	235	241	[1] 280	174	(2)	(2)	244	147	191	114
Superior (State-municipal)	1,114	394	388	1,201	[1] 850	992	(2)	(2)	937	951	657	906
Total	.....	.....	.....	.....	.....	.....	.....	.....	5,260	5,924	3,887	4,471
Grand total	.....	.....	.....	.....	.....	.....	.....	.....	120,408	186,390	108,974	164,772

CANADA.

Quebec.												
Montreal (provincial)	337	242	870	723	[1] 492	[1] 402	(2)	(2)	510	511	432	405
Quebec (provincial)	(2)	49	322	304	[1] 140	216	(2)	(2)	(2)	215	122	183
Total	.....	.....	.....	.....	.....	.....	.....	.....	510	726	554	588

[1] Number applying for work.
[2] Not reported.
[3] Includes 265 unwritten applications.
[4] Not cooperative with Federal office in 1916.

REPORT OF EMPLOYMENT EXCHANGES IN THE UNITED KINGDOM (GREAT BRITAIN AND IRELAND) FOR FOUR WEEKS ENDING SEPTEMBER 7, 1917.

According to the British Labor Gazette of October, 1917, the total number of workpeople remaining on the registers of the 382 British employment offices on September 7, 1917, was 109,216, compared with 99,595 on August 10, 1917, and with 110,388 on September 8, 1916. The figures comprise workers in professional, commercial, and clerical as well as industrial occupations. The operations for the four weeks ending September 7, 1917, are summarized as follows:

Item.	Men.	Women.	Boys.	Girls.	Total.
On registers on Aug. 10, 1917	28,192	56,496	6,642	8,250	99,580
Number of individuals registered during period	76,837	140,196	20,994	21,655	259,682
Total	105,029	196,692	27,636	29,905	359,262
Reregistrations during period	3,283	3,055	458	326	7,122
On registers on Sept. 7, 1917	28,240	64,562	7,030	9,384	109,216
Vacancies notified during period	66,806	63,484	11,739	10,502	152,531
Vacancies filled during period	44,595	54,985	9,656	8,218	117,454
Applicants placed in other districts	10,610	15,575	1,667	1,264	29,116

The average daily number of registrations and of vacancies filled for the four weeks ended September 7, 1917, is shown in the following table, together with comparative figures for a month ago and a year ago:

Department.	Average registrations per day in period ending—			Average vacancies filled per day in period ending—		
	Sept. 7, 1917.	Aug. 10, 1917.	Sept. 8, 1916.	Sept. 7, 1917.	Aug. 10, 1917.	Sept. 8, 1916.
Men	3,338	2,882	3,865	1,858	1,623	2,121
Women	5,969	5,028	5,942	2,291	1,855	2,331
Boys	894	843	804	402	367	382
Girls	916	830	871	343	307	359
Total	11,117	9,583	11,482	4,894	4,152	5,193

EMPLOYMENT IN SELECTED INDUSTRIES IN OCTOBER, 1917.

In continuation of statistics printed regularly in the MONTHLY REVIEW figures are given showing the change in the volume of employment in manufacturing establishments in the United States in October, 1917, as compared with October, 1916. The figures presented are compiled from reports rendered by representative establishments in 13 different industries. The comparison of October, 1917, with October a year ago indicates a decrease in 7 of the 13 industries as to the number of persons on the pay roll. The silk industry shows the greatest decrease—9.6 per cent. On the other hand, the increase in several industries was favorable. The greatest increase reported was 11.4 per cent in iron and steel.

With respect to the total amount of the pay roll all the industries except silk show an increase in October, 1917, as compared with October, 1916. Iron and steel showed an increase of 49.2 per cent, and woolen indicated an increase of 41.6 per cent. These large increases are partly due to the fact that there were many increases in wage rates in several industries during October, 1917.

There were strikes on in two cigar establishments in October, 1916, which make the figures for that industry appear slightly smaller. One small clothing establishment was reported closed during October, 1917, because of no work to do.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN OCTOBER, 1916, AND OCTOBER, 1917.

Industry.	Establishments to which inquiries were sent.	Establishments reporting for October, both years.	Period of pay roll.	Number on pay roll in October—		Per cent of increase (+) or decrease (−).	Amount of pay roll in October—		Per cent of increase (+) or decrease (−).
				1916	1917		1916	1917	
Boots and shoes	85	68	1 week	57,094	53,170	− 6.9	$719,306	$758,706	+ 5.5
Cotton manufacturing	88	53	do	55,818	54,417	− 2.5	534,677	635,775	+18.9
Cotton finishing	19	17	do	14,439	14,482	+ .3	181,323	218,633	+20.6
Hosiery and underwear	82	52	do	29,411	29,378	− .1	284,040	347,018	+22.2
Woolen	56	48	do	43,854	46,411	+ 5.8	512,412	725,525	+41.6
Silk	65	37	2 weeks	13,818	12,498	− 9.6	306,397	300,485	− 1.9
Men's ready-made clothing	86	34	1 week	20,902	22,063	+ 5.6	290,092	347,653	+19.8
Iron and steel	141	107	½ month	165,355	184,281	+11.4	6,658,180	9,934,443	+49.2
Car building and repairing	78	26	do	32,631	30,172	− 7.5	1,059,507	1,227,655	+15.9
Cigar manufacturing	103	61	1 week	20,162	20,211	+ .2	226,305	256,637	+13.4
Automobile manufacturing	66	43	do	115,549	110,427	− 4.4	2,409,981	2,610,926	+ 8.3
Leather manufacturing	46	33	do	15,571	14,603	− 6.2	222,181	247,657	+11.5
Paper making	80	47	do	24,433	26,094	+ 6.8	352,087	426,276	+21.1

Some establishments, in response to the inquiry, furnished figures showing the number of persons actually working on the last full day of the reported pay period. The figures for October, 1917, as compared with October, 1916, are given in the next table:

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS ON LAST FULL DAY'S OPERATION IN OCTOBER, 1916, AND OCTOBER, 1917.

Industry.	Establishments reporting for October, both years.	Period of pay roll.	Number actually working on last full day of reported pay period in October—		Per cent of increase (+) or decrease (−).
			1916	1917	
Boots and shoes	12	1 week	5,537	4,895	−11.6
Cotton manufacturing	30	do	23,173	22,442	− 3.2
Cotton finishing	13	do	10,429	10,195	− 2.2
Hosiery and underwear	15	do	12,062	12,415	+ 2.9
Woolen	37	do	32,031	34,934	+ 9.1
Silk	23	2 weeks	10,011	8,896	−11.1
Men's ready-made clothing	8	1 week	1,439	1,291	−10.3
Iron and steel	84	½ month	131,279	143,263	+ 9.1
Car building and repairing	25	do	28,567	26,349	− 7.8
Cigar manufacturing	22	1 week	4,277	4,217	− 1.4
Automobile manufacturing	24	do	71,946	68,011	− 5.5
Leather manufacturing	15	do	9,046	8,041	−11.1
Paper making	14	do	8,939	9,324	+ 4.3

The comparison of data for October, 1917, with September, 1917, appears in the next table. The figures show that in 10 industries there were more people on the pay roll in October than in September. Cotton finishing, silk, and men's ready-made clothing showed a decrease.

All of the 13 industries listed showed an increase in the amount of money paid to employees in October of this year as compared with September. This is explained in part by the large number of increases in wage rates which were made by establishments in several industries during October. The greatest increase was 18.1 per cent in iron and steel.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN SEPTEMBER 1917, AND OCTOBER, 1917.

Industry.	Establishments to which inquiries were sent.	Establishments reporting for September and October.	Period of pay roll.	Number on pay roll in—		Per cent of increase (+) or decrease (−).	Amount of pay roll in—		Per cent of increase (+) or decrease (−).
				September, 1917.	October, 1917.		September, 1917.	October, 1917.	
Boots and shoes	85	69	1 week	51,839	52,866	+2.0	$751,796	$756,841	+ 0.7
Cotton manufacturing	88	55	do	54,289	54,384	+ .2	625,491	634,850	+ 1.5
Cotton finishing	19	18	do	14,760	14,693	− .5	216,431	221,606	+ 2.4
Hosiery and underwear	82	51	do	26,939	27,225	+1.1	301,581	321,048	+ 6.5
Woolen	56	47	do	44,746	45,989	+2.8	652,372	711,898	+ 9.1
Silk	65	38	2 weeks	13,283	13,049	−1.8	301,509	314,457	+ 4.3
Men's ready-made clothing	86	34	1 week	22,602	22,095	−2.2	342,847	348,252	+ 1.6
Iron and steel	141	108	½ month	184,646	188,350	+2.0	8,573,258	10,124,392	+18.1
Car building and repairing	78	25	do	27,580	29,420	+6.7	1,015,778	1,198,049	+17.9
Cigar manufacturing	103	63	1 week	19,747	21,116	+6.9	245,341	272,603	+11.1
Automobile manufacturing	66	42	do	100,770	101,851	+1.1	2,350,021	2,455,629	+ 4.5
Leather manufacturing	46	32	do	13,806	13,843	+ .3	223,456	236,113	+ 5.7
Paper making	80	45	do	25,117	25,440	+1.3	398,893	411,994	+ 3.3

Comparable figures for October and September of this year as to the number of persons working on the last full-time day of the reported pay period appear in the next table. The number including such data in the reports furnished is rather small, and this should be noted when using the figures.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS ON LAST FULL DAY'S OPERATION IN SEPTEMBER, 1917, AND OCTOBER, 1917.

Industry.	Establishments reporting for September and October.	Period of pay roll.	Number actually working on last full day of reported pay period in—		Per cent of increase (+) or decrease (−).
			September, 1917.	October, 1917.	
Boots and shoes	24	1 week	10,934	10,683	− 2.3
Cotton manufacturing	34	do	26,069	26,067	(1)
Cotton finishing	13	do	7,853	7,717	− 1.7
Hosiery and underwear	16	do	10,250	10,488	+ 2.3
Woolen	38	do	34,065	35,219	+ 3.4
Silk	24	2 weeks	9,372	9,377	+ .1
Men's ready-made clothing	7	1 week	7,635	7,063	− 7.5
Iron and steel	87	½ month	145,578	147,709	+ 1.5
Car building and repairing	25	do	24,452	26,728	+ 9.3
Cigar manufacturing	27	1 week	5,420	6,022	+11.1
Automobile manufacturing	25	do	70,439	70,989	+ .8
Leather manufacturing	16	do	8,175	8,153	− .3
Paper making	13	do	8,628	8,754	+ 1.5

[1] Decrease of less than one-tenth of 1 per cent.

CHANGES IN WAGE RATES.

The returns concerning volume of employment received by the bureau show that wage-rate changes were made in 12 of the 13 industries canvassed between September 15 and October 15, 1917. In the men's ready-made clothing industry no changes were reported. The aggregate number of establishments making changes in wage rates during this period was much greater than in any one of the several months immediately preceding.

It is significant to note that out of 110 establishments in the iron and steel industry rendering data, 61 reported increases in wage rates. The increase in 23 of these establishments was 10 per cent, affecting all employees on the pay roll. Eleven plants granted a 10 per cent increase, affecting a part of the force in each as follows: Fifty-one per cent of the force in two establishments, 75 per cent of the force in one establishment, 42 per cent of the force in two establishments, all tonnage men in one establishment, 55 per cent of the force in one establishment, 56 per cent of the force in one establishment, 35 per cent of the force in one establishment, 44 per cent of the force in one establishment, and 80 per cent of the force in one establishment. Eight plants reported a 10 per cent increase to all employees on an hour, turn, or tonnage basis and the same increase to all salaried men receiving $3,600 per annum or less. In five establishments there was a general increase of about 13 per cent. Three plants granted to all employees an increase of 8 per cent, 6 per cent, and 4.2 per cent, respectively. One plant reported a 9.4 per cent increase to all operatives, while another gave a 9.9 per cent increase to all employees. A 10 per cent increase to one-third of the force and a 5 per cent increase to the remaining two-thirds of the force were reported in one instance; while in another there was a

13 per cent increase to 14 per cent of the force, an increase of 11 per cent to 24 per cent of the employees, and a 10 per cent increase to the remaining 62 per cent of the force. There was an increase of 20 per cent, affecting one-seventh of the force in one establishment. One plant gave a 4.7 per cent increase to one-third of the force and a 4 per cent increase to two-thirds of the force. Twenty per cent of the employees in one instance received a 7 per cent increase, while 99.5 per cent of the force was granted a 9.6 per cent increase in another establishment. In one case a 10 per cent increase to 50 per cent of the force and a 2.5 per cent increase to 40 per cent of the employees were reported. A 9.4 per cent increase was given to 98.1 per cent of the force in one plant. The report from one establishment stated that what was formerly a 30 per cent bonus was increased to 40 per cent.

There were five establishments in the hosiery and underwear industry which granted a 10 per cent increase in wage rates to all employees. Two establishments in this industry gave a 15 per cent increase to all persons on the pay roll. Two other plants reported a 10 per cent increase, affecting 95 per cent of the force in one of them and 50 per cent of the force in the other. One plant gave a 20 per cent increase and another granted a bonus of 11 per cent, but neither stated the proportion of the force affected.

In cotton manufacturing three establishments reported a 10 per cent increase, this affecting all operatives in two of them and approximately all in the third. One plant gave an increase of about 6 per cent to all employees, and another granted a 10 per cent bonus.

In leather manufacturing one establishment gave a 10 per cent increase to the entire force. Another plant granted a 5 per cent increase to 50 per cent of the force. In a third establishment each person on the pay roll received an increase of 15 cents per day. One other establishment gave a 10 per cent bonus to 15 per cent of the force for the three months ending September 30, 1917.

Forty establishments in the woolen industry reported a 10 per cent increase, affecting all employees on the pay roll. One plant gave a 5 per cent increase to the entire force.

In the silk industry three establishments reported increases. There was a 10 per cent increase to 55 per cent of the force in one of them, a 7 per cent increase to 15 per cent of the force in the second, and a 5 per cent increase to all persons on the pay roll in the third.

In cotton finishing one plant gave an increase of $1 per week to each employee, while another reported an increase of 2 cents per hour to all receiving 23 cents per hour or less. A third establishment gave all employees a 10 per cent increase.

Two establishments in paper making gave increases. One of them reported a 10 per cent increase and the other reported an increase of 6 cents per day, affecting the entire force in each instance.

In automobile manufacturing one establishment stated that an increase of one-half cent per hour was made, affecting all persons employed; and another plant reported that the working hours of the office force had been reduced from 8 to 7 hours per day.

There was a 10 per cent increase to 30 per cent of the force in one car building and repairing plant, and an 8 per cent increase to 40 per cent of the force in another plant in the same industry.

One plant in cigar manufacturing gave an 8 per cent increase to 70 per cent of the force. In another instance there was a 5 per cent increase, affecting 88 per cent of the force.

In boot and shoe manufacturing the report from one plant stated that about 10 per cent of the piecework rates were increased from 10 to 12.5 per cent. One other merely said that a few piecework rates were raised.

VOLUME OF EMPLOYMENT IN THE UNITED KINGDOM (GREAT BRITAIN AND IRELAND) IN SEPTEMBER, 1917.

The figures in the following table relating to the condition of employment in Great Britain and Ireland in September, 1917, as compared with August, 1917, and with September, 1916, have been compiled from a report appearing in the British Labor Gazette of October, 1917.

The most important changes are shown to have occurred in the employment of seamen, of whom there were 13.1 per cent fewer employed in September, 1917, than in August, 1917, and 28.9 per cent fewer than in September, 1916. The next largest percentage of changes was found in dressmaking and millinery, in which there were 25.7 per cent more persons employed in September, 1917, than in August, 1917, and 12.5 per cent fewer than in September, 1916. There was a marked falling off in the number of dock and riverside laborers employed. The number in September, 1917, was 8.2 per cent less than in the preceding month, and 20.4 per cent less than in September, 1916.

A shortage of labor was reported in the following trades: Pig iron industry; iron and steel works; wire-manufacturing works; carpet trade; bleaching, printing, dyeing, and finishing; boot and shoe trade; leather trade; tailoring trade; brick and cement trades; pottery trades; glass trades; and agriculture. The shortage in agriculture was made up to a large extent by employment of women and soldiers.

Overtime work was reported in the following trades: Engineering trades, shipbuilding trades, brass works, sheet-metal works,

leather trades, tailoring trades, coach building, coopers, printing and book binding, pottery trades, and glass trades. Short time was reported in woolen, worsted, and hosiery trades, but to a smaller extent than in the preceding month, owing to the partial removal of restrictions on working hours.

VOLUME OF EMPLOYMENT IN THE UNITED KINGDOM (GREAT BRITAIN AND IRELAND) IN SEPTEMBER, 1917, AS COMPARED WITH AUGUST, 1917, AND SEPTEMBER, 1916.

[Compiled from figures in the Labor Gazette (London), October, 1917.]

Industries and basis of comparison.	Per cent of increase (+) or decrease (−) in September, 1917, as compared with—	
	August, 1917.	September, 1916.
Coal mining: Average number of days worked	(1)	− 4.2
Iron mining: Average number of days worked	−0.7	+ .7
Quarrying: Number of employees.	− .1	−12.0
Pig iron: Number of furnaces in blast	+1.7	+ 3.2
Iron and steel works:		
Number of employees	+ .2	+ 8.2
Number of shifts worked	+ .4	+ 7.2
Engineering trades: Number of employees[2]	− .06	− .29
Shipbuilding trades: Number of employees [2]	+ .07	− .01
Tinplate, steel and galvanized sheet trades: Number of mills in operation	−6.0	−26
Cotton trade:		
Number of employees	−4.0	−11.1
Earnings of employees	−5.9	− .8
Woolen trade:		
Number of employees	+ .1	− 3.9
Earnings of employees	+4.0	+14.1
Worsted trade:		
Number of employees	+ .3	− 3.0
Earnings of employees	+7.0	+16.4
Hosiery trade:		
Number of employees	(1)	− 4.4
Earnings of employees	+1.2	+11.4
Jute trade:		
Number of employees	− .5	+ 1.8
Earnings of employees	− .1	+22.3
Linen trade:		
Number of employees	+1.0	+ 2.5
Earnings of employees	+8.3	+33.8
Silk trade:		
Number of employees	+ .3	− 3.0
Earnings of employees	+2.8	+17.5
Carpet trade:		
Number of employees	+ .5	− 1.0
Earnings of employees	+2.5	+17.7
Lace trade:		
Number of employees	+ .6	− 8.0
Earnings of employees	+4.2	+ 2.2
Bleaching, printing, dyeing, and finishing:		
Number of employees	− .5	− 3.5
Earnings of employees	+1.8	+15.0
Boot and shoe trade:		
Number of employees	− .4	− 5.6
Earnings of employees	+ .2	+ 7.5
Leather trades: Number of employees	− .2	+ .6
Tailoring trades:		
Number of employees	+ .8	+ .6
Earnings of employees	+ .1	+24.5
Shirt and collar trade:		
Number of employees	+ 1.2	− 9.8
Earnings of employees	+ 1.3	+ 5.8
Other clothing trades:		
Dressmaking and millinery—Number of employees	+25.7	−12.5
Wholesale mantle, costume, blouse, etc—		
Number of employees—London	+ 4.3	+ 1.2
Number of employees—Manchester	+ 3.3	− 4.8
Number of employees—Glasgow	+ 1.8	− 8.2
Corset trade—Number of employees	+ 1.5	−13.4
Building and construction of works: Number of employees [2]	+ .1	+ .1
Sawmilling and machining: Number of employees [2]	− .2	− .4
Brick trade:		
Number of employees	+ .6	− .7
Earnings of employees	+ 2.4	+17.8
Cement trade:		
Number of employees	+ .3	− 9.6
Earnings of employees	+ 4.1	+ 7.3
Printing, bookbinding, and paper trades:		
Printing trades—		
Number of employees reported by trade-unions [2]	+ .1	+ .7
Number of employees reported by employers	− .3	− 7.9
Earnings of employees reported by employers	+ 1.0	+ 5.8
Bookbinding trades—		
Number of employees reported by trade-unions [2]	+ .1	− .1
Number of employees reported by employers	+ .3	− 7.1
Earnings of employees reported by employers	+ .3	+12.8
Paper trades: Number of employees	+ .6	− 3.1
Pottery trades:		
Number of employees	− .5	− 1.4
Earnings of employees	+ 1.4	+16.1
Glass trades:		
Number of employees	− .1	− 1.3
Earnings of employees	+ 1.5	+12.9
Food preparation trades:		
Number of employees	− .2	−11.4
Earnings of employees	− .3	+ 5.2
Dock and riverside labor: Number of employees	− 8.2	−20.4
Seamen: Number of employees	−13.1	−28.9

[1] No change.

[2] Based on unemployment returns.

The extent of unemployment in Great Britain during the four weeks ending September 7, 1917, is indicated by the following tables, which show the operations of the Ministry of Labor Employment Exchanges for that period:

INDIVIDUALS REGISTERED, VACANCIES NOTIFIED, AND VACANCIES FILLED IN THE 4 WEEKS ENDED SEPT. 7, 1917.

A.—*Insured trades.*

Occupation groups.[1]	Adults.						Juveniles.			
	Individuals registered during period.		Vacancies notified during period.		Vacancies filled during period.		Vacancies notified during period.		Vacancies filled during period.	
	Men.	Women.	Men.	Women.	Men.	Women.	Boys.	Girls.	Boys.	Girls.
Building:										
Carpenters, joiners, etc	3,095	118	2,776	80	2,045	76	32	.....	33	.....
Bricklayers	1,354	.....	1,456	.....	916	.....	3	.....	2	.....
Masons	361	2	108	.....	50	.....	.....	.....	.....	.....
Plasterers	510	.....	314	.....	225	.....	1	.....	1	.....
Painters, decorators, etc	1,684	262	1,875	184	1,067	165	31	7	23	3
Plumbers, glaziers	509	1	457	.....	214	.....	25	.....	18	.....
Other skilled occupations	50	.....	78	1	19	1	2	2	2	2
Laborers	4,953	149	5,078	163	3,091	143	118	4	102	5
Works of construction	4,927	31	6,325	31	3,442	27	9	3	9	3
Sawmilling	830	1,489	701	983	354	847	195	141	171	139
Shipbuilding:										
Platers, riveters	1,019	20	1,044	2	615	.....	32	2	13	2
Shipwrights	179	4	524	4	120	4	7	.....	4	.....
Laborers	1,594	325	1,985	99	1,094	100	128	4	94	3
Engineering:										
Molders	648	141	668	138	318	112	58	22	40	24
Smiths	485	71	466	94	249	80	36	26	26	21
Erectors, fitters, turners	5,599	1,587	5,585	855	4,167	850	771	43	702	26
Metal machinists	1,973	6,947	1,273	7,442	993	7,078	496	284	446	256
Wiremen	674	73	562	49	352	47	35	7	30	6
Other skilled occupations	2,244	4,752	1,830	3,353	1,088	3,289	210	134	175	119
Laborers	7,703	1,904	7,214	2,304	6,413	2,098	422	88	377	86
Construction of vehicles	673	237	459	394	246	256	43	4	39	5
Cabinetmaking, etc	166	109	132	75	39	60	25	8	20	6
Miscellaneous metal trades	1,339	1,927	1,672	925	1,207	854	227	324	183	267
Precious metals, etc	106	199	102	220	26	208	43	105	32	69
Bricks and cement	44	76	150	59	43	40	13	3	5	2
Chemicals, etc	546	810	1,411	673	1,132	510	106	63	100	60
Rubber and waterproof goods	154	866	136	472	111	478	30	42	32	49
Ammunition and explosives	2,919	39,230	2,255	13,980	2,079	14,451	356	520	336	488
Leather, boots and shoes	173	347	292	119	97	86	60	59	38	30
Leather, excluding boots and shoes	170	541	133	182	73	142	46	63	38	53
Total	46,681	62,218	47,061	32,881	31,885	32,002	3,560	1,958	3,091	1,724
Total, males and females	108,899		79,942		63,887		5,518		4,815	
4 weeks ending Aug. 10, 1917	87,364		63,441		51,116		4,243		3,841	

[1] Occupations are grouped according to the industry with which they are mainly connected and applicants are registered according to the work desired by them.

INDIVIDUALS REGISTERED, VACANCIES NOTIFIED, AND VACANCIES FILLED IN THE 4 WEEKS ENDED SEPT. 7, 1917—Concluded.

B.—*Uninsured trades.*

Occupation groups.[1]	Adults.						Juveniles.			
	Individuals registered during period.		Vacancies notified during period.		Vacancies filled during period.		Vacancies notified during period.		Vacancies filled during period.	
	Men.	Women.	Men.	Women.	Men.	Women.	Boys.	Girls.	Boys.	Girls.
Mining and quarrying	345	15	548	25	223	16	16	3	26	3
Textile:										
Cotton	330	1,412	290	632	151	412	86	165	67	83
Wool and worsted	163	306	153	142	91	128	43	23	36	18
Silk, flax, linen, etc	213	1,467	300	591	93	489	103	270	84	224
Dress:										
Tailors and tailoresses	158	760	92	569	28	357	43	214	36	152
Dressmakers and milliners	.....	519	.....	209	.....	122	.....	244	.....	171
Seamstresses	.....	987	.....	518	.....	404	.....	265	.....	210
Others	58	1,539	45	816	10	810	28	102	20	67
Conveyance of men, goods, etc.:										
On railways	199	423	374	200	284	176	90	8	87	9
On roads, seas, rivers, etc	8,418	3,325	5,874	830	4,108	676	2,480	1,113	1,695	853
Agriculture:										
Fruit, etc., pickers	1,106	978	1,483	3,477	1,322	3,310	95	147	85	143
Others	695	1,558	662	966	234	814	97	50	85	35
Paper, prints, books, and stationery	164	840	232	489	85	400	224	511	154	407
Wood, furniture, fittings, etc	128	193	97	98	31	79	144	91	106	76
Pottery and glass	125	327	161	98	83	54	72	45	54	28
Food, tobacco, drink, and lodging:										
Bread and biscuit, etc., makers	123	498	130	272	29	241	70	80	55	64
Waiters	93	1,542	76	723	47	551	27	65	23	51
Other (jam, cocoa, tobacco, etc.)	134	874	253	671	115	666	103	197	76	174
Brushes, brooms, etc	10	36	15	17	2	13	16	18	14	15
Gas, water, electrical supply, and sanitary service	70	48	468	94	215	84	13	.....	10	.....
Commercial and clerical	2,686	8,436	1,450	2,753	825	2,094	843	1,110	712	963
Domestic:										
Laundry and washing service	1,334	926	1,164	874	585	651	402	129	294	74
Private indoor servants		1,987		2,053		582		291		159
Other indoor servants		6,220		4,492		2,832		345		198
Charwomen, day girls, day servants		12,740		6,341		4,913		1,092		683
Others		414		165		136		23		11
General laborers	11,021	11,444	4,307	743	3,241	666	576	422	493	367
Shop assistants	411	3,357	244	639	91	406	171	486	94	338
Government, defense and professional	975	3,886	710	934	477	774	131	267	107	237
All other	1,197	10,921	617	172	340	127	2,306	768	2,152	681
Total	30,156	77,978	19,745	30,603	12,710	22,983	8,179	8,544	6,565	6,494
Total, male and female	108,134		50,348		35,693		16,723		13,059	
4 weeks ending Aug. 10, 1917	89,329		43,007		28,894		14,375		11,655	
Casual employment (men only)	168		.....		9,212		.....		.....	

[1] Occupations are grouped according to the industry with which they are mainly connected and applicants are registered according to the "work desired" by them.

These tables show that during the period in the insured trades 108,899 adults registered for work—46,681 men and 62,218 women. There were 85,460 vacancies reported—47,061 men, 32,881 women, 3,560 boys, and 1,958 girls. The number of positions filled were 68,702—31,885 men, 32,002 women, 3,091 boys, and 1,724 girls. The occupation groups in which the largest numbers of positions were filled by adults were: Ammunition and explosives, 16,530; laborers,

engineering, 8,511; metal machinists, 8,071; erectors, fitters, and turners, 5,017; works of construction, 3,469; laborers, building, 3,234.

In the uninsured trades there were 108,134 registrations—30,156 men and 77,978 women. The number of vacancies reported was 67,071—19,745 men, 30,603 women, 8,179 boys, and 8,544 girls. The total number of positions filled was 48,752—12,710 men, 22,983 women, 6,565 boys, and 6,494 girls. The occupation groups in the uninsured trades, in which the largest numbers of positions were filled by adults were: Domestic service, 9,699; agriculture, 5,680; conveyance of men, goods, etc., 5,244; general laborers, 3,907; commercial and clerical, 2,919.

The totals show that the number of positions filled by adults in both the insured and the uninsured trades during the four weeks ending September 7, 1917, was 23.5 per cent greater than during the preceding four weeks. The number of positions filled by men was 22.6 per cent greater and by women 24.1 per cent greater. Much the largest number of women were employed in the manufacture of ammunition and explosives and in domestic service.

No comparison can be made of the number of registrations in the employment exchanges of Great Britain with the number of applications for work reported by the employment offices of the United States, owing to the differences in method of registering applicants. It is possible, however, to make a comparison of positions filled by the offices in the two countries. The figures show the following results:

	Number of offices.	Positions filled.		
		Total.	Average per day.	Average per day, each office.
Great Britain	382	117,454	4,894	12.8
United States	154	164,772	6,337	41.1

The above figures are significant in view of the fact that a very large percentage, if not practically all, of the employment office work of Great Britain is done through the free employment exchanges, while in the United States but a very small proportion of the placements is made through the public employment offices, the much greater proportion being handled by the private employment agencies.

FLUCTUATIONS IN EMPLOYMENT AND UNEMPLOYMENT IN AUSTRALIA.

In report No. 7, issued in June, 1917, by the labor and industrial branch of the Australian bureau of census and statistics,[1] a section is devoted to fluctuations in employment and unemployment, the tables presented showing the extent of unemployment in trade-unions, 1907 to 1916, employment index numbers in certain years from 1891 to 1916, unemployment in the various States of the Commonwealth and in the different industries, and the causes of unemployment. The extent of unemployment in trade-unions, together with the number and membership of the unions for which returns were available, and the employment index numbers are set forth in the following table:

NUMBER AND MEMBERSHIP OF TRADE-UNIONS MAKING RETURNS AND NUMBER AND PER CENT OF UNEMPLOYED MEMBERS, 1907 TO 1916, TOGETHER WITH EMPLOYMENT INDEX NUMBERS,[1] 1909 TO 1916.

Item.	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
Number of unions	51	68	84	109	160	464	465	439	465	470
Membership	13,179	18,685	21,122	32,995	67,961	224,023	251,207	250,716	273,149	292,651
Number of unemployed at end of year	757	1,117	1,223	1,857	3,171	12,441	13,430	27,610	18,489	19,562
Per cent of unemployed at end of year	5.7	6.0	5.8	5.6	4.7	5.6	5.3	11.0	6.8	6.7
Employment index number[1]	(2)	(2)	988	990	1,000	991	994	934	978	979

[1] Year 1911 taken as the base, or 1,000. [2] Not given in the report.

Classified by industries the report indicates the largest amount of unemployment (10.6 per cent) based on returns for the last quarter of 1916, in the building trades, with the least unemployment (2.9 per cent) in the industrial groups "Clothing, hats, boots, etc.," and "Other land transport." Particulars as to causes of unemployment are given for the fourth quarter of 1916, showing that of 19,051 reported as out of work, 15,307 (80.3 per cent) were unemployed through lack of work, 2,211 (11.6 per cent) through sickness and accident, and 1,533 (8 per cent) through other causes (excluding persons on strike or locked out). Of the total membership of unions reporting for this period, namely, 278,759, 5.5 per cent were unemployed on account of lack of work. As noted in the table, the per cent of unemployed members of the unions reporting in 1916 was 6.7.

[1] Australia. Bureau of Census and Statistics, Labour and Industrial Branch, Report No. 7. Prices, purchasing power of money, wages, trade-unions, unemployment, and general industrial conditions, 1916. Melbourne, 1917. pp. 346–352.

UNEMPLOYMENT INSURANCE AND LABOR EXCHANGES IN THE NETHERLANDS.[1]

Under a decree of September 26, 1916, a bureau of labor has been established in the department of public works, charged with instituting unemployment insurance, establishing labor exchanges, and endeavoring to prevent unemployment and to provide unemployment benefits. The new bureau is expected to subsidize unemployment insurance funds, special or otherwise, and to prepare a draft of an insurance law; to develop by subsidies and other appropriate means the present system of labor exchanges and to establish interurban and international relations; to establish interurban offices, and various central offices for compensation, whether for particular industries or for employment in general; and to prepare and enforce laws relating to labor-exchange offices.

In general the amount of subsidies permissible shall be no greater than the amount of premiums paid by members of the fund. They shall be granted in equal proportions by the State and the district authorities of the territory in which the fund operates. District authorities are not obliged to grant subsidies, but the State subsidies are contingent on such subsidies.

Subsidized funds are subject to municipal supervision, and each member must signify his willingness, under penalty of forfeiting his right to unemployment benefits, to accept any suitable employment offered him.

The fund administrators are authorized to fix the amount of benefits and conditions under which they may become payable. No benefits are payable if the unemployed person has refused an offer of employment tendered by the public labor exchange.

Cases of disagreement regarding the right to benefits or the interpretation of "suitable employment" are to be referred to the minister of public works, who, after consultation with the proper committee, shall decide the question at issue.

A consulting committee is provided for, composed of 12 members named by the minister, of whom 6 shall be representatives of the insurance funds and 6 representatives of the State and district authorities.

The bureau shall establish a system of exchanges, one for each of 30 districts, and group the bureaus of each commune. A central exchange for each district shall be established and supported by the State, but the commune shall contribute in part to the expenses of the district offices.

[1] Bulletin du Ministère du Travail et de la Prévoyance Sociale, June–July, 1917, p. 327.

LABOR ORGANIZATIONS.

ACTIVITIES OF GERMAN TRADE-UNIONS.

CONFERENCE OF PRESIDENTS OF GERMAN TRADE-UNION FEDERATIONS IN BERLIN, JULY 24–26, 1917.

The presidents of the federations of German free trade-unions (*freie Gewerkschaften*) held a three days' conference (July 24 to 26, 1917) in Berlin at which a large number of administrative trade-union problems were discussed. In addition, the conference adopted several resolutions defining the attitude of organized labor with respect to political questions of the day which affect the interests of the trade-union movement. A brief summary of the proceedings of the conferences as reported in the Leipziger Volkszeitung [1] and in the Vorwärts [2] is here given.

The reports of the individual presidents were very encouraging. They emphasized the fact that the efficient work done by the free trade-unions during the war has had the effect of large increases in membership. Former members who have been discharged from the army without exception rejoin their trade-union, and large numbers of unorganized workers are daily becoming members of free trade-unions.

With respect to the conclusion of peace the conference adopted the following resolution:

The free trade-unions of Germany are gratified that the Reichstag through its resolution of July 10 has in the name of the German nation declared itself in favor of conclusion of peace by means of negotiations. The working population whose interests are represented by the free trade-unions unanimously approves the desire for quick termination of the war through agreement of the nations involved, and what is more, the workmen of Germany are more than ever ready and resolved to make the strongest efforts to achieve this end.

As to the proposed internal reform of Germany the conference adopted the following resolution, which, as an expression of the mental attitude of the representatives of several million workers, has a claim to general consideration:

With respect to the problem of internal political reorganization of the German Empire the conference of representatives of the central federations of the

[1] Leipziger Volkszeitung. Eine Konferenz der Gewerkschaftsvorstände. Leipzig, July 27, 1917.

[2] Vorwärts. Eine Konferenz von Vertretern der Verbandsvorstände. Berlin, Aug. 7, 1917.

free trade-unions is of the opinion that these long-needed reforms, which, in part, have been promised by the Imperial Government must not be retarded any longer.

The conference considers the establishment of a system of government in harmony with the resolutions of the representatives of the people and the introduction of real democratic right of suffrage for the diets of all individual States and for all communes as the most urgent preliminary for a sound internal political and economic development which alone will enable the German nation to overcome the devastating effects of the war.

The conference also expects that this internal political reorganization will lead to social legislation which will guarantee to the German working classes full equality in economic and civic life and social elevation to unrestricted participation in the cultural development of the nation.

Numerous complaints submitted to the conference by trade-unions in the districts of the first and sixth army corps led to the following resolution:

The conference of representatives of the central federations of the free trade-unions protests peremptorily against the orders relating to the exercise of the right of association and of holding meetings issued by the commanding generals of the first and sixth army corps.

These orders make it impossible for labor organizations to fulfill their task of safeguarding the interests of workers. The orders in question infringe against the provisions of article 14 of the auxiliary service law (*Hilfsdienstgesetz*) and are incompatible with the assurance repeatedly given by the Imperial Government that even during the continuance of martial law trade-unions would be granted the most far-reaching freedom of movement.

The conference charges the general commission to promptly take proper steps to the effect that the competent authorities rescind these orders. The conference also declares that suspension of martial law is absolutely necessary in order that the legally guaranteed right of association and of holding meetings may again be exercised undisturbedly.

Legien, the president of the General Commission, reported on the subsidizing of workmen's secretaries, strikes of workmen employed in the manufacture of war materials, and the attitude of the General Commission toward such strikes, the joining of the Red Cross by the commission, collections for war invalids, several economic war problems and problems of the period of transition from a war to a peace régime. He also discussed the regulations restricting the use of paper, with special consideration of their effect on the trade-union publications. A demand made by the president of the Mercantile Clerks' Federation that the General Commission should not only cooperate with the Social Democratic faction of the Reichstag, but also with the representatives of the Independent Social Democratic Party was rejected by Legien. He pointed out that in the Mannheim agreement of the free trade-unions with the Social Democratic Party the unions had obligated themselves to recognize only this party and its representatives.

Bauer reported on problems of the auxiliary service law. He discussed exemptions from auxiliary service, elections of auxiliary service committees, and the attempts of the so-called "yellow" (nonmilitant) trade-unions to get their representatives in these committees, and his experiences with the operation of the auxiliary service law (wage questions, employment, and organization of aliens, employment offices, right of association, and complaints).

The report of R. Schmidt on problems of nutrition dealt with the phases of the nutrition of the nation since the reduction of the bread ration. He expressed the conviction that the scarcity of bread and potatoes is largely due to the feeding to animals of supplies designated for human nutrition. He also discussed existing abuses in the supplying of the nation with fruits and vegetables, the measures relating to the new crops, and the regulation of the coal supply.

Bauer made a report on the international socialistic conference in Stockholm, which was intended to bring about the agreement of the labor parties of all countries. The General Commission had sent three delegates to this conference. Bauer stated that, although this conference had not attained its object, nevertheless because of it foreign labor parties have been made to understand the real attitude and peace aims of the German Social Democratic Party and trade-unions. He declared that it was especially gratifying that the Russian workmen and soldiers' council could be informed as to this attitude and peace aims and thereby could become an influential promoter of an international agreement. The present conference authorized the General Commission to send delegates to further peace conferences of this kind.

The conference discussed the sending of delegates to the international trade-union conference in Berne, called for October 1, 1917, by the Swiss Federation of Trade-unions in pursuance of a resolution of the Stockholm conference. The conference resolved to send 10 delegates to Berne. Seven delegates and a like number of alternate delegates were elected by the conference and the General Commission was authorized to appoint the other three delegates. The costs of participation in the conference were to be borne by the General Commission and afterwards to be assessed on the individual trade-unions. A number of trade-union demands were to be submitted to this conference in Berne and to be discussed by it. On the conclusion of peace these demands are to be incorporated in the peace treaty. The General Commission of the German free trade-unions has prepared a list of general demands alone. Special demands relating to individual trades are to be submitted to the International Labor Office in Basel. It is intended that to this office shall be given the character of an international legal institution.

Finally the conference approved the affiliation with the General Commission of the Federation of German Railroad Employees and of the General Federation of German Choir Singers. The Federation of Railroad Employees may not be assessed for strike contributions as its by-laws prohibit strikes as a means of enforcing labor demands.

INCREASE IN NUMBER OF FEMALE MEMBERS OF FREE TRADE-UNIONS.[1]

The Gewerkschaftliche Frauenzeitung reports that the effect of trade-union propaganda among gainfully employed women and girls is that the female membership of the free trade-unions is now larger than at the outbreak of the war. On March 30, 1917, the female membership was 226,105, as compared with 221,071 on June 30, 1914. These figures are, however, still much below the average membership for 1913, which was 280,347. The female membership was lowest on December 31, 1915. Since then a slow upward movement has set in.

The above figures for March, 1917, are, however, not very gratifying, if the large increase in the number of female workers employed in industry is considered. The last enumeration showed that in 19 organizations the female membership is even now smaller than before the outbreak of the war, while only 15 organizations have an increased female membership. Decreases in membership, however, are, as a rule, due to economic difficulties. This is especially true with respect to the organization of textile workers, which has lost 12,321 female members.

The above-quoted labor paper is of the opinion that the number of organized female workers could be much larger, and explains their relatively small number by the fact that in the first place it is very hard to induce women to join a labor organization, and, secondly, that few of those who do join maintain permanent membership. The latter assertion is borne out by the fact that the number of newly joining female members is much larger than the increase of female memberships shown by the last enumeration.

The metal workers' organization has experienced the largest increase in female membership, 2,039 new female members having joined the organization. In the tailors' organization the increase of the female membership was very small, notwithstanding the fact that the badly regulated working conditions of the trade make organization more necessary than in other trades. The last enumeration showed for the first time a female membership in the miners' federation, although a very small one, 334 female workers having joined.

[1] Bremer Bürger-Zeitung. Bremen, Aug. 14, 1917.

THE FEDERATION OF BUILDING TRADE WORKERS DURING 1916.

Like the metal and leather industry, the building trades have entirely assumed the character of a war industry. Private building activity has been restricted since the outbreak of the war, and during 1916 it has come to an entire standstill, with the exception of insignificant repair work. In its place large building operations for the war industry are in progress in the entire country, some of them employing 1,000 or more workmen. All building-trade workers who were not called into military service found employment in these building operations, and consequently there has been practically no unemployment.

The favorable condition of the labor market has, however, not been able to prevent a further decrease of the capital of the Federation of Building-trade Workers. Continuing conscription of members for service in the armed forces has made great inroads in the membership of the federation, notwithstanding the fact that 23,677 new members joined the organization during 1916. At the end of 1915 the membership of the federation was 82,983, and decreased up to the end of 1916 to 72,948.

The receipts of the federation during 1916 amounted to 3,522,097 marks ($838,259.09) and the expenditures to 4,677,495 marks ($1,113,243.81). A total of 2,966,434 marks ($706,011.29) was disbursed for benefits, of which subsidies to families of members in war service, amounting to 2,123,885 marks ($505,484.63), formed the largest item, while the remainder was expended for sickness and traveling benefits. The administration of local unions cost 1,003,529 marks ($238,839.90) and that of the central organization 140,646 marks ($33,473.75). At the end of 1916 the total capital of the federation amounted to 15,724,123 marks ($3,742,341.27). It decreased 1,137,570 marks ($270,741.66) during the year under review.

Collective agreements were concluded extensively in the building trades. A special collective agreement was concluded for the reconstruction district in East Prussia which had been invaded by the Russian army, which increased all wages 25 pfennigs (6 cents) and more per hour. It established hourly wages of 85 pfennigs (20.2 cents) for masons and up to 20 pfennigs (4.8 cents) less for the various kinds of helpers, and provided for reimbursement of traveling costs. In addition, it contained special agreements as to housing and board, and medical treatment in case of accident or sickness. The movement for a general collective agreement was initiated by an invitation by the Imperial Department of the Interior to a conference. This conference ended with the renewal of the national and local agreements expiring on March 31, 1916, and the

granting of a high cost of living bonus of from 7 to 11 pfennigs (1.7 to 2.6 cents) per hour. Similar bonuses were stipulated for the auxiliary trades such as tile layers, stucco workers, etc.

GENERAL MEETING OF THE FEDERATION OF BREWERY AND FLOUR MILL WORKERS.[1]

In submitting to the general meeting of the Federation of Brewery and Flour Mill Workers his report for the second quarter of 1917, the president of this federation made the following statement:

As a result of the legal restriction of the production of beer the situation of the brewing industry continues to be as unfavorable as in the first quarter of the present year. It also seems doubtful whether the supply of grain to the breweries will improve after the new harvest. In several localities the breweries have combined for purposes of operation. Whether this will also be done in Berlin has not yet been decided. So far, brewery workers in Berlin have not reported any unemployment.

The federation has made repeated efforts to obtain an increase of the high cost of living bonus from the brewers' association. At first these efforts were unsuccessful because the brewers' association declared that the present beer prices did not permit the granting of wage increases. The federation, however, continued its efforts in this respect and finally obtained an increase of the high cost of living bonus of married workers from 12.50 to 20 marks ($2.98 to $4.76), of single workers from 11 to 18.50 marks ($2.62 to $4.40), and of female workers from 6 to 12 marks ($1.43 to $2.86). The bonus for overtime work was increased from 25 to 37 pfennigs (6 to 8.8 cents) per hour. These increases became effective on August 10. The federation will make efforts to obtain like increases from breweries not affiliated with the brewers' association.

The mill workers of the Victoria Mill have demanded an increase of the wage and overtime rates. Their demands were in part granted. In consideration of the fact that during the last three years the workers of the mill were not allowed their contractual annual leave the mill agreed to compensate them for this loss of leave.

The general meeting voted unanimously that an extra weekly contribution of 10 pfennigs (2.4 cents) shall be collected from all contributory classes beginning with the fortieth contributory week. The president of the federation explained that such an increase of the contributions had become imperative, because during the present war the federation not only had not reduced its benefits, as many other trade organizations had done, but in some instances had even introduced new benefits. As the war had caused a considerable decrease of the membership and consequently of the revenues of the

[1] Vorwärts. Verband der Brauerei- und Mühlenarbeiter. Berlin, Aug. 17, 1917.

federation, the increase of the weekly contributions became absolutely necessary if the financial strength of the federation was to be maintained.

REPORT OF THE FEDERATION OF LEATHER WORKERS FOR THE YEAR 1916.[1]

According to its annual report for the year 1916, the Federation of Leather Workers at the beginning of 1916 had 12,900 male members (inclusive of members in military service) and 1,745 female members, or a total membership of 14,645. The membership movement of the federation continued to be unfavorably influenced by the long duration of the war and the extensive conscription of members for military service. Inclusive of members conscripted for military service, the federation lost 3,060 members during the year under review, while the number of newly acquired members was only 1,146. At the close of 1916 the total membership of the federation was 14,631 (inclusive of members in military service), of which 12,895 were male members and 1,736 were female members.

Unemployment in the glove industry and in the tawing and tanning trade has considerably decreased as compared with the preceding year. Temporary unemployment of female workers was, however, reported in some instances.

During the year under review 88 wage disputes were reported to the federation by local unions; 86 of these were peacefully terminated, while 2 ended in strikes. As a rule the workers obtained grants of high cost of living bonuses. In most instances, however, these bonuses were insufficient to offset the greatly increased cost of all necessities. A total of 2,252 workers participated in the above wage disputes, which covered 80 localities and 220 establishments. Wage increases amounting to 11,695 marks ($2,783.41) per week were obtained for 3,967 workers, and shorter hours of labor for 50 workers.

During 1915 no new collective agreements were concluded, those expiring being extended. In 1916 a total of 11 new collective agreements covering 28 establishments and 325 workers were concluded, while 36 agreements covering 68 establishments and 1,363 workers were either discontinued by notice or expired without being renewed. At the end of 1916 a total of 86 agreements covering 296 establishments with 7,456 workers were in force.

The numerous conscriptions of members for military service have had a very unfavorable effect upon the finances of the federation. The total net revenues in 1916 amounted to only 206,109 marks ($49,053.94). The decrease in receipts was partly offset by a decrease in disbursements from 220,729 marks ($52,533.50) in 1915 to 198,618 marks ($47,271.08) in 1916. For subsidies to families of members

[1] Vorwärts. Der Lederarbeiterverband im Jahre 1916. Berlin, Aug. 28, 1917.

in war service the federation paid out 32,668 marks ($7,774.98) during 1916. Since the outbreak of the war, according to the report, the sum of 105,283 marks ($25,057.35) has been disbursed for such family subsidies. The net capital of the federation has increased during the year from 217,666 marks ($51,804.51) to 225,246 marks ($53,608.55).

MEMBERSHIP OF AUSTRIAN TRADE-UNIONS DURING THE WAR.[1]

The "Gewerkschaft," the official organ of the Austrian Trade-union Commission (*Gewerkschaftskommission*), in a recent issue discussed the trade-union movement of Austria during the war. The first year of the war (1914) brought the largest loss of membership to the Austrian trade-unions. During the second year of the war (1915) the decrease in membership became less marked, and during the third year (1916) the loss of male members was much less than the number of members conscripted for military service during the same year, while the female membership experienced an increase. These facts are illustrated by the following table:

MEMBERSHIP OF AUSTRIAN TRADE-UNIONS, 1913 TO 1916, BY SEX.

Year.	Membership.			Year.	Membership.		
	Males.	Females.	Total.		Males.	Females.	Total.
1913	372,216	42,959	415,195	1915	151,424	25,689	177,113
1914	210,421	30,260	240,681	1916	138,789	28,148	166,937

As a result of the amalgamation of the federation of flour mill workers with that of the brewery workers, and of the liquidation of the federations of the brickmakers, umbrella makers, and paper-box makers, the number of central federations has been reduced from 52 to 48. The number of independent local unions has fallen from 22 to 21. The number of local unions affiliated with central federations decreased from 2,665 in 1915 to 2,346 in 1916.

SIXTH CONGRESS OF THE HUNGARIAN TRADE-UNIONS.[2]

On August 19 and 20, 1917, the trade-unions of Hungary held their sixth congress in Budapest. The congress ought to have convened three years ago, but its convention had been deferred on account of the war.

After receiving the report of the secretary of the central organization the congress devoted most of its time to discussion of the great

[1] Bremer Bürger-Zeitung. Bremen, Aug. 30, 1917.
[2] Bremer Bürger-Zeitung. Bremen, Sept. 3, 1917.

problems of the period of transition from a war to a peace régime. Several speakers stated that all the belligerent countries had granted to organized labor a consulting voice in economic problems arising from the war while the Hungarian Government had steadily ignored the working people in the formation of economic advisory councils. The congress adopted a program with respect to the period of transition from war to peace which included the following four demands of labor: (1) Payment of subsidies to all discharged soldiers until they obtain regular employment; (2) the procuring of raw materials by the Government; (3) the building of workmen's dwellings by the Government, such action having become necessary on account of the standstill of building activities during the war; and (4) immediate inauguration after conclusion of peace of extensive public works. This program was submitted to the Trade-union Council for further supplementation and revision.

The report of the secretary shows that the first two years of the war caused large decreases in the membership of the trade-unions. In 1914 the unions lost 55,976 members, or 52.07 per cent of the total membership. A further loss of 8,129 members took place during 1915. For 1916, however, the organizations report an increase of membership by 11,957 members. The secretary states that in the present year the membership continues to grow at the same rate as before the outbreak of the war. Even workmen in Government establishments are now joining the trade-union movement, and a considerable number of new members have been recruited in provincial towns where formerly the trade-unions had never been able to gain a footing. The iron and metal workers' organizations alone increased their membership by 20,000 members during half the year, and thousands of miners have joined the miners' organization. As the result of the recent rapid increase of membership the number of organized workers in Hungary is now in round numbers 100,000.

The report of the secretary makes it evident that the activities of the trade-unions have by no means been restricted to the acquisition of new members, but that the unions have been very active in safeguarding the general interests of labor. They have intervened in the conclusion of numerous collective agreements, submitted several memoranda to the Government, and spent several hundred thousand crowns for the aid of families of members conscripted for military service, most of whom were in great distress, as the Hungarian Government has been less generous to the families of its soldiers than have the governments of other belligerent countries. The secretary in his report regrets the fact that so far organized labor has been unable to obtain the enactment of a law regulating the right of association and of the holding of meetings. In Hungary it is at present

left to the arbitrary will of the authorities to permit or prohibit the formation of associations and the holding of meetings.

The increased demands which the development of the trade-unions have made on the Trade-union Council, the central organization, led to a motion that the contribution of the members to the central organization be increased. The congress adopted a resolution fixing the contribution to the Trade-union Council at 12 hellers (2.4 cents) per member per quarter.

LABOR ORGANIZATIONS IN AUSTRALIA.

The general situation in regard to the trade-union movement in Australia at the present time and its development since the year 1906 are set forth in report No. 7, issued in June, 1917, by the labor and industrial branch of the Australian Bureau of Census and Statistics.[1] This report shows that there were 705 unions in 1916, more than twice as many as in 1906, with a total membership of 546,556, or an increase of approximately 211 per cent over the estimated total membership of all unions in 1906. The increase in membership in 1916 over 1915 was 18,525, or 3.5 per cent.[2]

The following table gives the number and the membership of trade-unions in Australia at the end of each year, 1906 to 1916, except 1907, the membership at the end of the years 1906, 1908, 1909, 1910, and 1911 being estimated, since reports were not received from all unions.

NUMBER AND MEMBERSHIP OF TRADE-UNIONS IN AUSTRALIA AT THE END OF EACH YEAR 1906 TO 1916 (EXCEPT 1907), AND PERCENTAGE OF INCREASE EACH YEAR.

Item.	1906	1908	1909	1910	1911	1912	1913	1914[1]	1915[1]	1916[1]
Number of unions	302	378	419	482	573	621	710	712	713	705
Membership	[2]175,529	[2]240,475	[2]273,461	[2]302,119	[2]364,732	433,224	497,925	523,271	528,031	546,556
Percentage of increase over preceding year	.....	.....	13.7	10.5	20.7	18.8	14.9	5.1	0.9	3.5

[1] Members of trade-unions who had joined the expeditionary forces at the end of this year are not included in the membership.
[2] Estimated membership, since reports were not received from all unions.

Of the 546,556 members at the end of 1916, 506,981, or 92.7 per cent, were males and 39,575, or 7.3 per cent, were females. In 1912 and 1913 the male membership was 95.9 per cent and the female membership 4.1 per cent of the total union membership. In 1914 the per-

[1] Australia. Bureau of Census and Statistics, Labour and Industrial Branch, Report No. 7. Prices, purchasing power of money, wages, trade-unions, unemployment, and general industrial conditions, 1916. Melbourne, 1917. pp. 339–346.
[2] Members of trade-unions who had joined the expeditionary forces at the end of 1915 and 1916 are not included in the membership of these years.

centages were 95.7 and 4.3, and in 1915, 94.5 and 5.5. The following table shows the number of unions and the membership by industrial groups in December, 1916:

NUMBER AND MEMBERSHIP OF TRADE-UNIONS IN AUSTRALIA, BY INDUSTRIAL GROUPS, DECEMBER, 1916.

Industrial group.	Number of unions.	Number of members.
Wood, furniture, etc.	20	[1] 13,020
Engineering, metal works, etc.	76	49,230
Foods, drink, tobacco, etc.	69	41,515
Clothing, hats, boots, etc.	28	[1] 23,938
Books, printing, etc.	29	11,079
Other manufacturing	78	32,119
Building	63	36,255
Mining, quarries, etc.	26	33,515
Railway and tramway services.	28	75,896
Other land transport	23	15,719
Shipping, etc	65	45,868
Pastoral, agricultural, etc	10	37,679
Domestic, hotels, etc	22	9,907
Miscellaneous	168	117,050
Total	705	546,556

[1] Incomplete, reports from some States not being available.

An interesting feature of the report is a table showing the number of male and female members of trade-unions, the estimated total number of employees of each sex 20 years of age and over in all professions, trades, and occupations, and the percentage the former is of the latter. It should be pointed out that the estimated total number of employees comprises all persons (over the age specified) in receipt of wages or salary, as well as those unemployed; the estimate therefore includes a large number of adults who are either not eligible at all for membership in any trade-union (such as certain persons employed in professional occupations) or who, while eligible for membership in so far as the nature of their trade or occupation is concerned, do not reside in a locality which is covered by any union embracing their particular trade or occupation. It is also proper to observe that the age at which persons are eligible for membership varies in different unions. The census results are classified in quinquennial age groups, and the sum of those in the groups 20 years of age and over is taken, since their average age more closely approximates the average age of admission to membership than if those in other groups were included. The table referred to is as follows:

Item.	Males.	Females.
Number of members of unions	506,981	39,575
Estimated total number of employees 20 years of age and over	920,686	229,118
Percentage of members on estimated total number of employees	55.0	17.2

WORKMEN'S COMPENSATION.

TENDENCIES IN WORKMEN'S COMPENSATION LEGISLATION IN THE UNITED STATES.[1]

BY CARL HOOKSTADT.

Certain provisions of workmen's compensation laws are more susceptible of change and revision than others. The scope of the acts and the partial disability schedules, for example, have undergone very little change since their initial enactment, while the waiting period and particularly the requirements as to medical service are in a constant state of flux. Compensation commissioners are not always familiar with the experience and results of compensation laws in other States.[2] This unfamiliarity, together with the human proneness to overvalue those things to which one has been accustomed, has led many of the commissions not only to prefer their own type of law but to consider it superior to all others. These facts are of especial importance, therefore, to States having under consideration the adoption of a compensation law. The following summary shows some of the more important statutory changes which have occurred in the 35 States and Territories having workmen's compensation experience.[3] A large majority of these changes were enacted this year.

COMPENSATION AND INSURANCE SYSTEMS.

There has been considerable dissatisfaction with the elective feature of compensation laws. A large proportion of employers in many of the 26 States having such elective laws have refused to accept the compensation provisions, thus depriving their employees of the benefits of this legislation. Notwithstanding this fact and also the fact that several compensation commissions have recommended a change from the elective to the compulsory system, only one (Illinois) of the 26 elective compensation States has substituted the compulsory for the elective system. On the other hand, of the eight States in which employers were not required to insure, four (California, Illinois, Nebraska, and New Jersey) changed to a compulsory

[1] Section of a forthcoming bulletin on comparison of workmen's compensation laws.

[2] The word States in this article includes Hawaii and Porto Rico where applicable.

[3] The five States which enacted compensation laws in 1917 have not been taken into account in the following analysis.

insurance system. No State has established a State insurance fund which was not provided for in the original compensation act nor has any State abolished such a State fund after its establishment.

SCOPE.

The scope of the various acts, i. e., the employments covered, has on the whole remained quite stationary. None of the States which originally excluded agriculture, domestic service, or nonhazardous industries has later included such employments, although several laws in which only enumerated hazardous employments were covered have added a few minor employments to enumerated statutory lists. Among these were the inclusion, in New York, of hotels having 50 or more rooms and the repeal of the provision in Texas exempting cotton ginning. Two States (Oregon and Rhode Island) subsequently included public employees after having made no provision therefor in the original acts. In one particular, however, the scope of the compensation acts has been considerably increased. Seventeen States originally exempted employers having less than a stipulated number of employees. Of these, three States (Texas, Wisconsin, and Wyoming) have reduced the number of employees, and two States (Nebraska and Nevada) have abolished the numerical exemption provision altogether. Many of the States originally exempted casual employments, but there is a tendency to abolish this exemption. Of the 13,500,000 employees[1] covered by the 35 State compensation laws approximately 200,000, or less than 2 per cent, have been added subsequent to the initial enactment of the laws.

WAITING PERIOD.

The waiting period has been changed in 12 States, two (California and Connecticut) having made two successive changes. Of these, 10 States[2] reduced the waiting period; one State (California) first increased its waiting period from one week to two weeks and then reduced it 10 days; and one (Washington) increased the period from 1½ days to 8 days. In addition, several States have abolished the waiting period entirely in certain cases. Of these, six States (Louisiana, Nebraska, New York, Rhode Island, Washington, and Wyoming) abolished the waiting period if the disability exceeds stated periods, while Hawaii abolished the waiting time in partial disability injuries.

[1] These figures are computed from the U. S. Census of Occupations of 1910; for more detailed information see Bulletin No. 203 of the U. S. Bureau of Labor Statistics, pp. 64 to 72.

[2] From two weeks to one week, Connecticut, Hawaii, Indiana, Kansas, Louisiana, Minnesota, Nevada, and Vermont; from two weeks to ten days, Massachusetts; from three weeks to two weeks, Colorado.

COMPENSATION SCALE.

Some of the factors entering into the compensation scale have remained quite rigid while others have been relatively more susceptible to change. In practically all of the States the compensation payments are based upon the wages of the injured employee, ranging generally from 50 to 66⅔ per cent. Only six States have increased their original percentages. Of these, Massachusetts and Nebraska increased the scale from 50 to 66⅔ per cent; Kansas and Minnesota from 50 to 60 per cent; and Illinois and Nevada made minor increases in certain cases. Eight States[1] increased their weekly maximum compensation limits. Eight States also increased the period during which compensation shall be paid. Of these, four (Massachusetts, Nebraska, Nevada, and Ohio) increased the period in case of death; six (Maryland, Minnesota, Nebraska, Nevada, Texas, and Wisconsin) in case of total disability; and two (Massachusetts and Nevada) in case of partial disability. However, probably the most inelastic factor of the compensation scale is the schedule for permanent partial disability. Of the 28 States having such schedules only two (Washington and Wisconsin) have materially increased the compensation periods or amounts; one (Wyoming) has slightly increased the amounts in individual cases; while one (Nebraska) has reduced the periods considerably. Hawaii and Nebraska have materially enlarged the list of injuries in the schedule without increasing the in certain cases. Eight States[1] increased their weekly maximum In addition, Texas increased its schedule substantially both as to list of injuries and compensation periods, but it also amended its law by providing that payments under such schedule shall be in lieu of all other payments, instead of in addition to all other compensation as formerly.

MEDICAL SERVICE.

The provisions as to medical service have undergone greater change than any other feature of the workmen's compensation laws. Sixteen States[2] have increased the medical service originally provided, either as to maximum amounts or length of time during which such medical service is to be furnished. In California, Connecticut, and Porto Rico the maximum limit has been abolished entirely, and employers must provide medical attendance as long as reasonably necessary. Most of these increases were provided for by laws passed this year. States legislatures and compensation commissions seem at last to realize the fact that adequate medical and hospital service is

[1] Connecticut, Illinois, Iowa, Massachusetts, Minnesota, Nebraska, Nevada, and West Virginia.

[2] California, Connecticut, Hawaii, Iowa, Kansas, Louisiana, Massachusetts, Nebraska, Nevada, Ohio, Porto Rico, Rhode Island, Texas, Vermont, Washington, and Wisconsin.

absolutely essential for the complete economic rehabilitation of injured workmen. There is also a tendency toward closer State supervision over the quality of the medical service furnished by employers. A number of States this year authorized compensation commissions to approve or supervise hospitals and benefit funds maintained by employers. There is also a trend toward allowing the injured employee to select his own physician. For the first time in the history of the compensation legislation in this country employees were specifically given this right this year, four States (Illinois, Massachusetts, Rhode Island, and Washington) amending their laws to that effect.

ADMINISTRATIVE SYSTEM.

Nebraska is the only State which has changed its system of administration, the former method of administration by the courts having been replaced by one by a compensation commissioner. The Department of Labor of New Jersey has been given limited administrative supervision over the act in that State, and Massachusetts has abolished the arbitration committee system.

SECTIONAL VARIATIONS.

A cursory review of the workmen's compensation laws of the several States brings out three significant facts. One is the absence of these laws in the Southern States, North Dakota being the only one of the remaining 11[1] noncompensation States not in this section of the country; another is the refusal of most States to be guided by the experience of other States; and a third fact is the inclination of the far Western States to strike out along new lines, as shown by the following facts:

The only States which have established monopolistic State insurance systems are Nevada, Oregon, Porto Rico, Washington and Wyoming. The only States (Oregon, Washington and Wyoming) which have established pension systems, the amounts presumably based upon the need of the workman or his dependents rather than upon loss of earning power, are in the far West. Washington is the first and only State providing for the administration of medical service through local medical aid boards, patterned after the German system. The only laws[2] which provide for the maintenance of hospital benefit funds to which the employee is required to contribute his proportionate share have been enacted by far Western States. Of the three States in which the administrative commissions are authorized and have formulated elaborate schedules for permanent partial disabilities based as far as possible upon the

[1] Not counting the District of Columbia.
[2] Idaho, Montana, Nevada, Utah, and Washington.

actual loss of earning power, two (California and Washington) are in the far West. And of the seven States providing a penalty in case the employer charges part of the compensation cost against his employees, six[1] are in the West.

One regrettable fact in connection with the enactment of workmen's compensation legislation, as already noted, is the disinclination of most States to be guided by the experience developed under the laws of other States. The type of law, including scope, compensation scale, administrative system, etc., usually adopted by a State is determined generally by two factors—contiguity and the economic and political progressiveness of the State. An examination of the five State compensation laws passed in 1917 shows that these two factors were most influential in determining the type of law enacted. The far Western States especially have been inclined to pattern their laws after those adopted by contiguous States, due in part to the fact that owing to the great distances investigating commissions and others responsible for the enactment of the laws have found it inexpedient to acquaint themselves with the experience of the Eastern States by personal investigation. Eventually, no doubt, all of the States will adopt those compensation laws which shall have been empirically proved to be the best, but apparently it is necessary for each State to attain this through its own experience.

CONFLICTS OF JURISDICTION OVER INDUSTRIAL ACCIDENTS BETWEEN FEDERAL AND STATE AUTHORITIES.

Report giving the genesis and activities of the Committee on Jurisdictional Conflicts of the I. A. I. A. B. C.

THE GENERAL SITUATION.

The Federal Government has sole jurisdiction over maritime matters. In spite of this fact, some compensation commissions and State courts extended the compensation provisions of their laws to employees engaged in maritime pursuits. The extension of State compensation laws over this field was held to be unconstitutional by the United States Supreme Court in two admiralty cases arising in New York, namely, the Southern Pacific Co. *v.* Jensen and the Clyde Steamship Co. *v.* Walker. These decisions deprived not only bona fide seamen of any right to workmen's compensation under State laws but also longshoremen, stevedores, and all engaged in loading and unloading cargoes and repairing vessels as well.

Before the enactment of the Federal employers' liability law of 1908, amended 1910, railroad employees injured in the course of

[1] Nevada, Oregon, Texas, Utah, Washington, and Wisconsin.

employment could recover damages only under the common law, modified in some States by statute enactment. The act above referred to, by taking from the railroads the common-law defenses in cases of injury to employees engaged in interstate commerce, was a great step in advance. This act, however, left without remedy all employees engaged in interstate commerce who were injured in the course of their employment through no fault of the employing railroad. It, of course, did not apply to employees engaged solely in intrastate commerce. These latter employees are now included under the compensation laws in most of the States having such laws.

Prior to May, 1917, the compensation commissions and courts in several States had held that in cases of injuries due to no negligence on the part of the employing railroad the injured employee had a right to claim compensation under the State law, even though he were engaged in interstate commerce. The Supreme Court, in its decisions of May 21, 1917, in the case of the New York Central Co. *v.* Winfield and in the case of the Erie Railroad Co. *v.* Winfield, held that such an extension of the State compensation laws into the field of interstate commerce is unconstitutional. These decisions work great hardship, in that they block the way to any recovery to workmen engaged in interstate commerce who are injured through no fault of the employing railroad.

The conflicts in jurisdiction between the Federal authority, on the one hand, and the State authorities, on the other hand, have long been recognized. Mr. A. J. Pillsbury, chairman of the Industrial Accident Commission of California, discussed these conflicts before the Third Annual Conference of the International Association of Industrial Accident Boards and Commissions, at Columbus, Ohio, April, 1916. He proposed as a solution that the Federal Congress enact a law abrogating the Federal Employers' Liability Act in those States having workmen's compensation laws covering railroad employees. These conflicts in jurisdiction were made more conflicting and the need for some remedy made still more imperative by the decisions of the Supreme Court of May 21, 1917, above alluded to. The subject was again presented in a paper prepared by Mr. Pillsbury at the fourth annual meeting of the International Association of Industrial Accident Boards and Commissions, which was held in Boston, Mass., in August, 1917. Mr. John Mitchell, chairman of the New York State Industrial Commission, in discussing the results of the Jensen case, the Walker case, and New York Central Co. *v.* Winfield, brought out the urgent necessity of immediate action to relieve the serious situation, especially in reference to longshoremen and those engaged in loading, unloading, and repairing vessels.

As a result of this discussion the conference passed the following resolution:

Resolved, That in accordance with the recommendations of Chairman A. J. Pillsbury, of the Industrial Accident Commission of the State of California, and Chairman John Mitchell, of the Industrial Commission of the State of New York, a committee of three, to consist of Royal Meeker, A. J. Pillsbury, and John Mitchell, be appointed to meet in Washington, D. C., at the earliest possible date, for the purpose of formulating and promoting legislation for eliminating conflicts in jurisdiction between Federal and State authorities in cases involving injuries occurring in transportation by railroad or water, or in the loading and unloading of cargoes, or kindred occupations.

ADMIRALTY AND MARITIME JURISDICTION.

The matter which first required the attention of the Committee on Jurisdictional Conflicts was the serious situation affecting the longshoremen of the port of New York City. These workmen or their surviving families had been receiving compensation under the New York State workmen's compensation law. The decision of the United States Supreme Court, which declared that the longshoremen were under the jurisdiction of the admiralty courts of the United States, cut off compensation benefits from these people just at the time when the work of handling cargoes was of first importance to the proper conduct of the war. Prompt relief was necessary if labor troubles were to be averted and the needed force of longshoremen kept at work. The situation at other ports was only less critical because of the smaller amounts of tonnage entering and clearing.

To consider the best ways of meeting the crisis, the Committee on Jurisdictional Conflicts met for the first time on September 12, 1917, in the office of the Commissioner of Labor Statistics, Washington, D. C.

Those present were: Royal Meeker, United States Commissioner of Labor Statistics; John Mitchell, chairman of the New York State Industrial Commission (of the I. A. I. A. B. C. Committee on Jurisdictional Conflicts).

John B. Andrews, secretary of the American Association for Labor Legislation, was present by invitation as an adviser.

At this meeting the general lines of legislation to remedy the situation in respect to those engaged in loading, unloading, and repairing vessels were agreed upon. The committee visited Hon. Hiram W. Johnson, of the United States Senate, and Hon. Warren Gard, of the United States House of Representatives, and arranged for the introduction of amendments to the Judicial Code intended to effect the result desired as soon as such amendments could be prepared. Accordingly, these amendments were prepared and introduced simultaneously in the House and the Senate. The sections of the Judicial Code with the amendments italicized are given below:

Clause 3, section 24.

Third. Of all civil causes of admiralty and maritime jurisdiction, saving to suitors in all cases the right of a common-law remedy where the common law is competent to give it, *and to claimants the rights and remedies under the workmen's compensation law of any State;* of all seizures on land or waters not within admiralty and maritime jurisdiction; of all prizes brought into the United States; and of all proceedings for the condemnation of property taken as prize.

Clause 3, section 256.

Third. Of all civil causes of admiralty and maritime jurisdiction, saving to suitors in all cases the right of a common-law remedy where the common law is competent to give it, *and to claimants the rights and remedies under the workmen's compensation law of any State.*

The amendments were passed without debate in the Senate October 2, 1917, and in the House October 5. The bill was signed by the President October 6, 1917, and became a law at once. These amendments give to those engaged in the loading, unloading, and repairing of vessels the right to accept compensation under State law in addition to the right already possessed by them of suing for damages under the common law. This remedy is admittedly not a complete one, in that it gives no right of compensation for injuries received through no fault of the employer to citizens or those coming under the jurisdiction of States having no workmen's compensation laws. The only remedy open to those injured in loading, unloading, and repairing vessels in these States is the extremely inadequate and uncertain remedy afforded by the admiralty law or the common law. The Supreme Court decisions which deprived these employees of the compensation rights they had come to believe were unquestionably theirs precipitated an emergency, especially among the longshoremen of New York City and vicinity, which required quick action. The legislation amending the Judicial Code seemed the only relief possible to obtain in the closing week of the crowded extraordinary session of Congress.

INTERSTATE COMMERCE BY RAILROAD.

The second conference of the Committee on Jurisdictional Conflicts was held in the office of Mr. John Mitchell, chairman of the New York State Industrial Commission, New York City, on the morning and afternoon of October 15 and the afternoon of October 16, 1917.

Those present were: Royal Meeker, United States Commissioner of Labor Statistics; John Mitchell, chairman New York State Industrial Commission; A. J. Pillsbury, chairman California Industrial Accident Commission (members of the Committee on Jurisdic-

tional Conflicts). Robert W. Bonynge, chief counsel New York State Industrial Commission; John B. Andrews, secretary American Association for Labor Legislation; N. T. Dowling, of the Legislative Reference Bureau of Columbia University, New York (advisers to the Committee on Jurisdictional Conflicts).

A discussion was held as to the advisability of the Federal Congress enacting a law abrogating the federal employers' liability law in those States which have compensation laws which measure up to a certain standard of adequacy. Mr. Pillsbury recommended as a tentative standard of adequacy 60 per cent of the compensation schedule provided under the United States employees' compensation law. It was generally agreed that this standard is inadequate. Mr. Mitchell and Mr. Meeker felt that legislation of the kind suggested was not the most desirable solution. Therefore the question of the advisability and feasibility of the enactment of a Federal workmen's compensation law which would cover all interstate employees was taken up and discussed fully.

The question of the kind of administrative machinery which should be provided in case a Federal compensation law should be enacted was also discussed. Mr. Pillsbury advocated administration by State compensation commissions or other State authorities empowered to administer the State compensation laws, while Mr. Mitchell and Mr. Meeker were inclined to favor the creation of Federal administrative machinery.

It was agreed by all the members of the Committee on Jurisdictional Conflicts that before a decision could be reached as to the kind of bill to be advocated there must be a conference with representatives of the steam railroads, the railroad brotherhoods, the American Electric Railway Association, and the Amalgamated Association of Street and Electric Railway Employees of America. The committee accordingly authorized the chairman to communicate with the representatives of these organizations and arrange for a meeting in the early part of the week beginning October 22, 1917.

CONFERENCE OF COMMITTEE ON JURISDICTIONAL CONFLICTS, I. A. I. A. B. C., WITH REPRESENTATIVES OF STEAM RAILWAYS, RAILROAD BROTHERHOODS, AND AMERICAN ELECTRIC RAILWAY ASSOCIATION, OCT. 22 AND 23, 1917, WASHINGTON, D. C.

First session, October 22.

The meeting was to have convened at 10 a. m., but owing to the lateness of trains was not called to order until about 11 a. m.

Those present were: Royal Meeker, United States Commissioner of Labor Statistics; A. J. Pillsbury, chairman, California Industrial Accident Commission (of the I. A. I. A. B. C. Committee on Juris-

dictional Conflicts); Alfred P. Thom, general counsel Railway Executives' Advisory Committee; A. B. Garretson, president Order of Railway Conductors; P. J. McNamara, legislative representative Brotherhood of Locomotive Firemen and Enginemen; D. L. Cease, representing Brotherhood of Railroad Trainmen; W. N. Doak, legislative representative Brotherhood of Railroad Trainmen; John N. Shanahan, representing American Electric Railway Association; John B. Andrews, secretary American Association for Labor Legislation; L. D. Clark, expert, United States Bureau of Labor Statistics.

After some preliminary discussion the chairman asked the representatives of all the organizations represented in the conference to indicate the attitude of their respective organizations toward legislation to correct the existing confusion and conflicts in jurisdiction as between the Federal Government on the one hand and the various State governments on the other hand in the fields of industrial accident liability and workmen's compensation.

It appeared from the statements made by Mr. D. L. Cease, Mr. P. J. McNamara, and Mr. A. B. Garretson—

That the Railway Trainmen have taken the position of opposing compensation legislation of any kind;

That the Locomotive Firemen and Enginemen have given discretionary powers to the president of their organization;

That the Order of Railway Conductors has taken the position of favoring compensation of the elective type, giving the injured workman a choice between remedy under the Federal employers' liability law and award under his State compensation law.

It was stated that the locomotive engineers had taken a position favoring a Federal compensation law to cover railway employees.

Col. Thom said that the railroads were united in favoring a Federal compensation law to cover all railway employees in all departments on all roads carrying any interstate business. He said further that this Federal compensation law should be "administered locally"; that is, by State authorities named in the act or to be designated by the proper Federal authority. This local administration he deemed essential in order to prevent delays and to prevent the creation of unnecessary duplicating machinery, and, as a consequence, to reduce the expense of administration so that the injured workman would receive as nearly as possible the amount awarded as compensation.

The railway brotherhoods can not reconsider the action taken by them in regard to workmen's compensation until their supreme bodies meet again, which will not be until May, 1919, and June, 1919.

Mr. Shanahan stated that the American Electric Railway Association was favorable to compensation legislation. In view of the fact,

however, that the railway brotherhoods, who are the parties most concerned, are divided on the question of compensation versus employers' liability, Mr. Shanahan suggested that he be excused from further participation in the deliberations.

Col. Thom was obliged to withdraw from the conference before adjournment. In his absence the conference considered further what action could be taken by the Committee on Jurisdictional Conflicts that would serve to keep the question alive and help formulate public opinion for the purpose of curing the evils suffered by employees engaged in railway employment. The unwisdom of framing a compensation bill of any kind for presentation to Congress at this time was recognized by all. It could result only in arraying the brotherhoods against each other, against the International Association of Industrial Accident Boards and Commissions, and against the United States Department of Labor. Public opinion, especially public opinion within the brotherhoods, must be informed and educated before a Federal compensation law can be pressed in Congress with any hope of success. It, therefore, does not seem worth while to consider further the form and contents of a Federal workmen's compensation bill at this time.

Before adjournment it was proposed by Dr. Andrews and Mr. Pillsbury that the conference consider the advisability of framing a bill for presentation to Congress, giving to railway employees engaged in interstate commerce the choice of remedy under the Federal employers' liability law or compensation under State laws. This would do for the railway employees engaged in interstate commerce exactly what the Johnson-Gard Act did for the longshoremen and those engaged in maritime pursuits.

The conference then adjourned to convene at 10 a. m., Tuesday, October 23.

Second session—October 23.

The conference was called to order at 10 a. m.

Those present were: Royal Meeker, United States Commissioner of Labor Statistics; A. J. Pillsbury, chairman California Industrial Accident Commission (of the I. A. I. A. B. C. Committee on Jurisdictional Conflicts); Alfred P. Thom, general counsel Railway Executives' Advisory Committee; A. B. Garretson, president Order of Railway Conductors; D. L. Cease, representing Brotherhood of Railroad Trainmen; John B. Andrews, secretary American Association for Labor Legislation; L. D. Clark, expert United States Bureau of Labor Statistics.

Mr. W. N. Doak, legislative representative of the Brotherhood of Railroad Trainmen, came in just before adjournment.

The Committee on Jurisdictional Conflicts and its advisers took up for discussion a proposal for amending the Federal employers' liability law so as to give employees engaged in interstate commerce by railroads a choice of suing under the Federal employers' liability law or accepting compensation under State law. Mr. Cease thought that the Brotherhood of Railroad Trainmen would oppose the amendment on the ground that it provided for workmen's compensation in case the injured employee elected it and thereby deprived him of his constitutional right of remedy at law. At this point Col. Thom arrived. When the proposal under discussion was explained to him, he expressed complete and unalterable opposition to it and withdrew from the conference. In reply to the objections raised by Mr. Cease it was pointed out and agreed to by all the other members present that the amendment deprived no railroad employee of any rights, but gave him an additional right to claim compensation for injuries received in those cases where he would have no remedy under the employers' liability law or would have a doubtful or insufficient remedy. It was urged that if the matter were put in the right way to the railroad brotherhoods, and especially to the trainmen, they could have no objection to the proposed legislation, as the election of compensation is to be left entirely to the determination of the employee.

Just before adjournment for luncheon Mr. Pillsbury suggested that the conference take up for consideration a Federal compensation bill embodying the elective feature as provided in the amendment under discussion.

The conference adjourned at 12.30 p. m. to reassemble at 2 p. m., when Mr. John Mitchell, chairman of the New York State Industrial Commission, would be in attendance.

Third session—October 23.

The conference was called to order by the chairman a little after 2 p. m.

Those present were: Royal Meeker, United States Commissioner of Labor Statistics; John Mitchell, chairman, New York State Industrial Commission; A. J. Pillsbury, chairman, California Industrial Accident Commission (of the I. A. I. A. B. C. Committee on Jurisdictional Conflicts); A. B. Garretson, president, Order of Railway Conductors; D. L. Cease, representing Brotherhood of Railroad Trainmen; W. N. Doak, legislative representative of the Brotherhood of Railroad Trainmen; John B. Andrews, secretary, American Association for Labor Legislation; L. D. Clark, expert, United States Bureau of Labor Statistics.

Mr. Pillsbury explained that he proposed the Federal compensation bill with the elective feature added out of deference to the opinions of the other two members of the Committee on Jurisdictional Conflicts, who had expressed themselves as favorable to a uniform Federal compensation act.

The other members of the committee objected to the consideration of a Federal workmen's compensation bill at this time upon the ground that such a measure would necessarily be opposed by the legislative representative and the officers of the Railroad Trainmen and that such opposition would inevitably defeat the measure and generate bitterness of feeling against the State compensation commissions and others concerned with the legislation and might array brotherhood against brotherhood and lead to factional fights within the brotherhoods. No permanent good could result from such action, while much evil would inevitably grow out of it. It probably would prevent the enactment of compensation legislation for many years, by forcing action upon the subject from the outside and without any adequate preparation or understanding of the end sought. The amendment of the Federal Employers' Liability Act, on the other hand, would result in giving to interstate railway employees the right to elect to take advantage of laws already on the statute books and ought not to arouse such opposition. This view was substantially concurred in by Mr. Garretson. The conference, therefore, put aside further consideration of a Federal compensation bill to devote the rest of the session to discussing various angles of the proposed amendment.

It was thought by Mr. Cease that the proposed legislation would be less likely to arouse opposition on the part of the trainmen if it were made a separate act instead of an amendment to the existing Federal Employers' Liability Act. After full discussion of this point it was decided to have the subject presented in both forms, as an amendment to the Federal Employers' Liability Act and as a separate act giving choice of remedies. Whether the subject should be introduced into Congress as an amendment or as a separate act was left to be determined after consultation with Congressmen familiar with legislative matters of this kind.

It was suggested that if the proposal is to be submitted as an amendment to the Federal Employers' Liability Act, a further amendment or amendments to this act should be submitted with a view to strengthening the act, which is a proposal to which the trainmen have already committed themselves.

The proposed amendment reads as follows:

Provided further, That where by the law of any State a system of compensation of workmen for injuries is established, and the same is applicable to em-

ployees of common carriers by railroad engaged in intrastate commerce, the injured employee, or, in case of death, the person or persons entitled to benefits under such compensation law, may, at any time after the receipt of the injury and before the rendering of final judgment, choose and elect to claim the benefits and remedies provided by the compensation law of the State; and where such choice and election is made the provisions of this act shall not apply, and the rights and remedies under the compensation law of the State shall be exclusive.

Below is the text of the proposed separate act which will accomplish the same purpose:

Be it enacted, etc., That where by the law of any State a system of compensation of workmen for injuries is established, and the same is applicable to employees of common carriers by railroad engaged in intrastate commerce, it shall be lawful for the employees of any common carrier by railroad engaged in interstate commerce injured within the State in the course of their employment in such commerce, or, in case of death, for the person or persons entitled to benefits under the compensation law of the State, at any time after the receipt of the injury and before the rendering of final judgment, to choose and elect to claim the benefits and remedies provided by the compensation law of the State, to be recovered in accordance with the provisions of such law: *Provided*, That nothing in this act shall be held to limit the liability of common carriers or impair the rights of their employees under the provisions of an act entitled "An act relating to the liability of common carriers by railroad to their employees in certain cases," approved April 22, 1908, as amended by an act approved April 5, 1910, in any case other than where the choice and election are made to accept the provisions of the compensation law as above provided; but where such choice and election are made, the provisions of the act of April 22, 1908, as amended April 5, 1910, shall not apply, and the rights and remedies under the compensation law of the State shall be exclusive.

The desirability was recognized of obtaining more information as to the number and proportion of injured railway employees who have no remedy under the Federal Employers' Liability Act because their injuries were not due to any fault of the employing railway, and who are not entitled to compensation under existing State law, because they were injured while employed in interstate commerce. The committee agreed to collect all available information on this subject and to publish the same in the MONTHLY REVIEW of the United States Bureau of Labor Statistics. The committee then adjourned.

ROYAL MEEKER (*Chairman*),
JOHN MITCHELL,
A. J. PILLSBURY,
Committee on Jurisdictional Conflicts, I. A. I. A. B. C.

WORKMEN'S COMPENSATION INSURANCE IN OHIO.

As is well known, the subject of the obligation of employers to pay benefits to injured workmen in accordance with the provisions of compensation laws is one that has given rise to much vigorous dis-

cussion. The laws of a number of States provide for funds to be administered by State agencies, sometimes as an alternative means of procuring insurance and sometimes as the exclusive method. Reference has already been made (see MONTHLY REVIEW of April, 1917, pp. 552–554) to the situation as it has developed in the State of Ohio, where the attempt of the State insurance commission to obtain a monopoly of such insurance has been strongly contested by the stock companies. Decisions by the supreme court of the State construing the law indicate that the requirements of the compensation statute as to scope and nature of the insurance must be strictly complied with; that these provisions do not repeal section 9510 of the Code, which is a general statement of the powers of insurance companies to write employers' liability insurance; but that the act does define and limit the nature and extent of the contract that may be written in cases where employers of more than five employees desire to secure indemnity. By section 22 of the original act (codified as section 1465–69), persons showing themselves to be of sufficient financial ability or credit to render certain the payment of compensation may carry their own insurance without the payment of premiums into the State fund. It was ruled that as to such self-insurers, policies taken out by them to reimburse themselves must contain provisions covering costs of medical and surgical services and funeral expenses in case of death; also that where employees elect to bring suit instead of accepting compensation, the insurance contract should contain no agreement covering the liability of an employer for injuries due to his willful failure to comply with lawful requirements for the safety of employees; further, that an employer of five or more persons could not obtain a contract of indemnity on account of accidental injuries due to his negligence of any kind if such employer is not a contributor to the State fund or has not legally exercised the option of carrying his own insurance under section 22 of the act.

These rulings of the court were given in a case in which the attorney general of the State brought proceedings against an insurance company whose contracts did not comply with the provisions of the law as indicated above, and there was judgment of ouster of the company in so far as it was exercising its franchise to write insurance policies contrary to these rulings. However, the operation of ouster was suspended for 100 days, in order to permit the company to conform to the determination of the court (State *v.* Employers' Liability Assurance Corporation (Jan. 31, 1917), 116 N. E. 513).

The validity of the section of the workmen's compensation law authorizing self-insurance, mentioned above, was directly challenged in an attempt to procure a judicial ruling that would effectually exclude insurance companies from any field of operations in the State.

In this case (State *v.* United States Fidelity & Guaranty Co. (Apr. 17, 1917), 117 N. E. 232), the company admitted that it was writing insurance for employers who had complied with the requirements as to self-insurance under the compensation law but who were desirous of securing their own protection by insurance in a stock company. The company claimed that in writing such insurance it conformed with the requirements as to the payment of medical, surgical, and hospital expenses, and for funeral benefits where the injuries were fatal, such payments being made directly to the injured employees or their dependents. It also denied that its policies covered any liability on account of willful acts of the employers or a failure to observe lawful safety requirements.

In passing upon the validity of this section, however, the court took the view that the matter of insurance was not involved, since the only point that could be considered was the nature and effect of the section itself. It was charged that it contravened provisions both of the State and Federal constitutions in denying equal protection of the laws and making provisions not of uniform operation. On these points the court declared that it rested with the industrial commission of the State to determine the ability of the self-insuring employers, and to see that the law in behalf of employees was complied with in every respect by those employers no less than by those contributing to the State fund. The employee was, therefore, as fully protected in the one case as in the other, and the employer as fully obligated; so that no substantial favor was gained by either class, nor any greater burden fastened on either by reason of the form of classification adopted by the law. The commission was obligated still to exercise its duties in behalf of both employers and employees, whether self-insurers or contributors to the State fund, so that "the claim of inequality before the law is dissipated to the very vanishing point." It was pointed out that the matter of the wisdom or unwisdom of permitting indemnity-insurance contracts to survive in Ohio had no possible connection with the matter of the fundamental law at issue, and the law as it stood was completely sustained.

It was pointed out by the court in a concluding paragraph that while the name of the attorney general appeared as a party to the proceedings attempting to overthrow the law, it was done only at the request of associated counsel, who were the attorneys of the Ohio State Federation of Labor, while the attorney general himself, both by brief and oral arguments, upheld the section as being constitutional.

The law, as it existed when the cases which are above discussed arose, provided for the exemption from the requirements of making

contributions to the State insurance fund, not only of persons who were found financially able to carry their own insurance, but also of persons who maintained benefit funds or mutual associations in cooperation with other employers for the payment of suitable benefits. As the law was amended by an act approved March 29, 1917, exemption from contributions to the State fund is limited to persons who are of sufficient financial ability to render certain the payment of compensation benefits, "and who do not desire to insure the payment thereof or indemnify themselves against loss sustained by the direct payment thereof." The maintenance of benefit funds and mutual associations is, therefore, no longer an alternative privilege of employers, and it would appear that since only those who do not desire to insure may be exempt from membership in the State fund, the stock insurance companies are effectively barred from the field.

REPORT OF INDUSTRIAL ACCIDENT BOARD OF MONTANA.—A CORRECTION.

In a summary of the Second Annual Report of the Industrial Accident Board of Montana for the year ending June 30, 1917, which appeared on page 162 of the MONTHLY REVIEW for November, 1917, it was erroneously stated that the workmen's compensation law of that State "applies only to hazardous employments having five or more employees." While the law applies only to employers engaged in the industries, works, occupations, or employments specified therein as "hazardous," it includes all the employees of such employers, whatever may be their number.

INDUSTRIAL ACCIDENTS AND DISEASES.

TREND OF ACCIDENT FREQUENCY RATES IN THE IRON AND STEEL INDUSTRY DURING THE WAR PERIOD, BY CAUSES.

BY LUCIAN W. CHANEY.

In the MONTHLY REVIEW for November, 1917, the general trend of accident rates in the iron and steel industry—both fatality rates and rates of all accidents—was presented. There was also given the experience of the concerns represented classified according to the product which they turn out.

In the present article the accident experience of the same establishments is considered from the standpoint of the principal groups of causes which were involved. Table 1 gives in detail the frequency rates for these groups of causes. This table, like those in the November REVIEW, is arranged by full years ending with each month of the period under review. The chart on page 165, plotted according to the percentage of change which occurred from period to period, projects the facts graphically.

Considering the chart, it will be observed that in each cause group there is a downward trend during the depressed year of 1914, extending into 1915, approximately to the middle of the year. From that point there is an upward swing for about one year. The highest point reached in this upward swing is in no case as high as that reached in the year ending with March, 1914, which includes nine months of the calendar year 1913 and three months in 1914. From this point in 1916 there is a decline in all but two causes. "Falls of worker" runs an almost uniform course, while "cranes and hoists" continues to rise somewhat.

The comparative frequency of accident due to the different causes is indicated by their position on the chart, "handling objects and tools" and "falling objects" much exceeding any other group. For precise information regarding the amount of the differences, recourse must be had to Table 1. The chart is intended to present the rate of change and does not disclose directly the amount of difference.

It should be constantly borne in mind that a rising rate is not simply the expression of the natural increase in number of accidents due to the fact that more people are exposed to the dangers of the

employment. When more people are employed there will naturally be an increased number of accidents simply because of this greater exposure. If this number is exactly proportional to the increased employment the accident rate will remain constant, neither rising nor falling. On the other hand, a rising accident rate indicates a greater number of accidents in proportion to the number of employees and means either that the industry is being conducted in a more dangerous manner or that the working force has undergone modification in some way rendering them more liable to injury. The rising rate demands the solicitous attention of the safety man in order that adequate checks may be discovered and applied. The present compilation indicates clearly that a rising rate is not a necessary accompaniment of increasing employment since toward the close of the period, while the employment was still rising, the accident rate began a steady decline.

All studies so far made point to the conclusion that the proportion of inexperienced men in the working force is the decisive factor in causing accident rates to rise when employment increases. No other factor which can be suggested is sufficiently pervasive in its influence to produce a change of such a uniform character. It is found with scarcely an exception that when the proportion of inexperienced men increases the accident frequency increases. When this increment of inexperience begins to slacken the rise in the rate slackens, and as the recruits gain experience the accident rate may even begin to fall. This relation is sufficiently well established to carry a very emphatic lesson to the safety man. If he is to avoid the rise of rates incident to recovery from industrial depression he must devise means for the thorough instruction of his recruits. He must find ways of saving them from the inevitable results of their ignorance and lack of experience.

Table 2 analyzes some of the cause groups into their constituent elements. It also shows that, with a single exception, the year of high frequency is the earliest year covered, while the low point almost always occurs in the years ending near the middle of the calendar year 1915.

Table 3 shows the relation of the cause groups to the different products produced by plants. This table is chiefly important in its presentation of the variations in the rates of the producing companies due to the difference in their operations. For example, the manufacture of wire products is a typical machine-using industry, and naturally it has a high frequency (22.7 cases) in the operation of machines. In the fabrication of girders and other similar products large use is made of hand tools. This results in a rate in these shops of 28.2 cases for such tools. Other characteristic rates will be

observed on inspection of the table. In this table, too, the safety man engaged in plants of a character similar to those under consideration may find reason for careful attention. The high rates point to danger spots. Have each of them had the searching attention which they deserve?

TABLE 1.—ACCIDENT FREQUENCY RATES FOR THE PRINCIPAL CAUSE GROUPS IN THE IRON AND STEEL INDUSTRY, 1913 TO 1917.

Year ending with—	Hot substances.	Cranes and hoists.	Falls of workers.	Falling objects.	Operation of machines.	Handling objects and tools.	Flying objects.	Railways.
March, 1914	16.8	10.3	14.2	34.3	12.6	55.5	11.5	6.4
April, 1914	16.3	10.2	14.2	33.1	12.4	54.2	11.1	6.4
May, 1914	15.7	9.6	14.1	31.6	12.1	52.9	10.6	6.2
June, 1914	15.0	9.4	13.7	30.6	11.7	51.5	10.1	5.9
July, 1914	14.4	9.0	13.1	28.8	11.0	48.7	9.3	5.5
August, 1914	13.6	8.7	12.8	27.1	10.8	47.2	9.0	5.4
September, 1914	12.9	8.4	12.7	25.7	10.4	46.6	8.4	5.1
October, 1914	12.5	7.9	12.6	24.9	10.1	45.6	8.1	4.7
November, 1914	12.0	7.6	12.5	24.3	10.1	44.8	8.0	4.6
December, 1914	11.8	7.6	12.5	23.7	9.9	44.5	7.8	4.6
January, 1915	11.5	7.5	11.8	23.3	9.3	43.9	7.6	4.5
February, 1915	11.2	7.3	11.1	22.2	9.0	43.2	7.2	4.6
March, 1915	10.9	6.9	11.0	21.4	8.9	42.4	7.1	4.5
April, 1915	10.5	6.7	10.7	20.7	8.3	42.3	6.8	4.5
May, 1915	10.3	6.8	10.4	20.4	8.1	41.8	6.7	4.3
June, 1915	10.2	6.6	10.4	20.8	8.2	41.6	6.5	4.3
July, 1915	10.2	6.4	10.3	20.5	7.9	41.5	6.4	4.3
August, 1915	10.5	6.5	10.4	21.2	7.8	41.9	6.4	4.3
September, 1915	10.8	6.8	10.6	22.3	8.1	43.5	6.8	4.4
October, 1915	11.0	7.0	10.7	22.4	8.0	44.7	7.1	4.6
November, 1915	11.1	7.3	10.7	23.2	8.1	45.1	7.2	4.6
December, 1915	11.5	7.4	10.8	24.1	8.2	45.6	7.4	4.8
January, 1916	11.7	7.7	11.1	24.3	8.5	45.8	7.5	4.9
February, 1916	11.9	7.7	11.1	26.3	8.6	46.7	7.4	5.1
March, 1916	12.1	7.8	11.4	26.9	8.7	46.8	7.4	5.3
April, 1916	12.4	7.8	11.2	27.1	8.8	47.1	7.4	5.3
May, 1916	12.8	7.8	11.3	27.7	8.8	47.2	7.5	5.3
June, 1916	13.1	8.0	11.2	27.6	8.7	47.1	7.9	5.2
July, 1916	13.4	8.1	11.2	27.8	8.7	47.6	7.9	5.2
August, 1916	13.6	8.4	11.2	28.0	8.7	47.7	8.0	5.3
September, 1916	13.5	8.4	11.1	27.8	8.7	47.2	7.9	5.4
October, 1916	13.6	8.4	11.3	28.0	8.7	46.5	7.8	5.4
November, 1916	13.5	8.3	11.2	27.6	8.6	46.8	7.8	5.4
December, 1916	13.6	8.4	11.2	27.1	8.6	46.1	7.7	5.1
January, 1917	13.4	8.4	11.1	26.4	8.3	45.8	7.6	5.1
February, 1917	13.4	8.5	11.1	25.7	8.3	45.1	7.7	5.0
March, 1917	13.3	8.7	11.0	25.0	8.1	44.5	7.8	4.8
April, 1917	13.0	8.7	10.9	24.8	7.9	43.7	7.8	4.7
May, 1917	12.9	8.7	10.9	24.2	7.8	42.7	7.6	4.7
June, 1917	12.4	8.6	10.8	23.5	7.6	42.0	7.1	4.6

TABLE 2.—ACCIDENT FREQUENCY RATES BY CAUSES AND HIGH AND LOW YEARS TERMINATING WITH SPECIFIED MONTHS.

Cause of accident.	High years.		Low years.	
	Terminal months.	Rates.	Terminal months.	Rates.
Hot substances:				
Electricity	March, 1914	1.60	January, 1916	0.60
Hot metal	do	10.90	July, 1915	6.20
Hot water and steam	do	4.30	June, 1915	2.90
Total	do	[1] 16.80	do	[1] 10.20
Cranes and hoists	do	10.30	July, 1915	6.40

[1] These rates are not the sums of the items, since the high and low rates shown by the items are for different years.

TABLE 2.—ACCIDENT FREQUENCY RATES BY CAUSES AND HIGH AND LOW YEARS TERMINATING WITH SPECIFIED MONTHS—Concluded.

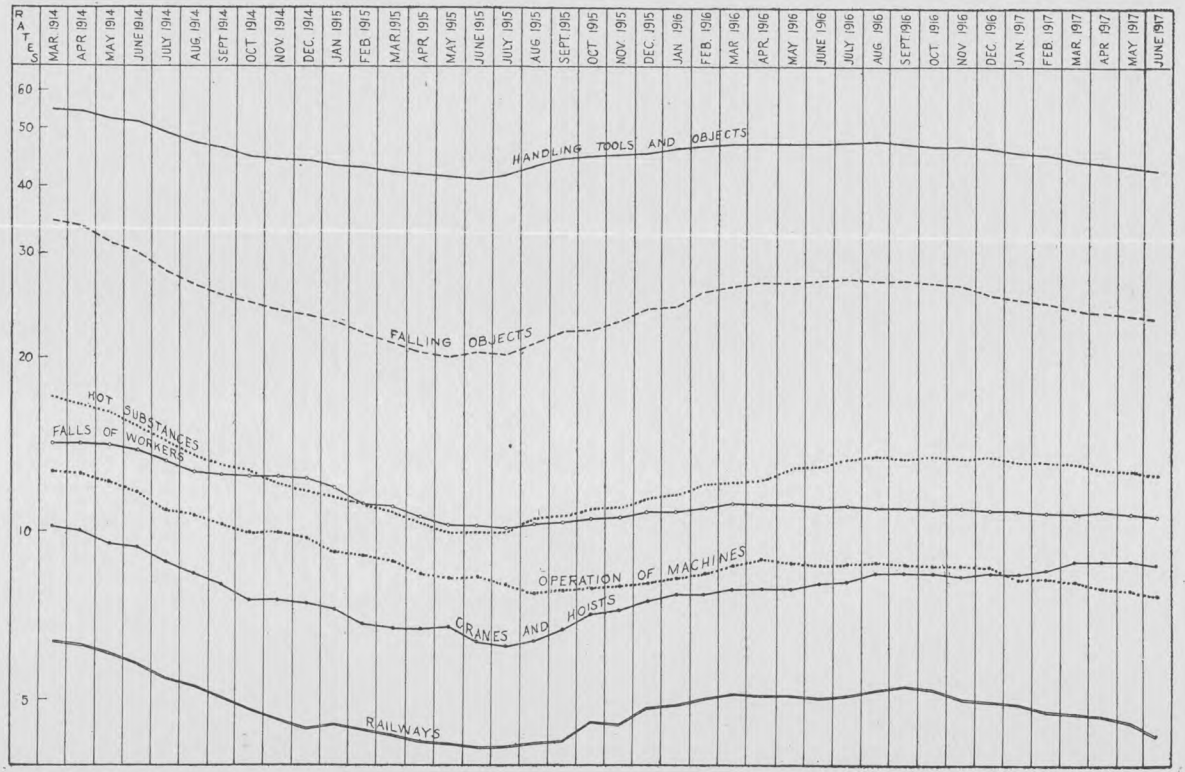
Cause of accident.	High years.		Low years.	
	Terminal months.	Rates.	Terminal months.	Rates.
Falls of worker:				
From ladders	March, 1914	0.77	November, 1915	0.36
From scaffolds	do	.80	June, 1915	.55
Due to slipping	do	12.02	July, 1915	8.91
Miscellaneous	do	.67	April, 1915	.22
Total	do	[1] 14.19	July, 1915	[1] 10.29
Falling objects	do	34.29	May, 1915	20.35
Flying objects:				
From tools	do	.58	June, 1917	.31
Striking the eye	do	8.34	August, 1915	4.50
Miscellaneous	do	2.57	June, 1915	1.45
Total	do	[1] 11.48	July, 1915	[1] 6.38
Operation of machines	do	12.56	August, 1915	7.64
Handling objects and tools:				
Caught between	do	11.15	June, 1915	7.48
Truck or barrow	do	5.09	April, 1915	2.86
Striking against	do	9.74	June, 1917	6.60
Tools	do	10.19	August, 1915	7.53
Lifting	May, 1916	8.02	March, 1915	6.35
Sharp objects	March, 1914	11.61	May, 1917	8.37
Total	do	[1] 55.45	July, 1915	[1] 41.58
Railways	do	6.42	June, 1915	4.25
Grand total	do	[1] 181.00	July, 1915	[1] 112.80

TABLE 3.—ACCIDENT FREQUENCY RATES CLASSIFIED BY CAUSES AND BY SPECIFIED PRODUCTS PRODUCED BY PLANTS.

Cause of accident.	Fabricated products.		Sheets.		Wire products.		Miscellaneous steel products, A.		Miscellaneous steel products, B.		Tubes.	
	High year.	Low year.	High year.	Low year.	High year.	Low year.	High year.	Low year.	High year.	Low year.	High year.	Low year.
Hot substances	7.6	3.4	13.3	7.5	13.3	8.8	25.2	12.8	15.8	8.1	7.7	2.5
Cranes and hoists	32.0	14.5	6.5	3.0	5.0	2.9	15.4	8.3	10.0	6.0	4.9	2.5
Falls of worker	24.4	15.5	15.7	8.4	12.3	9.5	18.1	11.6	10.7	6.6	6.2	2.2
Falling objects	58.3	33.8	27.4	12.7	23.2	17.1	51.9	26.6	26.7	13.4	14.6	6.0
Flying objects	28.3	9.9	10.2	3.2	6.8	5.0	13.9	7.7	10.2	5.5	4.0	1.2
Operation of machines	18.4	9.1	10.3	3.6	22.7	12.4	9.0	5.7	7.7	3.6	4.8	2.5
Handling objects and tools:												
Caught between	33.3	20.1	8.8	3.0	7.9	5.6	12.8	7.9	9.4	2.9	4.0	1.2
Truck or barrow	7.6	1.8	8.5	3.6	9.7	6.4	4.5	2.2	1.9	.8	2.4	.4
Striking against	6.9	2.6	22.0	10.1	11.1	6.0	12.3	5.1	5.2	2.9	4.0	.9
Tools	28.2	9.6	12.3	7.4	9.3	6.3	13.9	8.7	6.2	3.1	4.3	.9
Lifting	7.2	3.5	7.0	4.0	16.4	11.4	11.5	7.6	4.1	1.7	2.7	.7
Sharp objects	9.1	2.8	26.4	17.6	24.1	16.1	8.4	6.1	2.8	1.3	3.1	.9
Entire group [1]	90.5	44.4	79.9	51.0	72.2	54.2	58.6	38.4	28.2	12.8	20.1	6.2
Railways	4.8	2.4	3.5	1.3	3.9	1.3	13.6	8.7	3.9	1.0	1.7	.6
All causes [1]	300.0	147.9	184.9	96.5	177.9	129.5	212.8	126.2	123.1	60.3	81.5	26.1

[1] These rates are not the sums of the items, since the high and low rates shown by the items are for different years.

TREND OF ACCIDENT FREQUENCY RATES FOR PRINCIPAL CAUSE GROUPS IN THE IRON AND STEEL INDUSTRY.
YEARS ENDING IN SPECIFIED MONTHS.



ACCIDENTS IN THE MACHINE-BUILDING INDUSTRY.

During the past few years there has been widespread interest in the subject of industrial accidents and their prevention, and important safety campaigns have been carried on by many employers and by many private and public organizations. No doubt these efforts have been successful in reducing the huge toll of death and suffering which modern industry levies upon its workers. But the effectiveness of all such efforts has been seriously handicapped by the general lack of information regarding the prevalence, causes, and effects of accidents in the industries of the country.

A recent report (Bulletin 216) of the United States Bureau of Labor Statistics entitled "Accidents and accident prevention in machine building" supplies this detailed information for a large group of plants engaged in the building of different kinds of machines. The character of the machines built by these plants varied greatly, from mammoth locomotives and ships to delicate electrical apparatus, but it is of interest to note that they are all of a type for which the war has made enormous demands. Therefore, although the present study was made prior to the war, the information regarding accident hazards in the industry is now of particular pertinence.

A notable feature of the report is the measurement of accidents according to their severity. Previous studies have been chiefly concerned with the frequency of accident occurrence and have counted all accidents as of the same value. A broken finger and a broken back have been counted alike in computing accident rates, although clearly the latter is immeasurably more serious. The method offered in this report is to measure each accident according to the resulting amount of time lost. To do this it is necessary, of course, to express fatal and permanent injuries as well as temporary disabilities in terms of workdays lost. This is done by valuing a fatal injury, on the basis of life-insurance experience, as equivalent to the loss of 30 years of a man's working life, while permanent total disability is rated at 35 years. Other injuries are credited with lower time losses in proportion to their probable effect upon earning capacity.

Applying this method to the accident data for the machine-building industry, some very interesting results are obtained. Thus, in the 194 plants covered by the investigation the number of accidents occurring in 1912 was 13,647, resulting in 37 deaths, 411 permanent injuries, and 13,199 temporary disabilities. This is equivalent to an accident-frequency rate of 118 per 1,000 full-time (300-day) workers and a severity rate of 5.6 days lost per worker. These rates may be contrasted with the experience of a representative steel plant during the same year, for which the frequency rate was 154 and the severity rate 14 days lost. Accidents in the steel plant were thus

only about one-third more frequent than in machine building, but their severity was two and one-half times as great.

The accident hazards of the machine-building plants vary greatly with the character of their products. Those engaged in the making of locomotives have the highest severity rate—11 days lost per worker—and the builders of ships have the next highest—8 days lost per worker.

Classifying the combined plants by departmental divisions, boiler shops and yard labor show by far the greatest hazards. Boiler shops have a frequency rate of 224 cases per 1,000 full-time (300-day) workers and a severity rate of 27 days lost per 300-day worker, while yard labor has a frequency rate of 221 and a severity rate of 29 days lost. The high rates of the boiler shops are primarily the result of insecure trestles and scaffolding. For the excessive rates in the yard department responsibility rests upon the general neglect of safe location and construction of the transportation systems of many plants, coupled with lack of safety precautions and instruction.

One of the fundamental inquiries in a study of this character is whether or not accidents are decreasing. A precise answer is difficult, because of the fact that very few plants had reliable accident records over a period of years. For one group of plants for which such information was obtainable for the years 1910 to 1913 the frequency rate shows no decrease, but the severity rate, after running as high as 6 days in 1910, 8 days in 1911, and 7 days in 1912, drops to 3 days in 1913. This decrease may reflect the more thorough safety organization effected in some of these plants in 1912. The fact that the frequency rate shows no decline is certainly due to the more complete reporting of minor accidents in the later years.

A striking method of showing the effect of a good safety system in accident prevention is to compare the accident rates in plants having with those in plants not having well-organized systems. This is done for three important groups of plants. In every case the plants not having a good safety organization show accident frequency rates three or four times as high as those having a well-developed system.

The report presents a very careful study of the very important subject of accident causes. For the industry as a whole "falling objects" stands out as the most frequent cause of accidents, the frequency rate being 14 cases per 1,000 300-day workers. As measured by severity, "cranes and hoists" assumes first place, the severity rate varying from 1.2 to 2.3 days lost per 300-day worker in different groups of plants.

In discussing the question of safety in the machine-building industry it is important to remember that that industry not only uses

machinery which needs to be safeguarded but that its work consists of the production of machines for use in other industries. The extent to which the machines thus manufactured will later be a source of danger to the workers in those other industries depends in considerable measure upon the character of their original construction. The subject of machine design—of building a machine in such a way as to offer the minimum of hazard to its future operators—thus becomes of very great significance. This subject is covered in considerable detail in the report.

THE STUDY OF OCCUPATIONAL DISEASE IN HOSPITALS.[1]

BY DAVID L. EDSALL, M. D., MASSACHUSETTS GENERAL HOSPITAL, BOSTON.

It is always emphasized in any discussion of occupational diseases that we need methods of acquiring more information as to the extent and character of the effect upon health that occupation exerts, and we need to have some more accurate method of knowing how these things are progressing from day to day, how they are being controlled by measures that may be introduced to control them, and we need to know in which character of industries they are active, and therefore which character of industries need particularly to be controlled. There are some facts known about conditions in this country and, of course, we have learned a great deal from what has been gathered abroad, but a great many, even of the facts which have been obtained there, have been gathered in a rather loose way. In recent years, and only in recent years, we have been acquiring some facts in regard to local conditions in America. There are some very important ways in which information can be obtained. The physical examination of employees in plants where that is carried on can contribute a great deal in regard to this. For a long time, at any rate, that will probably be done only in the better plants, and it is particularly in the poorer plants that we need to have conditions under careful control. The study of these subjects can be very greatly helped by investigations such as the Public Health Service is carrying out. I have felt for years, however, that a vast amount might be contributed to our knowledge of industrial disease if we could use the experience of hospitals, the clientele of which is made up in large part of working people, and amounts all told to an enormous number of persons. If the cases which come day by day to the hospitals were studied and recorded with a view to determining what the relations are between their ill health and their occupations, it would contribute a vast amount to our knowledge, and would also be a very valuable factor in determining what is going on from time to time in industry as regards health conditions; and it would largely cover what the other methods of examination do not cover so well, the roving classes of the population that roam from one industry to

[1] This paper was read at the Social Insurance Conference held in Washington, D. C., in December, 1916, but its publication has been delayed. The clinic described in the paper has recently been temporarily suspended owing to the heavy drain of the war on the staff of this and other parts of the hospital.

another and that are particularly prone to become diseased from whatever they may be doing if there be danger of disease in it. Those who are familiar with methods of welfare work and other things of that kind, but are not familiar with hospital conditions, may be surprised to know that we can learn scarcely anything now in regard to the relations of occupation to health from the records of the great majority of hospitals. One can not learn in most hospitals anything in regard even to such general questions as the occurrence of occupational disease in its clientele or the character of occupational diseases that do occur, the main reason for that being briefly that it has been customary in medical records to put down very general terms, indeed, in regard to the occupation of the individual; even such general terms as "laborer" and "mechanic" and words of that kind, which when one comes to study occupational disease of course mean absolutely nothing. Dr. Alice Hamilton, who has investigated a good many hospitals, told me that there were only two hospitals where she had been in this country in which she could get any facts amounting to anything of any value at all in her studies of the conditions to which she has been giving her attention. I think others who have been interested in it will substantiate that statement.

There are some reasons for this. Industry is only a part of the things that one is interested in in a hospital. For those working on health questions in the industries themselves, the industry is the factor of chief interest. In a large hospital you may have a hundred or more doctors dealing with people in their various lines of work, and most of them not at all interested in any particular way in industry; and with such a disorganized organization as that in regard to this matter, it is very apparent that it is hard to get any accurate facts unless some system is developed.

I am going to show you some of our blanks indicating some methods we have adopted at the Massachusetts General Hospital in attempting to get more system into this matter, because I thought it would be of interest to those who have some connection with this particular type of work; and the figures which I will give will indicate also upon what experience I base some very general statements. We have not yet facts enough, and have not been at this thing with our present methods long enough, to make any very detailed statements, but I can make some general statements in regard to occupational diseases, and particularly in regard to their frequency and importance, that I think will be borne out by what we have already learned.

In the beginning, about four years ago, we started the plan of having the medical students, who took most of the histories of the

patients entering the out-patient department, make out in the male medical clinic, where most cases of this kind occur, a separate and extra card relating to occupation, which was intended to cover the most likely results of industry upon health. A copy of this card follows:

MASS. GENERAL HOSPITAL OCCUPATION CARD

Name No.

I..... Industry ..... Occupation .....Length of time
Present.....
Previous.....

Name and address of present employer.....

II. Description of patient's own work.....

(*a*) Material handled.....
(*b*) Present working hours.....
III. Conditions of work. Specify the following:
Extremes of heat..... Of moisture.....
Dust..... Irritating fumes..... Acids.....
Other poisonous substances.....
Strain: Muscular.....(local).....(general).....
Postural.....
General nervous..... General physical.....
Eye.....
Ear.....
IV. Are fellow workmen affected.....
V. Subsequent notes and reports.....

There was also a social worker assigned to this work who went over all these occupation cards. In case anything suspicious appeared upon the card she saw the patient and went carefully into the details of his occupation and even visited the place where he was employed and at times his home, and then made out a statement of the occupational conditions elaborated upon the plan of this card. The fact that in this way a considerable number of cases otherwise overlooked could be found was shown by our having at the end of 18 months collected 624 cases in which there were very definite exposures to some form of occupational hazard which were apparently having a part in producing the disturbances of health that the patient showed, in most of these cases at least. That is a far larger number than would be found in the ordinary medical clinic when no such attention was given to this subject, and the following list of the exposures which the patients showed indicate how varied they are in nature in the ordinary medical clinic.

[1,207 exposures for 624 patients.]

List of Exposures.

October, 1913–April, 1915.

Poisons.

Aniline dyes	11
Arsenic	2
Brass	12
Chrome salts	1
Chrome yellow	1
Copper	3
Formalin	3
Lead	143
Rubber	2
	178

Dust.

Metallic	30
Lead	104
Stone and earth	37
Vegetable	42
Animal	30
Atmospheric	14
Miscellaneous	6
	263

Skin irritants.

Bichloride of mercury	3
Brine	1
Cashew nut	1
Chlorinated soda	1
Constant use of water and soap and powders	17
Glue	1
Leather	14
Liniment	1
Lye	1
Machine oils	8
Metol	1
Muriatic acid	2
Naphtha	1
Oxalic acid	1
Paste	5
Polishing rouge	2
Potash	2
Sugar	10
Shoe polish	1
Tobacco	5
Turpentine	3
	81

Fumes.

Acetic acid	3
Ammonia	8
Amylacetate	3
Benzine	14
Benzol	1
Carbon monoxide	11
Lacquer	1
Lead	12
Hydrochloric acid	14
Naphtha	28
Potassium cyanide	7
Potassium nitrate	1
Sulphur	4
Sulphuric acid	4
Wood alcohol	16
Turpentine	16
Zinc	3
	146

Strains and postures.

Local muscular	127
General muscular	36
Postural strain	118
Eye strain	26
General nervous	51
Local pressure	23
	381

Other factors.

Anthrax	1
Compressed air	1
Exposure to weather	6
Extreme cold	5
Extreme heat	31
Extremes of temperature	33
Humidity	25
Irregular hours of work	1
Jar of machinery	10
Long hours of work	6
Magnetism	4
Metallic fragments	5
Noise	7
Odors	11
Vitiated atmosphere	12
	158

I would especially note a few points in regard to this table. In the first place the large number of lead cases was due to the fact that a special study was being made of lead poisoning and a good many old cases of lead poisoning were included in this list, while the other cases were all new. I would emphasize particularly the large number of cases of strains and of evil results of posture. I have long been convinced that these are far more numerous than is customarily thought and are probably more common as causes of some degree of disturbance of health or comfort than any other effect of occupation. They come within the general group of fatigue effects. If we had had any method of determining the existence of general fatigue with accuracy this number would undoubtedly have been much increased above what shows in this table. I would note also that there are a few things in this table, such as the four cases of the effects of a strong magnetic field, which were introduced not because they were proven but because we were interested to see whether we could demonstrate the existence of such things. There are, however, very few cases on the list in which there was not apparent some real relation of the disorder of health to the occupation. The fact that there is only one case of irregular hours of work and only six of long hours of work means only that as these cases were studied there appeared in this group only that small number of such cases in which health was apparently actually disturbed by these factors. These factors are, of course, much more important than this table would indicate.

As another indication of the great variety of sources of occupational disturbances of health as seen in the ordinary medical clinic, the following table is of interest. It shows the very considerable variety of sources of the cases of lead poisoning. That I would emphasize somewhat to medical men, as there is altogether too much tendency in most medical teaching and textbooks to suggest that the sources of occupational diseases are comparatively limited, whereas anyone familiar with the subject knows that they are legion.

INDUSTRIES AND OCCUPATIONS FROM WHICH CAME LEAD HAZARDS.

Painting:		*Printing:*	
House	67	Electrotyper	1
Carriage	4	Monotypist	1
Ship	6	Compositor	3
Auto	1	Linotyper	1
Car	1	*Type foundry:*	
Paint factory:		Type caster	2
Grinders	1	*Plumbing:*	
Mixers	1	Plumber	3
Lead factory:		Repairer	1
Lead burner	1	*Steam fitting:*	
Melter	1	Steam fitter	1
Refiner	1		

Machine shop:	
Machinist	1
Car factory:	
Latherer	1
Shipyard:	
Laborer	1
Steam fitter	1
Boiler maker	1
Club:	
Waitress	1
Forestry:	
Sprayer	1
Rubber factory:	
Mixer	9
Breaker up	1
Vulcanizer	1
Calendrer	1
Laborer	1
Rubber-shoe factory:	
Setter up	1
Shoemaker	1
Brush factory:	
Solderer	1
Tin-can factory:	
Bottom finisher	1
Solderer	2
Jewelry factory:	
Bracelet maker	1
Solderer	2
Silverware factory:	
Silversmith	1
Engraving:	
Retoucher	1
Electrical work:	
Helper	1
Glass factory:	
Runner	1
Glazier	1
Iron foundry:	
Molder	1
Structural iron:	
Laborer	1
Sheet metal:	
Tinsmith	2
Loom harness factory:	
Primer	1

I merely point out in passing that we also, in order to exercise as much influence in preventing occupational disease as we could, prepared a series of slips to be given to persons exposed to certain forms of occupational hazards, particularly lead, of which the following two are samples:

MASSACHUSETTS GENERAL HOSPITAL.

ADVICE TO PERSONS WORKING WITH LEAD.

LEAD IS A POISON.

I. Persons who work with lead in any form are liable to be poisoned.

II. Lead poisoning may be acute or chronic.

III. The chief symptoms of acute lead poisonong are: Loss of appetite, headache, foul breath, indigestion, constipation, and severe pain in the stomach (abdomen).

IV. Some of the symptoms of chronic lead poisoning are: Paleness of the skin, headache, loss of appetite, indigestion, constipation, pains and aches in the muscles and joints, paralysis of wrists or feet, and convulsions and unconsciousness; but there are many other bad effects.

V. Poisoning occurs:

(a) By swallowing tiny particles of lead that have settled on food, or into the mouth in other ways, as from the hands or tobacco.

(b) By breathing into the mouth, or into the lungs, tiny particles of lead dust or fumes from melted lead.

(c) By lead being absorbed through the skin.

HOW TO PREVENT LEAD POISONING.

I. Personal cleanliness is of great importance, as particles of lead may stick to anything they touch.
II. Always wash the face and hands before leaving the shop, and wash the face and hands and rinse the mouth and clean the finger nails before eating.
III. The teeth should be thoroughly brushed at least once a day.
IV. Always eat a good breakfast before beginning work. The presence of food in the stomach helps to prevent the lead from getting into the system. Drink milk.
V. Exercise in the fresh air. Walk to and from your working place if possible.
VI. Never eat anything, or chew or smoke tobacco, while at work, because of the danger of getting lead into your mouth and so into your stomach.
VII. Have one good bowel movement each day.
VIII. Avoid using alcohol in any form. It greatly increases the danger of lead poisoning and its severity.
IX. Eat your luncheon outside the workroom, if possible. If not, eat in a part of the room away from the lead.
X. Wear overalls, or a long coat, and some head covering at your work, taking these things off before going home. These garments should be washed frequently.
XI. Be careful not to stir up any more dust that may contain lead than you can help.
XII. Persons working in the dust or fumes of lead should use a respirator, to avoid inhaling the poison into the lungs.
XIII. Follow this advice and tell others of it.

MASSACHUSETTS GENERAL HOSPITAL.

PRECAUTIONS FOR PRINTERS.

I. Remember pig lead used in linotyping is softer than lead of type. Handle it as little as possible.
II. Drop pig lead carefully into melting pot. Splashings of molten lead dry and become lead dust.
III. Do not shake crucible in order to blend molten lead better. It will blend of itself.
IV. Plungers on linotype machines should never be cleaned in the workroom. Clean them in boxes in the open air.
V. Avoid lead dust as much as possible when trimming and mitering or when sawing and routing. Wear a respirator when routing.
VI. Graphite used for lubricating is not poisonous, but all dust is irritating to the lungs.
VII. Lead dust in type cases should be removed in the open air or by means of a vacuum cleaner.
VIII. Benzine and lye are skin irritants. Wear gloves when cleaning type with them, and carefully wash the benzine and lye from the type.
IX. Never put type in the mouth or moisten the fingers to get better hold of type.
X. Insist upon having good ventilation in the office or factory and insist that floors should not be swept during working hours.

XI. Suggest to your employer that walls and ceilings of workroom, if not of smooth, washable surface, should be lime washed once a year; that close-fitting floors which can be cleaned by moist methods are desirable; and that type cases should fit closely on the floor or have legs high enough to brush under.

XII. Eat a good breakfast before beginning work. Food in the stomach helps to prevent lead poisoning.

XIII. Do not eat food or use tobacco while working because of the danger of getting lead into the mouth.

XIV. Wash hands thoroughly with warm water and soap and rinse the mouth and clean the finger nails before eating.

XV. Have your own towel and cake of soap.

XVI. Eat your lunch outside the workroom.

XVII. Do not wear working clothes too long without change.

XVIII. Hang street clothes apart from the dust of the workroom.

XIX. Bathe frequently and brush the teeth each night.

XX. Avoid alcohol. It increases the danger of lead poisoning.

XXI. Have a good bowel movement each day.

XXII. Exercise in the fresh air as much as possible.

XXIII. Be examined by a doctor occasionally and do preventive work by keeping in good health.

It is gratifying to note that in a considerable number of instances the instructions on these slips were not only followed as well as possible by the workers themselves, but the gospel was spread by them to others with whom they were associated. In several instances the employers had their interest in the matter first awakened through seeing these slips, and thus first realized the element of danger and the possibility of preventing it. We have had a number of opportunities of offering employers advice as to preventing trouble, which advice, in some instances at least, has been followed. I would note also in regard to the precautions for printers that they were requested by the printers themselves, who heard that we had made similar slips for other persons, especially lead workers, and who wished to have this help in protecting themselves. The printers' union printed this slip and distributed it among the members and in their journal advised printers at large throughout the country to follow such precautions.

After having tried this system for some time, it became apparent that there were two main needs. In the first place, that in spite of the relatively large number of cases we were getting actually a much smaller number than we believed could be secured by more satisfactory means. This method depended to too great an extent upon having the cases referred to the social worker by the physicians in the clinic, most of whom were not interested in the matter, or upon the histories taken by unskilled persons who in spite of a form to follow probably overlooked a good many cases; and fur-

thermore we wished to cover all the cases entering all divisions of the out-patient department so far as possible. In the second place, it seemed necessary, in order to have a critical decision whether the evident hazard was directly related to the disturbance of health, that this decision should be made by a medical man with special knowledge and training in occupational disease. Since the early part of the year we have had established the following system. Owing to the generosity of a friend of the hospital a salary has been provided for a medical fellow in industrial disease and money for some other necessary expenses in conducting a special industrial clinic. The following system then has been put in force: In the first place all patients now admitted to the out-patient department have on their admission blank a statement not only of the industry in which they are engaged, but their actual occupation in that industry; in other words, their individual job. The patient passes from the admission desk to a social worker, whose duty it is to look over this statement of occupation and in case there is anything suspicious in the occupation to mark that patient's card in such a way that he must go to the industrial clinic, which now exists as a separate clinic,[1] before he leaves the hospital; in other words, we do not depend upon references from other clinics, but take everyone who seems likely to yield anything. This social worker is trained in comprehension of industrial hazards to some extent, but also has a list at hand indicating the kinds of patients that must always be referred to the industrial clinic as showing some definite possible hazard and another list from which some are sent according to the conditions as mentioned. These two lists follow:

INDUSTRIAL CLINIC.

MASSACHUSETTS GENERAL HOSPITAL.

SEND ALL

Abdominal pain with possibility of lead.
Ammunition workers.
Brass foundrymen.
Bronze workers.
Buffers, grinders, polishers, filers.
Chemical workers (with germicides, insecticides, fertilizers, paint, powder, fireworks, etc.).
Chippers (rivet cutters).
Cigar makers.
Comb and celluloid workers.
Decorative and structural-iron workers, if lead.
Dyers and dye grinders.
Electroplaters.

[1] The industrial clinic has been discontinued since this paper was read.

Glass blowers, mixers, polishers, bevelers.
Granite, other stonecutters.
Lead workers, burners, smelters, grinders.
Metal refiners.
Painters (house, ship, sign, carriage, automobile. Varnishers, enamelers, bronzers, glaziers).
Paper and pulp-mill workers.
Plumbers, ship fitters, steam fitters.
Pneumatic tool handlers.
Pottery and enamel-ware workers.
Printing trade, if hand compositors, stone men, linotypers, monotypers, stereotypers, electrotypers, lithographers.
Riveters and holders on.
Roofers, sheet-lead workers.
Rubber workers, except packers, truckmen, stitchers, or clerks.
Scalers (paint).
Shoe workers (except those cases with no apparent relation between occupation and illness which can be conveniently interviewed at the desk).
Tannery and leather workers.
Telephone operators.
Temperers, hardeners, annealers.
Textile workers, cotton, silk, wool. (See note under shoe workers.)
Tinsmiths, sheet-metal workers, if solderers.
Tobacco workers.

INDUSTRIAL CLINIC.

MASSACHUSETTS GENERAL HOSPITAL.

SEND

Automobile chauffeurs, garage men if nervous or physical strain. Ask for dizziness, headache in re gas-engine exhaust.
Barbers, if possibly occupational.
Brewers, if working about vats, refrigerating plants.
Butchers, abattoir workers, if possibly occupational.
Carpenters, if presenting dermatosis, or of occupational comp. interest.
Candy workers, if dippers, or with skin lesions, or gastric history, or special occupational interest.
Cold-storage workers, as in fruit and fish warehouses. Alternation with heat or general temperature.
Cordage, jute workers, if work is dusty or productive of small injuries.
Farmers, if accustomed to using insect sprays (lead arsenate), etc.
Foundrymen, if brass molders; also core makers.
Garment workers, if operating footpower machines. Inquire regarding dust, ventilation, new dyes, etc.
Junk handlers, if handling lead, babbit, etc.; also rubber scrap.
Longshoremen, only if marked effect of strain or injury from nature of goods handled.
Machinists, if industrial hazard seems to be related to illness. Determine kind of machine used (turret lathe, punch press, etc.). Metal handled. Use of oil and kind (especially lard oil on lathes). Ask if any form of lead is used.
Plasterers, if attitudinal strain, etc. Ask regarding salamanders (charcoal heaters), dizziness, headaches, etc., if heaters are used.

Railroad accidents, only if severe. Inquire regarding nature of accident. Send if of special interest or importance.

Stenographers, if any evidence of fatigue effect.

Stokers and firemen, also coal passers, if story of high heat.

Tailors, if history of shoulder pain, or if of special interest. Do not send phthisis suspects.

Telegraphers, if any evidence of fatigue effects.

Upholsterers, mattress workers, if work is said to be dusty.

Watchmakers, if fine work, jewel setters, etc. Eye strain. Evidence of heightened nervous state.

IN GENERAL, no children, unless illegally employed; no domestics or housewives. No bakers, dressmakers, electricians, fishermen, hotel workers, as bell boys, porters, or waiters; no lumbermen, peddlers, or pick-and-shovel laborers.

IN GENERAL, send all cases of special industrial interest.

DO NOT SEND critically ill patients, those in marked distress, or chair or crutch cases unless very important. Such may be interviewed at the clinic to which they were originally destined.

The difference between this method of securing the cases and the old method is at once shown in the fact that now from 20 to 30 or more patients a day are sent to the industrial clinic, and a year will yield at the present rate more than 5,000 cases, perhaps many more. Indeed, so many cases are now sent that it is impossible with our present staff to investigate all of them with great accuracy. They are, however, examined and questioned individually in a rapid way, and if anything of actual interest appears the case is investigated in careful detail by the staff of the industrial clinic. This clinic is in charge of Dr. Wade Wright, who has had some years' training in industrial disease and who devotes his whole time to the work in the clinic, to visiting places of employment, and to special research in occupational disease. He also visits the cases in the wards in which any interesting occupational hazard appears and frequently clears up for us situations that could not be comprehended without a careful investigation of the industrial side of the case. There is also a special social worker in the clinic, Miss Bradfield, who devotes her time to this work, helping in the work in the clinic and also making visits frequently to factories and investigating the home conditions of these patients whenever it seems desirable. When completely investigated, then, a patient will have had an elaborate industrial history made out, a special physical examination directed toward bringing out any of the suspected effects of the industry, and a social investigation of his home conditions, etc.

The following four card records are taken from the actual history of a case to show how this is done. The names of the patient, employers, etc., have been deliberately altered, otherwise the record is a bona fide one. The first two indicate the front and back of the

medical industrial card, the third is simply an extension of this, and the fourth is the special record of the social worker.

MASSACHUSETTS GENERAL HOSPITAL

INDUSTRIAL CLINIC

Name *John Angelo* Age *26* S. Industrial Clinic No. *41*
Address *43 Staniford St., Boston, Mass.* Flight *1st* O. P. D. No. *298–781*
House No. *E M 295–406*
S. S. D. No. *10406*
Date referred *May 30, 1916* Adm.— Clinic *M M* Dr. *Gerald Blake*
Born in *Italy* Mother born in *Italy* Immigrated *13* yrs. ago Mass. *12* yrs.
First work *Water boy, railroad construction* Age began *12, in Italy.*
Name and address of interested person *Vincenzo Giardini, 107 North St., Boston (friend)*
Industrial data:

Employer—Address.	Industry.	Dept.	Process.	Duration.
1 Pres. *Jas. Donnell, 26 & C Sts., So. Boston.*	*Tunnel.*	*Construction.*	*Muck man.*	*8 d.*
2 Prev. *Star Choc. Co., 417 Elm St., Roxbury.*	*Candy Mfg.*	*Cold R'm.*	*Packer's helper.*	*2½ y.*
3 Prev. *Various employers. Boston.*	*Pick and shovel work.*			*6 m.*

Total time in present industry *8 days. Apr. 24–May 2, 1916.* (*See note 1*)
Hours *8* *7 a. m to 3 p. m.* Lunch period *0* hour Overtime (*see note 2*) Regularity
Wages, piecework *$2.50* day Week Overtime rate *40 c. per h.*
Open, union shop *open* Number men in plant *600* In department *40.*
Trade-unions *None* Local Asst. per Benefit for weeks
Insurance, kind *None* Asst. per Benefit for weeks
Employees insured under W. C. A. *Yes* Carrier *Amer. Cas. & Liab. Co.*

Employee's service *No* *Yes* (*see notes*)
Social Medical Safety work
Unemployment *Present illness* Quit work *4 w.* ago
Cause

'Front—over].

HAZARDS

Dust *None*
Type and source Amount Prevention Respirators

Humidity *water, concrete, muck* *moderate in amount*
Source Moderate Excessive Dryness

Illumination *electric* *fairly*
Method Adequate Harmful

Ventilation *by compressed air, delivered at heading, exhaust through locks.*
Odors Fumes Effect Open windows Fans

Heat and cold *variable* *heavy clothing* *yes (see Note 4)*
Temperature Safeguards Heat and cold alternating
# # #

Fatigue *(see Note 5)*
Heavy work Long hours Monotonous movements Faulty posture Constant standing
Vibration Eyestrain Noise

Infections *none*
Material handled Transmission Small injuries

Poisons? *"smoke" from dynamite used in blasting* *compressed air*
Kind Worker, ignorant, careless Precautions

Dangerous machinery *air locks!* *(see Note 6)*
Why How controlled Safety devices

Plant and personal hygiene *in change house:* *yes* *yes*
Building construction Lockers Showers

good *good* *no*
Washing facilities Toilet facilities Lunch facilities

city *yes* *Alcoholism fostered by nearby saloons*
Water supply Source Palatable Accessible

Hot coffee furnished in change house and at work.

Note 1. 13y in U. S. A., 6m water boy, 9m polished marble, 5m bamboo shop, 4m painting iron beds, 1y teamster, ice wagon, 6m coal miner Penna., 9m general laborer in Pittsburgh steel mill, chest crushed by fall of load of wire from travelling crane (no safety work), 3m white lead wks., lead colic. 2m coal miner Penna.

Note 2. On 8h shift, 8hrs. reckoned at heading, 2500 ft., 15 min. walk from heading.

Diagnosis

Caisson disease? *Psycho neurosis.*
Acute mastoiditis, left. *Operated.*
Otitis media chronica. *sin.*

[Back—over.]

MASSACHUSETTS GENERAL HOSPITAL

INDUSTRIAL CLINIC

Name *John Angelo* Industrial Clinic No. *41*

Overtime every day. With gauge pressure 28 lbs., worked 9½h three times, 10h twice, 10½h twice. No lunch recess.

Note 3. Two physicians provided by employer, 1 to examine applicants, 1 to treat injuries. Pt. not examined before admission to tunnel.

Note 4. Heat during period of compression in air lock, copious and free perspiration while working, many workmen stripped to waist. Extreme cold on decompression, heavy coats usually worn.

Note 5. Almost continuous heavy work for 8h, under 25-28 lbs. gauge pressure.

Note 6. Compression in from 2 to 3 minutes, decompression in from 7 to 10 min. determined by size of nipple in exhaust valve. Lock tenders unintelligent, mere guards. One lock to each of two tubes, cylindrical, 6x20 ft., hold about 40 men. Many men left tube by muck lock with 2-3 min. decompression, pt. did not. Pt. admitted from Eye and Ear post oper. History of daily nose bleeds while on tunnel job. After 6d bled from left ear while in lock. Cont'd on job 2d. Rep't'd to nurse, saw no doctor; in bed 2d. Rep't'd to doctor again. Rec'd to Eye and Ear.

Cplt. Pain in chest. Pain in head, dizziness. General weakness.

For med. record over.

MASSACHUSETTS GENERAL HOSPITAL

SOCIAL SERVICE DEPARTMENT

INDUSTRIAL CLINIC

Name *John Angelo* Date *May 30, 1916* Age *26* S. M. W. D. Industrial Clinic No. *41*

Address *43 Staniford Street, Boston, Mass.* Flight *1st* O. P. D. No. *298-781*
S. S. D. No. *10406*
House No. *E M295496*

Home conditions

House, tenement	Rooms	Rent	Environment
Tenement	*5*	*$3.00 mo. as lodger*	

Sanitation	Sleeping facilities	Number in room
Poor toilet facilities	*Sleeps in room with 4 other lodgers, windows shut*	

Distance from work	How covered	Supplementary work
2 miles	*Street car @ 60 ¢ per week*	

Worries: Deeply worried because unable to send money to dependent parents in Italy.

Household

Members—kin—age *Patient boards with family of four, two children. Nine lodgers*

Patient's parents, both over 70, in Italy, supported by Pt. and his brother. This brother killed one month ago in war. Pt. has brother-in-law in this country.

Finances

Family earnings	Savings	Insurance
$15.00 per week	*none*	*under W. C. A. only*

Case followed by O. P. D. and House Social Service. After discharge from M. G. H. entered Eye & Ear, from which discharged against advice. Settled case with liability insurance company for $1,200, receiving $150 in cash, balance forwarded by Italian consul to Italy. Patient left for Italy the day he settled case.

That is the method adopted since the early part of the year in the attempt to get a more accurate idea of the number and character of the cases with which we are dealing. The difference is this, that whereas before in 18 months we got 624 cases we now get every day from 20 to 30 cases, and about 40 per cent of those cases show all the way from some slight result to severe results of their occupation. As already stated, at the present rate we shall be getting 5,000 or more records a year of individuals who have hazards in their occupations, and at the present rate of progress about 40 per cent of them will show in their occupation something that is affecting their health unfavorably.

Take a very concrete thing, which is clearly the result of occupation, and is always a good index of the results you are getting in the study of occupations in general, namely, lead poisoning. In the five years just preceding the adoption of any special methods of study of this matter we had 146 cases of lead poisoning in the records of the hospital. At the rate that we are going now, with the special method of rooting out those cases, we are getting cases of lead poisoning at the rate of about 150 a year in the same clinic and under about the same conditions of clientele. The fact that the symptoms are due to lead poisoning is proved, if there is any doubt about it, by an examination of the excretions, showing that the individual is excreting lead. It is fair to believe that we are probably seeing at the hospital at least three or four times the number of cases of lead poisoning that would be caught by the ordinary method. This and our other results would make me take some exception to one remark of Prof. Willard Fisher, that industrial diseases are not very common. I think these records show that they are not in the least uncommon, and cases are coming in all the time in which there is an effect on health from occupations, and a very considerable number of cases that are definitely entirely due to occupation, like lead poisoning and cases of that kind.

Now, occupational effects upon health (as against specific occupational disease) are as varied as industry itself, almost. I do not mean to go into that in detail. But there are one or two things in relation to that particular point that I should like to speak of, and especially in their bearing upon the chief interest of this conference. In the first place, I think one can fairly say as to such things as lead poisoning, and other things that are clearly and definitely due to occupation, and about which no honest and sane man can have any doubt, that, as Prof. Fisher stated, there is no reason in justice why such things should not be subject to compensation, just as much as an injury that an individual suffers from an accident. Compensation for industrial diseases is, it seems to me, on precisely the same basis as

compensation for industrial accidents, so far as justice is concerned. There is a considerable number of such cases, and they are quite as much in need of compensation as cases of industrial accident and oftentimes more in need of compensation, because the workers are likely to be hit harder by the thing and to be hurt longer.

On the other hand, I think there is an element of distinct danger in the question of compensation for industrial disease. While it does not change my opinion at all that compensation ought to be given for industrial disease, as is done now in Massachusetts, I think, on the other hand, we must recognize the fact that in dealing with occupational disease there are a great many cases which will or will not be included in that class, depending entirely upon personal opinion and not upon a consensus of opinion. There is this difference between occupational disease and industrial accidents. An accident is clearly and undeniably an accident. There is no question about it. You can demonstrate that it is an accident and that the accident caused the result. When you are dealing with occupational diseases, individual opinions will vary a great deal in individual cases, and it seems to me that it will be necessary to adopt some clearer way of telling which of these things can fairly be imposed upon industry and which can not be imposed upon industry. Otherwise there is the possibility of letting in pretty nearly everything in the way of disturbed health that may occur in any and all occupations. If there is no dividing line drawn, I can see no place where you can stop short of the point of saying that almost all disturbed health that occurs in industries might be considered to be subject to compensation. That question has come up very decidedly in some of the conferences that I have had with the Industrial Accident Board of Massachusetts. Indeed, the rulings of the court there last year showed that they saw clearly some such possibility, and that if it was not to be met the law must be changed.

I believe we need to have trained persons who are in the employ of the State, and not merely getting fees from the State from time to time, so that their interest and study are devoted to this thing and they are in an unbiased position. We need to have trained medical men, as they have in England, for example, to give the deciding opinion in these matters, otherwise medical opinions will vary from A to Z. I have in mind one exceedingly important case. A very important opinion was given by a medical man who had no training in industrial disease, and training in industrial disease is as necessary as training in surgery or any other technical matters if an opinion is to be reliable. This man gave an opinion in favor of a man whom I saw afterwards, and who I am sure never had any occupational condition at all; and yet that opinion had an extraor-

dinary wide legal and economic influence as a precedent. On the other hand, I have repeatedly seen medical men decide that cases were not occupational diseases although they were clearly so. I think one of the most important things is to have trained persons making the decision in cases about which there is any doubt.

Now, in regard to the large number of cases in which there is a good deal of doubt as to whether the industry is responsible, or, at any rate, doubt as to how far it is responsible, I do not believe that a large proportion of them can ever be given compensation without burdening industry so that it can not carry them. I think those will have to be covered in some other way. There are questions, for instance, like that of fatigue, which is, I think, probably the most common and the most important bad effect of occupation on the individual. The figures of Dr. Wright, who is in charge of our clinic, show that fatigue is probably the largest element we deal with. Yet it is a very hard element to prove in most individual cases. These cases and various other kinds will have to be covered in some other way, and, all told, these constitute the vast bulk. It seems to me our experience in occupational disease confirms the opinion gained from other sources, that probably the best available way that we have to cover these things is by something that spreads out over all industry and is aided by the State—that is, by health insurance or something like it.

AN INDUSTRIAL CLINIC.

BY WADE WRIGHT, M. D., HEAD OF THE INDUSTRIAL CLINIC, MASSACHUSETTS GENERAL HOSPITAL.

The first organized effort to study industrial disease in the Massachusetts General Hospital was made in 1913, when a social worker, Miss Susan Holton, began the work in the out-patient department, assisted by volunteers. To her were referred by the visiting physicians such cases as they considered of industrial interest or importance.

The pioneer work of Miss Holton was admirably carried on by Miss Alice Sinclair until 1916, and in all about a thousand records were made. But excellent as the industrial and social histories were, in but rare and exceptional instances could such histories taken by the earlier plan be closely linked with a thorough clinical study of the case. The physicians were usually almost wholly out of touch with the industrial conditions and occupational hazards involved, and the social worker of course knew little medicine.

In March, 1916, the industrial clinic was opened in the out-patient department of the hospital, its staff eventually consisting of one full-time salaried physician, a full-time salaried industrial-social worker, a secretary, and a number of volunteer social workers. A

worker was placed each morning at a table before which passed the "admitting line" of new patients, with authority to select therefrom any and all patients whom she considered suitable cases for study in the industrial clinic, in view of the hazards of their occupations or the complaints which brought them to the hospital. A selected case was diverted temporarily from the clinic to which it was originally assigned by the admitting officer, as, for example, to the male medical or the throat clinic, and the patient and his record appeared instead in the industrial clinic.

Patients were selected, with few exceptions, upon the basis of industry or trade process without relation to the particular ailment or complaint presented. Reference lists (revised from time to time) of industries and trade processes in this locality which were known or suspected to be injurious to health were furnished to the volunteer worker, who soon acquired much skill in quickly questioning the persons passing before her and thereby determining the correctness of statements as to "industry," "occupation," and "period of time therein employed," already typewritten by a clerk upon the heading of the patient's record card, and in choosing proper cases to send to the industrial clinic.

Thus all the new cases taken in by the out-patient department were sifted by a trained worker of the clinic, the reference lists in great measure aiding her to secure the cases. (For these lists, see preceding article, by Dr. Edsall.)

In addition to cases received from this source, cases were referred for study to the clinic from the other clinics of the out-patient department, from the pay-consultation clinic, and from the wards of the hospital.

In one year, March, 1916, to March, 1917, 5,121 cases were received, of which about 5,000 were from the out-patient department, to which department during a corresponding period 32,122 new patients were admitted. Of the 5,121 cases, 4,280 were male and 841 female.

It was not to be expected that all cases studied would present evidence of a relation between the hazards of industry and the patients' ill health. Hence many patients were dismissed from the industrial clinic after brief questioning and examination to continue in the clinic to which they were originally designated. In each case, however, an effort was made to secure a brief record on a standard 3 by 5 inch index card, noting the patient's name, address, industry, trade process, employer, and duration of employment, with possibly a note of previous employment and some comment upon the industrial or medical aspects of the case. This card was then dated and filed by the patient's serial out-patient department number. Later the diagnosis and other important data were secured from the

patient's medical record and added to the industrial clinic card. (For samples of these cards, see preceeding article, by Dr. Edsall.)

If a patient upon first questioning or examination seemed to warrant more thorough study, a more detailed record was made upon special forms and a more thorough examination instituted.

When the industrial clinic was opened no patients were treated therein, but after some months a special assignment was made to it of cases of lead poisoning. Otherwise the patients were placed under immediate care of the physicians of other clinics.

Table 1 shows the distribution of cases among the several trade processes of the industries represented, with a rough classification of the nature of the medical conditions found. This table has no exact relation to occupational disease. It gives chiefly an indication of the industries that furnish most patients to this hospital. Their illness was often not occupational, but the table is of interest in showing in a general way the industrial source of our clientele.

TABLE 1.—DISEASE CONDITIONS FOUND AMONG EMPLOYEES IN CERTAIN SPECIFIED INDUSTRIES AND TRADE PROCESSES, WHO WERE SENT TO THE INDUSTRIAL CLINIC, MASSACHUSETTS GENERAL HOSPITAL.

Industry and trade process.	Total in trade group.	Disease condition.								
		Respiratory.	Gastro-intestinal.	Strains.	Skin.	Constipation.	Venereal.	Phthisis.	Tuberculosis.	Miscellaneous.
Boot and shoe (195) establishments.										
Cutters	116	34	18	6	13	6	17	6	6	10
Vampers, etc	196	37	34	9	28	25	14	9	9	31
Lasters, etc	174	34	29	14	11	8	24	9	10	35
Bottom fixers, etc	22	2	3	2	3	.....	4	.....	1	7
Ironers, etc	44	4	7	8	3	3	6	.....	1	12
Miscellaneous	454	80	75	35	34	39	45	20	30	96
Total	1,006	191	166	74	92	81	110	44	57	191
Rubber (48) establishments.										
Mixers, etc	32	6	7	2	.....	1	6	2	2	6
Spreaders	19	2	5	1	1	.....	3	.....	.....	7
Cutters	24	7	1	6	.....	.....	.....	3	3	4
Stitchers	36	9	6	3	1	6	.....	2	2	7
Cementers	106	19	16	.....	7	11	.....	3	3	47
Miscellaneous	176	14	51	16	23	12	6	4	7	43
Total	393	57	86	28	32	30	15	14	17	114
Cotton (104) establishments.										
Carders, etc	21	6	5	1	.....	.....	2	3	4	.....
Spinners, etc	77	11	13	4	2	12	16	3	6	10
Weavers	91	11	12	6	2	3	21	5	8	23
Miscellaneous	90	14	14	4	5	12	5	8	11	17
Total	279	42	44	15	9	27	44	19	29	50
Woolen (51) establishments.										
Carders, etc	30	5	9	2	.....	6	.....	2	2	4
Spinners, etc	85	16	24	4	4	10	12	6	9	.....
Weavers	110	15	26	6	8	15	7	1	2	30
Miscellaneous	141	27	25	8	13	13	11	5	9	30
Total	366	63	84	20	25	44	30	14	22	64

Considering the above industrial data relating to employment alone, several points of interest are found. Of the leading industries of Massachusetts, the shoe industry furnished 1,006 cases, coming from 195 establishments; the rubber industry, 393 cases from 48 establishments; the woolen industry, 366 cases from 51 establishments; and the cotton industry, 279 cases from 104 establishments. A study of the distribution of cases among various employers has furnished much valuable and suggestive material upon which to base constructive advance in factory hygiene. It was noted, for example, that one establishment was the source of an overwhelming majority of cases in its industrial group, a majority not proportionate to the relative size of the factory. This establishment also maintains a very large dispensary at its plant, and this means that they have more illness there than our figures would indicate.

It is too early to go into great detail, but in more direct relation to occupational disease the following facts are important:

In the first year of the clinic 466 cases were observed in which there was apparent definite relation of a patient's disease or disability and the hazards incident to that patient's work; in many more cases it was suggested. There were 91 cases of "occupational strain," usually from faulty posture at work, often associated with excessive fatigue, but rather indefinitely distinguished from the group of "occupational neuroses," numbering 22 cases. This latter group was of special interest because of the variety of processes represented, including among others cigar makers, piano students, a telephone operator, a seamstress, and a cloth cutter. These cases were particularly interesting because of the psychic element often involved, the difficulty in treatment, and the probability that many so-called neuroses have a very real pathological condition as their cause. For example, the cervical hypertrophic arthritis sometimes found in cigar makers may possibly explain their so-called neuroses on a pathological basis.

There were 56 cases in which the respiratory tract was affected and 54 cases of industrial dermatoses, exclusive of anthrax, of which there were 18 cases. Nineteen persons were affected by naphtha fumes, usually in the chronic form. There were 12 cases of caisson disease, none very acute, 148 cases of lead poisoning, and 46 cases in the group of miscellaneous diagnoses.

These patients were studied with the primary purpose that through an accurate knowledge of etiological and contributory factors they might be adequately treated and advised. In addition to the benefit to the patients themselves there was no little gain of knowledge to the hospital staff. A keen and growing interest has been manifested in the varied problems of industrial diseases.

LEAD POISONING.

Special attention has been given to lead poisoning because it can be studied more accurately and definitely than can at present most other common industrial diseases, and it provides an excellent index of what special study of these diseases accomplishes as against the usual method of caring for them simply as the general run of cases are cared for.

In a period of five years before the industrial clinic was established 147 cases were diagnosed as lead poisoning in the various departments of the hospital. In the first year of the industrial clinic 148 cases of lead poisoning were diagnosed. This diagnosis was in every case based upon such evidence as a lead line, tippling of the red blood cells, lead in the stools or urine, or in both, coupled with adequate clinical evidence, and in almost all cases with a history of exposure to lead in some form. The series of cases, tabulated according to industry and trade process, is shown in Table 2.

TABLE 2.—CASES OF LEAD POISONING DIAGNOSED DURING FIRST YEAR OF INDUSTRIAL CLINIC, MASSACHUSETTS GENERAL HOSPITAL, BY OCCUPATIONS.

Occupation.	Number of cases.
Painters:	
House	56
Carriage and auto	5
Machine	2
Dip	1
Spray	1
Bed	1
Can	1
Car	1
Total	68
Shipyard:	
Painter	1
Plumber	1
Pipe fitter	1
Boiler maker	1
Riveter	1
Holders on	3
Heater boy	1
Total	9
Navy yard:	
Painter	1
Plumbers	3
Riveter	1
Holder on	1
Chipper and calker	1
Total	7
Rubber workers:	
Mixers and helpers	6
Calenderers and helpers	2
Spreader	1
Stacker	1
Varnisher	1
Total	11
Brass foundrymen [1]	4
Lead and lead oxide workers:	
Roaster	1
Castings stripper	1
Packers and helpers	2
Lead and lead oxide workers—Con.	
Smelters	2
Total	6
Plumbers	8
Printers:	
Stereotyper	1
Compositors (3 males, 1 female)	4
Pressmen and helpers	2
Lithograph artist	1
Bundle boy (knitting mill)	1
Photo-engraver	1
Linotyper	1
Total	11
Miscellaneous:	
Tinsmiths	3
Storage battery	1
Structural iron	1
Machine shop, Pb temperer	1
Farmer (spraying)	1
Insect powder makers	2
Bearings painter	1
Tube polisher	1
Chalk sifter	1
Carpenter	1
Blacksmith's helper	1
Total	14
Nonindustrial:	
Housewives	2
Foundrymen	2
Candy worker	1
Pick and shovel laborer	1
Cordage (sisal) seeder	1
Shoe worker	1
Barber	1
Machinist	1
Total	10
Grand total	148

[1] Workers with light brass.

Table 3 shows the number of cases of lead poisoning observed in relation to the number of persons from the same trade groups exposed to lead but in whom no satisfactory evidence of lead poisoning was obtained.

TABLE 3.—NUMBER OF WORKERS OF SPECIFIED OCCUPATIONS BEFORE INDUSTRIAL CLINIC, MASSACHUSETTS GENERAL HOSPITAL, WHO WERE FOUND TO BE POISONED BY LEAD, AND NUMBER EXPOSED TO BUT NOT FOUND TO BE POISONED BY LEAD.

Occupation.	Exposed to lead, not known to be poisoned.	Poisoned by lead.	Total.
Painters	149	68	217
Printers	53	11	64
Shipyard workers	38	16	54
Rubber workers	[1] 158	11	169
Lead oxide and smelting	.....	6	6
Brass foundrymen	5	4	9
Plumbers	34	8	42
Nonindustrial	.....	10	10
Miscellaneous	121	14	135
Total	558	148	706

[1] Workers with compounded rubber included because of cases of lead poisoning found among such workers.

Of the group of 148 cases of lead poisoning, 145 were males and 3 females; 25 were native born, 106 foreign born, 17 not specified. This is a larger proportion of foreign born than is shown in the hospital at large, and suggests a possible relation of the poisoning to ignorance of dangers, though not to the ignorance of wholly unskilled workmen, for most of the individuals poisoned were of the skilled or semiskilled class. The average age, average number of years in the trade, and average duration of symptoms, when figures were obtained, are shown in Table 4.

TABLE 4.—AVERAGE AGE, YEARS IN THE TRADE, AND DURATION OF SYMPTOMS OF 148 LEAD POISONED WORKERS BEFORE INDUSTRIAL CLINIC OF MASSACHUSETTS GENERAL HOSPITAL.

Occupation or industry.	Average age.	Average year in trade.	Average duration of symptoms.
			Yrs.mos.wks.
Painters	36.58	14.17	1 4 ..
Printers	34.44	10.60	9 9 ..
Ship and navy yards	31.87	8.74	1 .. 3
Rubber workers	37.80	4.19	.. 4 3
Lead and lead oxide	34.16	4.23	.. .. ..
Brass foundry	44.66	9.08	.. 11 ..
Plumbers	32.14	13.88	1 4 ..
Nonindustrial	41.12	13.58	2 9 ..
Miscellaneous	35.57	8.12	.. 6 ..
Total	36.47	[1] 9.12	2 3 ..

[1] Excluding nonindustrial cases.

Symptoms.

The most common symptom was low abdominal pain, almost always associated with constipation. In but 6 cases was there diarrhea. Loss of appetite was often an early though seldom the earliest of gastrointestinal symptoms. Nausea and vomiting were not infrequent.

Indefinite pain in the lower lumbar and sacro-iliac regions was very often described, as well as pain in the arms and legs, most frequently in the thighs, and seldom in the joints.

Weakness of one or both wrists, notably of the group of extensor muscles, was second in frequency only to colic, but a complete wrist drop was seen in but 5 cases.

An interesting symptom observed in several cases, which was almost bad enough of itself to bring two of the patients to the hospital, was pain in the external condyle of the humerus, closely localized, on pressure, to an area about 2 centimeters in diameter. It may be recalled that it is to this bony eminence that most of the extensor muscles of the forearm are attached, and the pain is possibly to be explained by this circumstance.

A lead line was observed in 78 cases. It was not always distinguishable at a distance, but definite when viewed closely with a lens. A measure of much value in searching for a lead line was the cautious rubbing of the edge and surface of the suspected gum with a piece of gauze, avoiding if possible the bleeding so frequent with the gums of ill-kept and pyorrheic mouths. In a number of instances when little or no evidence of a lead line was apparent at the edge of the gum, even on careful examination, when a tab of gum was everted and the surface normally in contact with a tooth was exposed, it was found to be thickly set with blue-black markings similar to those of a typical lead line.

Pallor, weakness, and loss of weight were frequently observed and in many cases insomnia, headache, and vertigo. Partial loss of memory, attacks of unconsciousness, and a variety of minor mental disturbances were noted in several cases.

Owing to the lack of a technical assistant no systematic effort was made to study the blood of all cases. Of those cases whose blood was examined, a basophilic stippling of the red cells was usually found.

In doubtful cases or for the purpose of checking up treatment the chemical analysis of urine and stools was of great value. The analyses were usually called for only in questionable cases because of the time and expense involved. They were made in the chemical laboratories of the hospital under the direction of Dr. Willy Denis.

In the cases cited lead was found in the urine 28 times and in the stools 44 times. For each set of analyses 2 quarts of urine and 1 pint of stools were required. No quantitative determinations

were made. Inasmuch as lead has been found in a patient's specimens for months, has then disappeared and reappeared, the patient being under treatment and free from exposure to lead during the entire period, there seemed little reason for employing quantitative tests in the clinical studies.

Table 5 shows the findings in 238 analyses of specimens from suspected cases, 126 analyses of urine, 112 of stools.

TABLE 5.—NUMBER AND RESULT OF ANALYSES OF URINE AND STOOLS OF SUSPECTED CASES OF LEAD POISONING AMONG WORKERS BEFORE INDUSTRIAL CLINIC, MASSACHUSETTS GENERAL HOSPITAL.

Result of 238 analyses of specimens—			
Urine.		Stools.	
Positive.	Negative.	Positive.	Negative.
.....	44	.....	44
28	.....	28	.....
.....	22	22	.....
1	.....	.....	1
.....	21	(1)	(1)
10	.....	(1)	(1)
(1)	(1)	.....	9
(1)	(1)	8	.....
39	87	58	54

[1] Analysis not made.

Of the 238 analyses, 97 were positive, 141 negative, thus offering negative evidence as a check upon the accuracy of the method.

It is important to note that in 22 cases lead was found in the stools but not in the urine, and that in but one instance were these findings reversed and lead found in the urine but not in the stools. The examination of the urine alone, as so often recommended in the study of lead poisoning would in these 22 cases have been most misleading.

Treatment.

The treatment of lead poisoning was surprisingly satisfactory. It was of course essential that the source of lead be found if possible, that it might be avoided by the patient, although not all of our patients could or would give up their hazardous trades or even observe caution. The first step in treatment was, painstakingly and in untechnical words, to inform the patient how he could be and probably was poisoned, how he could get rid of the lead, and the evil consequences of his failure to do so. He was then given explicit instructions regarding his eliminative treatment, which as a routine involved large doses of Epsom salts and a decided increase of fluids taken. Due regard for the difficulties of such treatment for a man at work had to be observed, and the orders were tempered to

meet the needs of the individual or to avoid conflict with the treatment of any other ailment or complication. It was usual that after two weeks of obedience to directions a patient was able to report to the clinic that there was distinct improvement, freedom from pain and constipation, from pain in the back or the extremities, improvement of the appetite, loss of headaches, and a steady gain in weight. Potassium iodide was seldom used, and no evidence was observed to show that it was of material benefit when employed.

The conduct of the cases was much simplified through the follow-up system of the industrial clinic, by which a delinquent patient was kept reminded of the necessity for continued visits to the hospital, and also by the fact that when the patient returned he would be seen upon each visit by the same physician, who the patient felt knew about him and his job, and who possibly had even visited his place of employment and knew his boss.

Cases in which there were social complications and certain problems relating to workingmen's compensation were referred to the clinic social worker for investigation and disposition—by her alone or in cooperation with other agencies.

All of the clinic staff endeavored to familiarize themselves with local industrial conditions through frequent visits to factories and other industrial establishments, where they rarely encounter other than ready cooperation and a real interest in the problems of industrial diseases and industrial hygiene.

Special mention should be made of the earnest and enthusiastic work of Miss Helen Bradfield, social worker of the clinic; Miss Ruth Ensign, clinic secretary; and Miss Cecilia Markel, volunteer social worker; while to Dr. Richard C. Cabot, and Dr. David L. Edsall, of the staff of the Massachusetts General Hospital, and to Miss Ida M. Cannon, chief of social service, the fullest credit for the progress of the clinic should be given, for its existence and growth have been the result of their broad vision, sympathetic understanding, and wise guidance.

Because of conditions arising out of the present state of war, the industrial clinic has been temporarily suspended.

PRACTICAL POINTS IN THE SAFE HANDLING OF TRINITROTOLUOL.[1]

BY J. W. SCHERESCHEWSKY, SURGEON, UNITED STATES PUBLIC HEALTH SERVICE.

The great reduction in individual efficiency, the lost time, the ill health, and the sometimes fatal results due to chronic poisoning from the nitro and amido compounds of benzol and toluol in general, and trinitrotoluol in particular, are now so well known, and the danger of the occurrence of cases of such poisoning in the tremendously developed munitions industry is so manifest, that there can be little doubt that attempts will be made by all firms engaged in handling such poisons to safeguard their workers from chronic poisoning.

The safe handling of trinitrotoluol, however, can not be accomplished by the will to prevent poisoning alone. Poisonous compounds like trinitrotoluol can only be handled with safety to the workers concerned provided strict attention be paid to a considerable number of details, each of which is perhaps but a small component factor in the defense, the integrity of which, nevertheless, depends upon its unbroken front. This paper, therefore, is an attempt to summarize the practical means for securing effective prevention of poisoning by trinitrotoluol.

Channels of poisoning.—It is well known that trinitrotoluol, like many of the other nitro and amido coal-tar compounds, is readily absorbed through the skin. The next important avenue of absorption is the respiratory tract. Trinitrotoluol is absorbed with much more difficulty through the mucous membrane of the intestinal tract. The main channel of excretion is probably the urinary tract, although it is possible that a certain amount may also be excreted through the intestines.

Like all other poisons, there is a minimum toxic dose, which varies according to the susceptibility of the individual. As long as the amount absorbed remains beneath these limits symptoms will not be observed. While it is well-nigh impossible to prevent completely the absorption of trinitrotoluol whenever this substance is handled, nevertheless it is quite practicable, by attention to the points presently to be discussed, to keep this absorption well below the minimum toxic dose, except, perhaps, in the case of susceptible persons.

The following remarks are confined solely to the processes involved in the loading of shells with trinitrotoluol, for the reason that its

[1] Read before the section on industrial hygiene of the American Public Health Association, Washington, D. C., Oct. 18, 1917.

manufacture is mainly confined to a few firms, whereas loading processes are likely to be carried on by any manufacturer possessing the requisite facilities, which, after all, are rather simple. For this reason the number of workers involved in loading operations is likely to be very much greater than that concerned in the manufacture of this substance. Besides this, long contact with the production of other poisonous nitrated benzol products should have given manufacturers of trinitrotoluol the requisite experience to enable them to handle the manufacture of this substance with safety to the workers concerned. In addition to this, in the manufacture of trinitrotoluol, except at the final sieving and packing operations, the substance is handled either in closed containers or in a moist condition, under which circumstances the risk of poisoning is very greatly reduced. In loading operations, on the other hand, there is constant opportunity for nearly everyone connected with such work to become the subject of chronic poisoning through either the fumes or the dust of this substance.

PRECAUTIONS TO BE OBSERVED.

If it is desired to reduce to a minimum the risk of poisoning with trinitrotoluol, attention must be paid to certain details under the following general headings:

1. Planning and construction of workrooms.
   (*a*) Separation of processes.
   (*b*) Conveyor systems.
2. Methods and processes employed.
3. Sanitary precautions on the part of the workers.
4. Hours of labor.
5. Medical supervision.

Planning and construction of workrooms.—The planning and construction of buildings used for handling trinitrotoluol can either greatly simplify or complicate the problem of its safe handling. There is no doubt that great advantage, so far as both production and safety to the health are concerned, is derived from correct location of buildings in relation to each other, the general principle being that these should permit continuous routing of the raw materials so that at no point will there be any crosses in the route of the product as it proceeds from the raw to the finished state. This permits the complete segregation of one stage in the process of loading from another, and prevents the exposure of one set of workers to hazards derived from a process with which they have nothing to do.

Type of buildings.—The type of buildings in which a dangerous substance like TNT is handled has also much to do with the facility with which sanitary conditions may be obtained. All such build-

ings should be long, narrow, and of one story. Such construction lends itself readily to the installation of the conveyor system and methods of progressive assembly; abundant natural ventilation is readily furnished because of cross currents of air through opposite openings. Moreover, monitors in roofs in conjunction with the side openings will operate more effectively than similar installations in rooms which are approximately square. Another favorable characteristic of a long and narrow construction, which aids in the maintenance of sanitary conditions, is the abundant natural illumination afforded. This not only facilitates the work, thus preventing unnecessary splashing and spills, but a well-lighted condition in a workroom reveals accumulations of dust and dirt which otherwise lurk unnoticed.

Separation of process.—A fundamental tenet in all hazardous processes is that the only persons exposed to the particular hazard should be the group of workers involved. The long narrow construction of buildings renders the segregation of various processes easy by the use of cross partitions. With the square building, this is much more difficult to secure. Such partitions cut off needed light; the greater length makes them expensive to erect; the necessity for using all the floor area either renders their erection impracticable, or, if erected, disturbs the routing of the material.

Conveyor systems.—There can be no question that a properly installed conveyor system greatly facilitates the safe handling of trinitrotoluol in loading operations, because handling the substance in the shells is reduced to a minimum. Again, as previously pointed out, such conveyor systems are much more readily installed in long narrow buildings than in square buildings.

Methods and processes involved.—There are two general ways in which the explosive is introduced into the empty shell. The powdered trinitrotoluol may either be pressed into the shell by power presses, or poured into the shell in a molten condition.

The former process is used mainly for loading large shells, which of course are used in much less quantities than small shells, in military operations. Moreover, presses are installed in heavy concrete compartments to guard against the effects of possible explosions. Very simple precautions are all that are needed to prevent any escape of dust in handling the powdered trinitrotoluol prior to pressing the charge.

In the average loading plant, however, we find that the charge is usually placed in the shell by pouring it in in a molten condition. Because of the ease with which poisoning may occur when handling melted trinitrotoluol, the following deals especially with the methods for rendering such handling safe.

Precautions in melting trinitrotoluol.—The melting of trinitrotoluol is carried on, as a general rule, in large iron kettles heated by steam coils. Such melting kettles should be installed in a separate compartment, provided with abundant natural ventilation, through opposite openings, a monitor roof, and mechanical exhaust in the neighborhood of each kettle. Such kettles should be preferably broad and somewhat shallow in form, rather than narrow and deep. The kettles should be covered in, and provided with an exhaust pipe in which a gentle upward draft is maintained by mechanical means, so that at all times a slight negative pressure exists in the kettles. This prevents the escape of trinitrotoluol fumes into the air of the melting room. The heat should be applied to the lower portion of the kettle rather than uniformily over its area. This brings about the melting of the charge from below upward, so that the trinitrotoluol at the top is distinctly at a lower temperature than that at the bottom. In this way the amount of fumes which must be gotten rid of by the exhaust is substantially less. Attention should also be paid to the temperature maintained in the kettles, so that this is not unnecessarily high. The application of too great a degree of heat in melting not only increases the loss by evaporation of valuable material, but also increases greatly the amount of fumes which may be present in the air of the melting room.

In charging the kettles with fresh trinitrotoluol attention should be paid to the prevention of dust. The aperture in the kettle should be provided with a lip to prevent spilling of the powder. A removable hopper fitting tightly into the aperture would also assist greatly in the prevention of unnecessary dust. The installation of permanent hoppers above each melting kettle, provided with a cut-off, also merits consideration, as a large quantity of the explosive could be placed in the hopper at one time, and then gradually added in small quantities to the melting kettle as needed. In this way the exposure to trinitrotoluol dust would be reduced to a minimum.

Casting.—After the trinitrotoluol has been melted in the kettle, it is usually drawn off in tubs, in which it cools, while being continuously agitated until near the point of solidification, whereupon it is poured into the shells. The purpose of the agitation is to secure uniform and more rapid cooling of the melted product. Very often this agitation of the melted trinitrotoluol is carried on by the use of wooden hand paddles by workers who sit continuously at these tubs, doing nothing else. Obviously this is extremely hazardous, as the trinitrotoluol is constantly above the temperature at which volatilization takes place. Where this process of hand agitation is carried on an attempt is usually made to reduce the risk of poisoning by the installation of exhaust hoods over the tubs. Personal obser-

vations, however, have led to the conclusion that hand agitation of melted trinitrotoluol can never be made safe; that the only permissible method is the use of mechanical agitators over hooded tubs. All workers seen engaged in the hand agitation of melted trinitrotoluol have presented a uniformly bad appearance.

Pouring in the shells.—Two methods are in general use. The first consists in arranging a large number of shells in racks on the pouring floor. The pourer takes a considerable quantity of melted trinitrotoluol in a spouted container, and walks along the rows of shells filling each one as he comes to it. This method is inherently bad. In order to fill an adequate number of shells at one pouring, the pouring container is large, and when full, necessarily heavy. This leads to awkwardness and inaccuracy in pouring the charges, especially in the first shells, thus causing numerous splashes of the trinitrotoluol on the exterior of the shells, the floor of the casting room, the shell racks, and the person of the pourer. In plants where this method of pouring is carried out, the writer has seen thick incrustations of trinitrotoluol on all the localities mentioned, the overalls of the pourers especially being fairly caked with trinitrotoluol. Such methods not only greatly increase the risk of poisoning, but are wasteful of valuable material. Such wasteful methods, however, spring originally from poor design of buildings, as this is about the only practicable method in workrooms of square construction.

The only casting method which should be considered is the one in which the shells are placed in racks on a conveyor and passed before the pourer, who is stationed at the cooling kettle. There is no danger in this position to the pourer if the cooling kettle is adequately hooded with exhaust ventilation and provided with a mechanical agitator. It is needless to say that the charge in the cooling kettle should be conveyed by gravity from the melting kettle above, the opening in the cooling kettle being situated in its lower part, so as to avoid splashing of trinitrotoluol while the charge is running in. The proximity of the pourer to the cooling kettle permits the use of a small pouring ladle. This enables the charge to be accurately poured into the shell, because of the light weight handled.

Avoiding splashes on exterior of shell.—It is evident that all splashing of the explosive on the exterior of the shell should be avoided. Such splashing is not only wasteful of material, but increases the risk of poisoning in subsequent handling, as naturally all such deposits must subsequently be scraped off. Such splashing on the exterior of the shell may be reduced to a minimum by the use of the conveyor system and a small pouring ladle. As an additional precaution, however, the adapters, which are screwed into the shell orifice to

protect the screw threads of the shell from being clogged with melted trinitrotoluol, and also to hold the spout through which the charge is introduced into the interior of the shell, should be provided with a perforated square of tin or stiff paraffined cardboard, slipped over the spout to catch any splashes which would otherwise be deposited on the exterior of the shell. With careful work it is quite possible to pour charges into shells without any splashing of the exterior. Wherever such methods are used the personal appearance of those engaged in pouring is all the evidence that is required to convince the observer of the superiority of such methods.

Recessing the charge.—After casting, the charge is recessed for the reception of the "booster charge" of a more sensitive explosive, required for the detonation of trinitrotoluol. The end of the charge must also be surfaced. This is usually accomplished in special drill presses. In drilling out the charge, naturally considerable dust is produced from the boring. There is also danger of a possible "blowing" of the charge. For this reason the recessing of such charges should be carried on in completely inclosed compartments, provided with doors which may be automatically opened and closed, and with the provision of some holder or jig to hold the shell in the drill press. When carried on under such conditions, workers operating these drilling machines are exposed only to a minimum extent to any danger of poisoning.

The remainder of the operations concerned consist mainly in blowing out dust remaining after the boring, inspecting the shells, introducing "booster charges," capping the shell for shipment, and painting the exterior when this is required by the specifications.

After casting and recessing the charge the degree to which workers are exposed to trinitrotoluol poisoning will depend upon the care with which these processes have been carried out, such subsequent exposure being due for the most part to scraping off deposits from the exterior of the shell and cleaning out the screw threads in the nose or base of the shell, according to its type, from any trinitrotoluol which may be adherent. The quantities of the poison involved are naturally dependent upon the care which has been employed in the foregoing operations.

Additional operations which bring the workers in contact with trinitrotoluol consist in the recovery of trinitrotoluol which adheres to adapters and casting spouts, and the squares of tin or pasteboard which may have been used to catch splashes during pouring. Besides this, dust from the floor of workrooms and from borings is gathered up for recovery. Charges must also be recovered from shells which have failed to pass the inspection. Such recovery is simple and may be carried out safely by simple melting operations

in appropriate melting apparatus, in which the general principles described in the primary melting of trinitrotoluol are complied with. There is no doubt that the recovery of trinitrotoluol from sweepings, which is usually attended to by ordinary laborers, is frequently accompanied by poisoning, as such employees are usually the least intelligent in the plant and are likely to be careless. Due attention, however, to the loading methods previously described reduces such need for sweeping to a minimum. Whatever sweeping is necessary should be done by moist methods, all sweepings being deposited in fiber or tin paper-lined boxes, with close-fitting covers. The collection of dust from boring machines in tin or fiber boxes provided with a tight-fitting lid, which may be closed subsequently, will also reduce exposure to a minimum. If tin boxes are used these should be paper lined.

Sanitary precautions on the part of the workers.—A lively sense of the poisonous qualities of trinitrotoluol and the will to prevent poisoning by the requisite cooperation with the management are necessary on the part of all the workers. This means that all workers should receive instructions from the plant officials as to the methods by which trinitrotoluol poisoning may be avoided. These consist obviously in reducing personal contact with the fumes and dust of this substance to a minimum. There is no evidence that females are more susceptible than males, but the young of both sexes are likely to be highly susceptible. For this reason persons less than 21 years of age should not be employed in processes in which the worker is brought into contact with trinitrotoluol.

A complete suit of overalls, fitting closely at the neck, wrists, and ankles, gloves, and a cap covering the hair should be worn by all the workers. Men should keep their hair short and be clean shaven. The overalls should be provided with drawstrings at the neck, wrists, and ankles. The wristband of the overalls should be pulled over the glove gauntlet, and a snug fit secured by the use of a drawstring. Overalls should be laundered weekly. There should also be provided change and locker rooms with lockers or other facilities of such nature that the street and working garments do not come in contact with each other or with those of others.

The eating of lunches in workrooms and keeping of food in workrooms should be rigidly prohibited. Compliance with this rule is best secured by providing attractive and commodious eating rooms for the use of the workers.

The workers should be especially instructed concerning the value of scrupulous bodily and oral cleanliness as a prevention of trinitrotoluol poisoning. The hands and face should be thoroughly washed and the mouth rinsed out before eating, and a full shower

bath taken at the close of the day's work. Proper facilities for this should be furnished. The teeth should be brushed twice daily with a soft toothbrush and a good dentifrice.

One of the chief difficulties in avoiding poisoning is the reluctance on the part of workers to report to the company physician when they begin to feel sick. This is due to the relatively high wages which are paid to the workers who load ammunition and the natural desire to keep on earning these wages as long as they are able to stand up. Much of this can be done away with by a system of rotation of jobs, workers being transferred from hazardous to less hazardous employment regularly at intervals of two weeks.

Hours of labor.—Except in an emergency no person engaged in a process in which trinitrotoluol is handled should work longer than eight hours a day. By thus limiting the time of exposure, the danger of poisoning may be materially reduced. As previously stated, workers engaged in hazardous processes should be rotated to less hazardous jobs at least once in every two weeks, and oftener if necessary.

Medical supervision.—An efficient system of medical supervision under the direction of a competent physician must necessarily be provided in all plants engaged in the manufacture and handling of trinitrotoluol. The physician in charge should be familiar with the symptoms of poisoning and the precautions for preventing it. He should keep a constant check upon the efficiency of the enforcement of sanitary precautions and be given the authority to transfer or to lay off, as may be required, all workers who are showing symptoms of poisoning. He should also make frequent rounds of inspection through the workrooms, noting all workers showing the characteristic appearance of trinitrotoluol poisoning, and requiring them to report to the works dispensary for further examination. Careful records should be kept of all cases of poisoning and their subsequent treatment.

INDUSTRIAL HEALTH AND OCCUPATIONAL DISEASES IN MASSACHUSETTS.

One section of the fourth annual report of the Massachusetts State Board of Labor and Industries[1] is devoted to a consideration of the health of persons employed in buildings used for industrial purposes and embraces paragraphs on ventilation, dust and fume removal, sanitation, and a brief history of instances of occupational diseases, including anthrax, benzol poisoning, brass poisoning, caisson disease, lead poisoning, and fume and gas poisoning. A somewhat complete

[1] Massachusetts. Fourth annual report of the State Board of Labor and Industries, January, 1917. Boston, 1917. pp. 44–104.

description of ventilation and lighting is given, being taken for the most part from a report issued by the British Health of Munition Workers Committee,[2] which emphasizes the necessity of providing hoods, exhausts, flues, etc., to effect the removal of poisonous vapors and gases. It is important, however, in installing exhaust systems to give attention to details such as size and shape of hoods, inlets, etc., for the particular requirement.

It is noted that the department made several special studies of dust and fume removal. In plants manufacturing trinitrotoluene inadequate ventilation facilities were found and measures taken for their correction. A hospital was established in which, of 1,648 accidents treated from March 1 to October 1 [1916], it is stated that there was not a single case of infected wound when the man reported at the time of the accident, and only two infected wounds due to failure to report until infection had set in. An investigation of carbon monoxide fumes in laundries, arising from the use of gas as a fuel, led the department to suggest that electricity be substituted for gas as a heating power and that adequate ventilation and exhaust systems be established at or near each point on the stove where the possibility of the escape of gas exists.

The use of wood alcohol as well as ethyl acetate and amyl acetate in the shoe industry increased during the year, it is stated, because of the substitute of fiberloid compounds. Upon investigating this matter the department found considerable danger from the fumes generated by these chemicals, and thus summarizes the conditions of safety relative to the use of wood alcohol: (1) Eliminate as far as possible the odors which give rise to the psychic symptoms complained of by so many persons working in atmospheres where wood alcohol and other solvents are used; (2) reduce the proportion of wood alcohol to less than 2½ per cent, or, better still, use alcohol denatured with other substitutes than wood alcohol; (3) use acetone chemically pure; (4) use boxes to contain the liquid, so as to prevent so far as possible the escape of fumes into the atmosphere; (5) eliminate amyl acetate so far as possible because of its odor; (6) install adequate exhaust system near the point of application of the fluid, especially in the shoe industry, where the fiberloid material is moistened with a solution, and where considerable evaporation of the solvent solution takes place.

Investigations were conducted into the dangers from salamander fumes and paranitranilin fumes and dust and hazards caused by asbestos dust and antimony dust. In order to reduce to a minimum the possibility of dust and fume poisoning in the various industries

[2] This report was summarized in the MONTHLY REVIEW for June, 1916, pp. 81–83, and is reprinted in full in Bulletin 221 of this Bureau.

of the State the department prepared and distributed to the manufacturers, especially to those manufacturing benzene derivatives, a tentative set of rules and regulations which seems to have been quite generally adopted, resulting in reducing greatly the number of cases of such poisoning.

Details of a number of cases of human anthrax are given. It is stated that in 1916 there were 27 such cases (4 fatal) reported, many of the cases being connected with the handling of a particular shipment of hides. There were 4 cases each in 1915 and in 1914, making a total of 35 cases, 6 of which resulted fatally. Information concerning specific shipments of hides is given, and it is noted that there is less danger from anthrax where hides are handled wet than where dry handling is practiced. In this connection the report says:

> An investigation by one of the manufacturers led to experiments by him in which he was able to develop anthrax in guinea pigs by injecting into the peritoneal cavity cultures from the sides of the sulphide pit. The fluid from the peritoneal cavity of the inoculated animals grew the anthrax bacillus on agar. The first field in the culture was cloudy and the bacillus was not isolated. Subsequent cultures, however, grew true bacilli of anthrax. It is believed that a gelatin culture will grow the bacillus primarily. The conclusions of this investigation were that the sodium sulphide bath does not kill the anthrax spores, but does affect them so that they become latent or dormant, and are revived into activity by the heat of the human body after inoculation. It was noticed frequently that the men inoculated while handling hides at this sulphide dip had the disease in a lighter form than men inoculated while handling dry hides. The practical lesson from these observations is to substitute wet handling for dry handling of hides.

In addition to the case of anthrax, there were reported during the year 1 case of brass poisoning, 8 cases (5 fatal) of benzol poisoning, 15 cases of caisson disease, 112 cases of lead poisoning, and the following cases of fume and gas poisoning: Carbon monoxide, 7 (1 fatal); hydrogen sulphide, 1 (fatal); nitrous acid gas, 4 (2 fatal); sulphur dioxide, 1 (fatal); trinitrotoluene, 3 (2 fatal); wood alcohol, 1. There were 2 cases (1 fatal) of a miscellaneous character, making a total of 182 cases of occupational diseases, 17 (9.3 per cent) of these being fatal.

TRADE DISEASE CAUSED BY THE WORKING UP OF MOA WOOD.[1]

The Berlin daily paper Vorwärts states that in the factory inspection district of Berlin three workmen employed in working up moa wood, an Australian wood species, were taken sick. On account of its very high cost, moa wood is not in general use, but as it assumes a splendid color when polished it is sometimes used in wainscoting parlors of luxurious passenger steamers. The three workmen were

[1] "Vorwärts." Erkrankungen bei der Bearbeitung von Holz. Berlin, Aug. 16, 1917.

afflicted with an itching eruption which at first broke out on the arms and then spread over other parts of the body. After three weeks' hospital treatment the workmen could resume their work without relapse. In another case of sickness, also caused by the working up of moa wood, the workman after being cured retained such hypersensitiveness that small particles of the worked-up wood which adhered to his tools were sufficient to cause a violent inflammation of his skin. The workman in question could no longer work in the same room. An examination of the wood showed the abundant presence of an oil. As the result of a chemical analysis a crystalline alkaloid was found to be the real cause of the disease. Rubbing of fat into the skin and thorough washing have proved to be effective preventive means. Similar sickness has been observed in workmen working up box and satin woods and other species of wood rich in resin.

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SOCIAL INSURANCE.

MASSACHUSETTS COMMISSION ON HEALTH INSURANCE.

While the question may be raised whether the appointment of commissions is not sometimes offered as a substitute for the enactment of laws, the fact remains that the Legislature of Massachusetts has provided for pioneer work in a variety of fields touching upon the subject of social insurance, the present instance taking the specific form of a commission to investigate "the extent to which poverty occasioned by sickness may be alleviated, medical care for wage earners and others of limited means provided for, and measures to prevent disease may be promoted by insurance." This commission consists of three members of the senate, six members of the house, and two other members appointed by the governor. Its investigations are to extend to the health of wage earners and the conditions under which they work, and to existing systems of mutual, stock, fraternal, State, and other forms of insurance in effect. A report is to be made not later than January 15, 1918. Cooperation of various State departments is directed, and public hearings with power to summon and examine witnesses are provided for. The members of the commission are Senators Herbert A. Wilson, Boston; Charles D. Brown, Gloucester; and Edward F. McLaughlin, Boston; Representatives Fred P. Greenwood, Everett; Charles B. Frothingham, Lynn; Benjamin G. Collins, Edgartown; Carl C. Emery, Newburyport; Ernest A. Larocque, Fall River; and Vincent Brogna, Boston; and governor's appointees Robert M. Washburn, Worcester, and Everett Morss, Boston.

The commission was organized in July and has held a number of conferences, as well as a series of public hearings. The cooperation of all interested parties is invited, especial attention being given to the viewpoint of employers and employees. No part of the report has as yet (Nov. 6) been prepared.

HOUSING AND WELFARE WORK.

LUNCH ROOMS FOR EMPLOYEES.

BY ANICE L. WHITNEY.

In the last three issues of the MONTHLY REVIEW[1] accounts were given of the provisions for medical and surgical treatment and of the various recreational facilities furnished by different establishments to their employees. The survey made by the Bureau of Labor Statistics included 431 establishments in a great variety of industries, such as mining, foundries and machine shops, manufacturing of iron and steel, electrical supplies, automobiles, furniture, boots and shoes, textiles and explosives; also steam and electric railroads, telegraph and telephone companies, electric light and power companies, and stores. Of these 431 establishments, 224 provide lunch rooms for their employees. Seven of these establishments did not report the number of employees, but for the 217 establishments reporting, the total number employed was 830,125.

Lunch rooms, like emergency hospitals, belong probably among the more essential features of industrial betterment, for while the provision of recreational facilities of different kinds tends to promote good fellowship and interest in the place of employment, these facilities do not have as direct a bearing on the health of the workers as does the opportunity to secure a warm and wholesome meal at a cost which puts it within the reach of all.

KIND OF SERVICE.

Restaurants, with waiters, and cafeterias seem to be about equally popular, there being 112 of the former and 96 of the latter, while 16 establishments have restaurants for the office force and officials and cafeterias for the factory workers. The cafeteria method of serving seems to be especially desirable where large numbers must be taken care of in a short space of time, as the two, four, or six way cafeterias permit of very rapid service. One company states that

[1] "Medical, surgical, and hospital treatment for employees," MONTHLY REVIEW for September, 1917, pp. 59–67; "Rest and recreation room for employees," MONTHLY REVIEW for October, 1917, pp. 151–156; "Clubs, gymnasiums, and recreation grounds for employees," MONTHLY REVIEW for November, 1917, pp. 201–212.

1,500 people are served by this method in nine minutes and another that 1,300 are served in six minutes.

The following table shows, by industries, the number of establishments having restaurants, cafeterias, and lunch rooms, the character of management, and the total employees.

ESTABLISHMENTS HAVING RESTAURANTS, CAFETERIAS, AND LUNCH ROOMS, BY INDUSTRIES AND BY CHARACTER OF MANAGEMENT.

[In this table 16 establishments are shown under both "restaurants" and "cafeterias" as they maintain both; and 12 of the establishments shown as furnishing room, coffee, etc., for employees bringing their own lunches also have restaurants or cafeterias.]

Industry.	Number of establishments.	Number of employees.	Number of establishments having restaurants managed by—			Number of establishments having cafeterias managed by—			Number of establishments furnishing accommodations for those bringing lunches.	
			Company.	Contractors.	Employees.	Company.	Contractors.	Employees.	Room only.	Room, coffee, etc.
Automobiles	7	93,384	2	1	.....	2	2	.....	3	.....
Boots and shoes	4	23,230	1	.....	.....	3	.....	.....	.....	.....
Chemicals and allied products	4	9,446	3	.....	.....	1	.....	.....	.....	1
Clothing and furnishings	9	15,710	1	.....	.....	8	.....	.....	3	.....
Electrical supplies	5	51,040	5	.....	.....	1	.....	.....	.....	.....
Fine machines and instruments	6	22,553	4	1	.....	2	.....	1	2	.....
Food products	8	[1] 11,665	3	.....	1	4	.....	.....	.....	7
Foundries and machine shops	26	64,401	22	1	.....	1	1	2	9	1
Gas, electric light, and power companies	7	[1] 24,768	4	.....	.....	3	.....	.....	.....	.....
Iron and steel	14	76,092	6	6	1	1	.....	.....	3	.....
Offices	7	[1] 10,651	4	1	1	2	.....	.....	.....	.....
Paper and paper goods	5	7,472	.....	1	.....	4	.....	.....	1	1
Printing and publishing	7	9,666	2	1	.....	5	.....	.....	.....	.....
Railroads, electric	5	40,402	4	.....	.....	.....	.....	1	.....	2
Rubber and composition goods	6	35,588	3	.....	.....	4	1	.....	1	.....
Soap	4	8,168	3	.....	.....	2	.....	.....	1	.....
Stores	41	[1] 116,068	9	1	2	29	.....	3	1	4
Telegraph and telephone companies	14	[2] 64,538	8	.....	.....	7	.....	1	.....	1
Textiles	9	20,051	3	.....	.....	5	1	.....	2	3
Other industries	36	[1] 125,232	22	1	.....	14	1	.....	8	9
Total	224	[3] 830,125	109	14	5	98	6	8	34	29

[1] Not including employees of 1 establishment, not reported.
[2] Not including employees of 2 establishments, not reported.
[3] Not including employees of 7 establishments, not reported.

ESTABLISHMENTS HAVING RESTAURANTS, CAFETERIAS, OR OTHER LUNCH FACILITIES.

Of the 224 establishments providing lunch rooms, 18 maintain them for only the office force and officials, and sometimes for foremen, while the remaining 206 serve employees of the factory as well, although in the majority of cases there are separate rooms or a section of the dining room reserved for the office people and foremen. This does not seem to be inspired altogether by a feeling of superiority on their part, as might be supposed, for a number of establishments reported an unwillingness on the part of the factory workers to eat with the office force and foremen; in some cases because members of the office force are better dressed, and in others

because they feel more freedom without the presence of those under whom they work. This was especially true in plants where many foreigners of different nationalities were employed, as they usually desire to eat by themselves.

For 181 establishments, with 605,174 employees, it is estimated that the number using the lunch rooms daily is approximately 168,000, or 28 per cent of the total number of their employees. These figures include those employees who bring their own lunches to the regular lunch room and buy nothing and those who supplement their own lunch with one or more dishes from the counter, as well as those, usually the larger number, who buy the entire lunch.

There are 63 companies which provide a room for the use of those bringing their own lunches. Twelve of these furnish such a room in addition to the regular lunch room and therefore are included in the total number of establishments having lunch rooms. Thirty-four of these 63 firms provide the room and tables and chairs only, but 29, in addition to this, supply tea, coffee, or milk and in a few cases, soup. Twelve of these 29 establishments serve coffee free to all who wish it, one furnishes soup free, and several of them give tea and milk as well as coffee. In this connection it might be stated that several companies report that it is their practice to discourage the excessive use of coffee.

CHARACTER OF MANAGEMENT.

The majority of the lunch rooms are managed directly by the companies, but in 20 cases the management is turned over to an outsider, the company supplying space and generally light, heat, and equipment also. In these cases, too, the companies usually supervise the quality of the food offered and also limit prices, although the food prices are not as low as in the many establishments which manage this work with no thought of profit. In 13 instances the companies allow the employees to manage the restaurant. A few of these lunch rooms are run on a cooperative basis, but most of them make a small profit which is turned over to the benefit association or to the athletic association, the lunch room usually being managed by a committee of employees appointed by the association which is to receive the profits.

GENERAL DESCRIPTIONS OF RESTAURANTS AND KITCHENS.

One company, having both a large factory and office force, has a large lunch room for each. The one for the office employees is a very beautiful room with specially designed tables and leather seated chairs. These specially designed tables, having concealed seats, can be transformed, by a folding back of the top, into com-

fortable settees for use during gatherings of employees. About 800 are served here daily. The main part of the service is cafeteria, but there are tables where service by waiters can be had at an additional charge of 5 cents. The regular luncheon is 20 cents, dinner is 25 cents, and a la carte orders are at moderate prices. Employees bringing their own lunches must eat them in this room. About 1,500 members of the factory force use their lunch room, where a club luncheon, consisting of soup, meat, potatoes, and another vegetable, dessert, and tea, coffee or milk, is served for 15 cents. The company aims to provide employees with wholesome food at low cost.

A new lunch room which had been opened but two days at the time of the agent's visit is attractively finished as to wall decorations and lighting. The tables have vitrolite tops and seat 14 people each. It was the plan of the company to furnish the service free and apply the 20 cents charged for the meal to the purchase of the foodstuffs. If at the end of a month there should be a surplus the employees were to vote as to whether they would have a more elaborate meal or the same kind of a meal at a lower price. This factory, which employed no women, is situated in a locality having no lunch rooms except those in connection with barrooms, and it was the desire on the part of the management to keep the men away from the saloons at noontime which led to the installation of the lunch room.

One establishment manufacturing playing cards has a beautifully equipped cafeteria seating about 1,400. This is located in a separate building. The dining room has marble-topped tables with a raised marble shelf in the center of each, which contains a porcelain ice-water keg, with faucet. The glasses and condiments are on this shelf, and a wire basket suspended beneath contains the silver. The office employees have a section reserved for them and are waited on by waitresses. The prices are so moderate that the company has a large deficit to meet each year. Music is provided each day during the luncheon period.

It is, of course, often found to be the case that employees go to work in the morning with little or no breakfast. Two firms, each employing a large number of girls, allow them to go to the lunch room in the morning for milk or coffee and rolls. One of these firms grants 10 minutes each morning for this purpose.

A lunch room for which construction and equipment costs were given was built to seat 1,100 people at one time. The room has a very large cafeteria counter and small tables with Carrara glass tops. The cost of the special construction of the dining room and kitchen was about $5,300, while the equipment, furniture, and fixtures cost

approximately $6,200. The lunch room is under the general supervision of the welfare secretary, but the preparation and dispensing of food are taken care of by a private caterer, who provides good substantial food at a moderate cost in consideration of the company supplying space, equipment, light, and heat for which no rental is charged. About 2,500 people use this lunch room daily.

Many of the establishments, in addition to the attractive restaurants, have exceptionally well equipped kitchens with all the up-to-date electric machines for saving work. An electric dish-washing machine through which 24,000 pieces could pass in an hour with practically no breakage and an electric potato peeler holding a barrel of potatoes at a time are features of one establishment. In almost all of the restaurants which serve large numbers, part or all of the many electric labor-saving devices have been installed. It was noticeable that a large proportion of the kitchens would pass with a very high mark as to sanitary conditions, although a number were visited which were not adequately screened for flies and which in general neatness left a good deal to be desired. However, these were in the minority and the general standard of cleanliness and quality of food served by most of the companies was very good, while some were models of neatness, kind of equipment, and generally efficient service.

There are different methods of payment in use by the various companies. One company, whose charges are based on the amount of wages, uses tickets of three colors to indicate the three rates which are charged. In some cases metal checks are used, while in others books of tickets are sold either by the cashier or by foremen in the shops. In the majority of cases, however, the employees pay cash.

NUMBER OF ATTENDANTS REQUIRED.

In several restaurants the attendants at counters and tables are members of the regular working force who usually receive their regular rate of pay while performing this service and their lunches, their coats or uniforms being furnished and laundered. In one case the office errand boys and apprentices wait on the tables, leaving their work 15 minutes before the others and receiving only lunch in payment; in another case the girls volunteer their services and receive lunch in return; and in still another case factory boys serve in the dining room for two hours, being paid their regular factory rate, except for half an hour, and receiving a free lunch also.

The number of attendants necessary to serve an average of 4,100 people daily is reported by one firm. This company has four restaurants, a cafeteria, a dining room, a lunch counter, and a grill room. The cooking for the four restaurants is done in one kitchen, and the same quality of food is served in all. Employees are free to patronize any one of them, although the cafeteria is the one generally preferred.

Here a full meal may be purchased for 18 cents, the average check, however, being but 11 cents. Besides the manager, his assistant, and the chef there are 13 full-time kitchen and dining-room workers and about 70 others who work during the luncheon period only. Twenty of these are porters in the plant who clear away the used dishes.

It is the practice of a number of companies which have cafeterias to have the employees carry their used dishes to a shelf or window which they pass on the way out. In this way the amount of help needed is lessened without imposing unduly upon each individual.

FINANCIAL RESULTS OF OPERATING RESTAURANTS.

Forty-six of the companies which keep the entire control of the lunch rooms have reported as to the financial returns of the undertaking. In 35 cases there is a deficit varying with the size of the plant and the prices charged for food. In 9 cases the restaurant is self-supporting, and only two of these reported a surplus. One company reports a deficit of about $1,000 a month. The office and factory employees in this plant are served separately. A regular dinner is served the factory workers for 15 cents, the a la carte rates for the others being correspondingly low. The company feels that its deficit is too great, although, since the feeling with the firm is that the employees are entitled to one good, wholesome meal a day, a loss is expected.

A company employing about 12,000 has several mess halls in different sections of the plant. These are located in separate frame buildings. The main mess hall is in two sections, one for clerks and foremen and the other for the general working force. About 1,300 eat in this building daily. The average price paid for a meal by the office force is 23 cents; by the factory employees 21 cents. The colored employees are fed in a separate mess hall having long, high tables at which the men stand. About 350 meals are sold here daily at a cost to employees of 10 cents each. Two other lunch counters together serve 1,400, the average check being 23 cents. Owing to the creasing cost of foodstuffs and the desire on the part of the company not to lower the food standard, the company was paying a deficit of from $900 to $1,200 per month at the time the schedule was taken.

ESTABLISHMENTS SERVING FREE MEALS.

In few instances are meals served free to employees. One insurance company, however, having several thousand employees, serves to each person in its employ a lunch, consisting of soup, meat, one vegetable, bread and butter, a choice of desserts, and tea, coffee, milk, or buttermilk. At the time the schedule was taken this lunch was

costing the company about 19 cents per person. This plan was instituted as a means toward greater efficiency in the afternoon's work, since it was found that many could not, or at least did not, get the proper luncheon. This is not regarded by the firm as a gift but as a supplement to the wages, which are already as high, it is claimed, as those paid for similar work by other companies.

Another firm, doing a large mail-order business, gives breakfast to those of its clerks who are required to come early to attend to the incoming mail. Several give supper to overtime workers, and several others, whose plants are run during the entire 24 hours, provide free coffee at midnight. One company giving a free lunch to officials and clerical force has furnished a small kitchen and dining room for its 35 women employees and provides the materials from which the girls prepare their own lunches. Another, with 600 employees, serves an a la carte lunch to the men for 10 cents and the same lunch free to the 250 women employed.

Boys earning less than $5 per week are given their lunch by another company. Still another gives milk and soup to all juniors. Nearly all of the banks visited give a free lunch to all employees, which is done largely for the purpose of keeping the clerks in the building at the noon hour. A newspaper company pays a restaurant for furnishing a lunch consisting of sandwiches, coffee, cake, pie, and cookies to from 20 to 30 of its newsboys every night.

Many companies which charge for other items on their bills of fare provide tea, coffee, or milk free. This is almost universally done by the telephone companies, whose lunch-room food and service is always excellent and provided at very low prices. The employees of one large office building are provided with a lunch room seating about 1,300 girls at one time. The majority of them bring their lunches, supplementing them with dishes from the cafeteria counter. Tea, coffee, and milk, the latter in unlimited quantity, is provided for them free by the company.

UNDESIRABILITY OF SERVING LUNCHES IN WORKROOMS.

Several firms insist that their employees shall leave their work places at lunch time and that those who wish to bring their own lunches shall eat them in the dining room. In these cases it is usual to assign a permanent place at the table, where the lunch may be left upon arrival. In only one instance was there evidence of any objection on the part of the companies to employees bringing all or part of their lunches from home. This one company insisted that all employees who wished to eat in the building should buy their lunches in the dining room, although there was no objection offered to their going outside for them.

Nine establishments having restaurants also have lunch counters in the plant, either because of lack of space to take care of all the employees, or for the use of those workers who do not consider themselves sufficiently well dressed to eat with the others. For these same reasons eight firms provide box lunches to be distributed through the factory at lunch time, and several have coffee booths. One company has soup stations throughout its large factory, and another in addition to its restaurant has eight electrically heated "cafemobiles," each carrying trays, dishes, and food enough for 300 men, which go through the plant at mealtime. One company, with about 11,000 employees, has, in addition to a fine restaurant for its office force, five lunch counters in the factory, where about 6,000 are served daily with sandwiches, coffee, and milk. There are no tables but benches are provided adjacent to the lunch counter. It is without doubt something of a problem for firms which employ large numbers of workers to provide a place separate from their workrooms in which all can eat, but since it is generally conceded to be undesirable for employees to be obliged to eat at work places, it would seem that in such cases either a very simply furnished room might be provided or the employees might be served in the restaurant in shifts, as many of the companies find that this plan works satisfactorily.

AVERAGE PRICES CHARGED FOR FOOD.

The prices generally charged for a table d'hote meal for factory workers vary from 15 to 25 cents, in the majority of cases the charge being 20 cents. In a few cases office workers pay slightly more. The a la carte prices vary, of course, greatly. The usual prices of bread and butter are from 2 to 5 cents; sandwiches, soups, and vegetables, 3 to 5 cents; meats, 8 to 15 cents; fruits and desserts, 2 to 5 cents; tea, coffee, and milk, 2 to 5 cents; the usual price of a cup of coffee being 3 cents. It is possible, in most of the cafeterias, to get a good lunch for from 15 to 20 cents, and in some of them for even less. It must be borne in mind, however, that the prices charged for food as quoted in this article do not cover the general rise in foodstuffs in the last few months. They only serve to show that the average cost of a sufficiently satisfactory meal was much below that of the average outside restaurant, and that it is probable, therefore, that whatever increase the employers may be obliged to make because of the present high prices of fuel and foodstuffs will be in the same proportion.

CONCLUSION.

There seems to be no particular reason why lunch rooms should be installed in one industry more than another. The determining

factors seem to be the distance from homes; the lack of good restaurants or the presence of many saloons near the plant; the desire to keep employees upon the premises during the luncheon period; and, perhaps the most frequent reason of all, the wish to give employees the proper kind of food, since the tendency with many workers is to economize in this way to the detriment of their health, strength, and efficiency. Several of the companies reported that the meal served in the company restaurant was the best one of the day for many of their employees. Of the industries reporting restaurants the iron and steel industry and foundries and machine shops showed the smallest proportion of these facilities for the general working force. Their restaurants are mainly for the office force and for officials, although there are a few cases where large numbers of the plant men are served. Steam railroads do practically nothing along this line, although the employees are sometimes served, at a reduction, in the regular station restaurants. All of the telephone companies, most of the large offices, and nearly all of the department stores visited maintain lunch rooms.

Only two of the companies visited reported that they had tried lunch rooms and given them up. Two or three others reported that the patronage was not satisfactory, but generally where they were found they seemed to be regarded as necessary to the successful operation of the plant, office, or store. It is certainly rather remarkable that a business of such magnitude should have grown up in so many and such varied industries. That they are so largely run at a loss is not an indication of poor management but rather of the belief that the expenditure is necessary and that it is justified from a business point of view if it results in better health and greater efficiency for part or all of the working force.

SIXTH NATIONAL HOUSING CONFERENCE.

The Sixth National Housing Conference met at Chicago on October 15, 16, and 17. The topics discussed were: The real estate man and housing; How to cheapen the workingman's dwelling; Housing as a war problem; What England has done in war housing; What employers have done to house their employees in the United States; The best house for the small wage earner; Ready-made houses; An intensive study of certain blocks in Chicago with relation to tuberculosis found in those blocks; Organizing the housing work of a health department; Chicago's housing problems; The housing of the single workers, including the men in the Army cantonments and railroad laborers; Housing famines in certain cities—Bridgeport, Conn., Kenosha, Wis., and Akron, Ohio; The modern science of

ventilation as applied to dwellings; Shall the health department or the building department enforce housing laws? The zoning of cities; Organizing the housing work of a community; The after-care of a housing law.

The discussions were of a practical and technical nature, relating predominantly to matters of construction and management. The legislative side of housing was also emphasized; and in the general discussions the larger social aspects of housing came up, particularly in the discussion of Chicago's housing problems at the afternoon session of October 16.

The summary here attempted will be confined to the papers and discussions which dealt with matters of industrial housing—provision of housing accommodation for the low-paid wage earner.

The papers and discussions on this subject showed a general agreement as to the necessity and advisability of utility and simplicity in construction to bring the house within the means of the wage earner. All were agreed on the policy of making the houses an economic and not a philanthropic investment; economic or commercially profitable rent should be made possible. Variety was thought best secured by artistic grouping of the houses, judicious use of vegetation, trees, grass, and shrubs. Two speakers showed the possibilities of cheapening construction by the use of concrete-monolithic, precast or block form. To be profitable, however, building must be on a large scale.

Mr. Leslie H. Allen, of the Aberthaw Construction Co., interested in concrete work, listed the following as essential features of a workingman's house: Water-tight roof, walls, and floors; bedroom for parents; bedroom for male children; bedroom for female children; one or more living rooms; private toilet with sanitary water-closet and sewer connections; suitable heating arrangements; running water supply fit for drinking; kitchen sink with waste connected to sewer; uninterrupted daylight and ventilation through windows in every room. As not absolutely necessary he considered a cellar, bathtub with running water, window screens, and a separate parlor. Among improvements or additional luxuries he classed porches, lavatory bowls, hot-water supply, window blinds, window shades, separate dining room, electric light and gas installation, wall paper, laundry tub, and picture molding. If a single house is to be erected a square house will be found to be relatively cheaper.

Mr. Richard Henry Dana, jr., architect, New York City, confined his discussion to the problems involved in constructing a suburban, two-family, semidetached house to be rented profitably at $20 per month. As land is a large element in the final cost, "undesirable" land should be sought in the unfashionable side of the town;

land next to a cemetery or railroad tracks; and land either sloping or low, but not over five minutes' walk to some means of transportation. This land should be improved to make it attractive by the planting of grass, shrubs, trees, etc. The type of material to be used should be determined largely by the locality. There is economy in building low ceilings, counteracting this by the use of high windows for better ventilation. Compactness is gained by reducing hall space, privacy by having all the rooms face either the street or the back yard, and not the houses on either side. There should be a separate parlor on the first floor not connected with the stairway; the dining room and kitchen may be combined, if necessary. On the second floor there should be three small bedrooms rather than two large ones, so as to accommodate children of both sexes; water-closet and bathtub are essential requirements.

Mr. John E. Conzelman, of the Unit Construction Co., St. Louis, Mo., described the work of that company as exemplified in an undertaking at Youngstown, Ohio. The method employed consists in the use of precast, standardized reinforced concrete. The chief parts of the house—the side, floors, and roof—are cast as units on the grounds and then placed in position by means of derricks. In the development in question at Youngstown, Ohio, discussion brought out the fact that the four-room family unit would probably cost between $2,000 and $2,200, including land.

Mr. A. E. Owen, chairman, camp committee, Pennsylvania Railroad, described the portable bunk houses being used upon the Pennsylvania Railroad for its construction workers. These buildings are of tongue-and-groove white pine, built in 10-foot sections, each building when complete being 20 feet wide and 15 to 16 feet high from the floor to the ridge pole; the floors are built on piers and elevated about 18 inches from the ground. The exterior is covered with pebble-dash roofing paper. They are lighted by electricity and equipped with fire extinguishers and screens for windows and doors. There are stationary washstands and hot and cold water; and in those camps which are sufficiently large and in which drainage is available, shower baths are provided. Recreation facilities are provided in some places.

While the papers noted above were confined chiefly to problems of construction, matters of organization and management of industrial housing enterprises were given particular consideration at the symposium on house famines. The plans adopted in organizing industrial housing enterprises at Bridgeport, Conn., Kenosha, Wis., and Akron, Ohio, were described.

At Bridgeport the employers joined with public-service corporations and banks in organizing an improved housing company

having only common shares and limiting its dividends to 6 per cent. At Kenosha there has been organized the Kenosha Homes Co., a stock company with a capitalization of $25,000. This company has formed an agreement with the Kenosha Homes Building Co., a group of local builders, to do the actual construction work and the selling of the houses. The former company passes upon the application for purchase of houses, inasmuch as, being closely in touch with the employers' association of the locality, it has at its disposal complete records of every factory employee of the members of that association. A somewhat similar organization has been created at Akron, Ohio.

The Bridgeport company has built row houses costing per family unit $2,603, plus an additional $449 for land and street development. It has also built apartment houses costing $2,410 per family, plus $150 for land development. The one apartment constructed accommodates 39 families, giving each three rooms and bath, steam heat, hot water, and janitor service at from $24 to $35 per month. Of the 87 row dwellings constructed 64 have two rooms and bath, 47 four rooms and bath, and 28 five rooms and bath. The company also has a suburban development where five rooms and bath are the minimum and seven rooms and bath the maximum accommodation. The houses here are to cost on an average $3,708, plus an additional $900 for land development. The average rent will be $34.02 per month. None of these developments, it was admitted, reaches the low-paid wage earner; but plans for housing that type of laborer are under way.

At Kenosha, Wis., frame houses of the single and double variety have been erected. They consist of five rooms and bath in the bungalow type, and six rooms and bath in other houses. The cost varies from $1,700 to $1,900; the lot, generally 50 by 100, costing $300; and improvements, including sewer, water, gas, concrete walks, grading and planting, costing $200. The houses are sold on a minimum payment of $100 down, and a maximum payment of $18 monthly. If the workman owns the lot no cash payment is necessary.

WAR HOUSING IN THE UNITED STATES.

The following statement, authorized by W. S. Gifford, director of the Council of National Defense, was recently given to the press:

The committee on housing, of the Council of National Defense, appointed on October 9, 1917, to investigate and report upon the extent of the housing problem in connection with workers employed on Government contracts and the relation of that problem to the

output of war materials submitted its findings to the council on November 1.

The testimony and records obtained by the committee on housing clearly indicate that, with few exceptions, the Government contracts for ships, guns, ammunition, and other war materials have thus far been made with little or no Government provision for the housing necessities incident to a rapid and large increase of labor. In its investigation the committee has been materially aided by the report of Philip Hiss, chairman, sectional committee on housing of subcommittee on welfare work of the labor section of the advisory commission, which report called the exigency of the situation to the attention of the council.

The situation may be well instanced by one New England manufacturing city where there exists a distinct community problem. In this city 16 concerns are engaged upon war contracts, and it was disclosed to the committee on housing that nearly 10,000 additional men, for whom there now exists practically no living quarters, will be required by January 1 if the plants in question are to run to their full capacity.

One great steel company, already mainly employed with Government contracts, has extensive additions to its present plant approaching completion. The testimony before the committee on housing disclosed that unless immediate provision be made for necessary housing the possible production of guns, gun carriages, and other munitions will be curtailed fully one-third of the plant's possible output within the next three or four months.

Notwithstanding the existence of such cases as those cited above, the committee on housing deprecates any exaggeration as to the extent of the existing housing problem. As a matter of fact, many communities and individual industries are now taking care of their own housing requirements. Others, where there is serious congestion, are preparing to do so; but there are a number which will need financial assistance in house building if full production capacity is to be had.

In general it is the opinion of the committee on housing that the existing emergency demands immediate action and it is convinced that under proper safeguards the Government should give quick financial aid to such industries or communities as can clearly demonstrate their right to relief. In this regard it is suggested that any aid which may be given by the Government should preferably be rendered in the form of loans at a low rate of interest. Some loss to the Government may be reasonably expected, but the expenditure necessary to give relief is negligible when measured by the loss incident to delay in the execution of the vast war orders already placed.

It is the judgment of the committee that an organization of reasonable permanency and authority is necessary to administer quickly and effectively such funds as may be available for housing purposes, and that such organization should have broad powers to conduct building operations, to deal in real estate and securities, and to borrow and loan money.

The committee further recommends that, in line with the recent findings of the advisory commission of the Council of National Defense, all authorized agencies of the Government making contracts for war materials shall give due consideration in the future to the labor supply and housing conditions prior to closing contracts, and that future contracts shall be distributed, as far as possible, to prevent undue concentration of workers in any one locality.

The committee on housing particularly emphasizes the conviction that any Government aid for industrial housing should be considered as a war measure and be rigidly confined to cases where restriction of output of war materials would otherwise occur.

The committee on housing, of the Council of National Defense, is composed as follows:

Otto M. Eidlitz, chairman, architect and builder, New York City.

Gertrude Beeks Easley, chairman, welfare department, National Civic Federation.

William J. Spencer, secretary, building trades department, American Federation of Labor.

C. G. DuBois, comptroller, American Telephone and Telegraph Co.

Theodore Robinson, vice-president, Illinois Steel Co., Chicago, Ill.

WAR HOUSING IN GREAT BRITAIN.

BY LEIFUR MAGNUSSON.

The shortage in workingmen's houses in England before the war had become so great that on October 21, 1913, the chancellor of the exchequer, Mr. Lloyd George, declared in a speech that the Government proposed to build cottages. For this purpose the Government was prompted to use all money which was being accumulated for the national insurance scheme. It was proposed to let the dwellings at a commercially profitable rent.[1] The Prime Minister estimated the shortage of cottages at that time to be about 100,000 or 120,000. A later estimate by the secretary of the International

[1] The Yearbook of Social Progress for 1914–15. Being a summary of recent legislation, official reports, and voluntary effort with regard to the welfare of the people. London. (1915.) p. 225.

Garden and Cities Town Planning Association, with headquarters in London, has estimated that the shortage in housing facilities is increasing at the rate of 75,000 per annum. This would mean that not less than 400,000 cottages are required in England and Wales to satisfy the present housing famine.[1] The Local Government Board in 1916 was so impressed with the situation as to state that there "will exist, on the conclusion of the war, a very serious need for additional accommodations for persons of the working class."[2] Mr. Sidney Webb has estimated that the Government will need to spend £200,000,000 (973,300,000) in housing after the war.[3] The Joint Committee on Labor Problems after the war estimates a need of 1,000,000 houses and an expenditure to meet it of £250,000,000 ($1,216,625,000).[4]

Whatever may be the cause of this shortage—increased cost of building material, other more profitable fields for investment, lack of building labor, building by local authorities and renting at uneconomic rates, actual restriction of building by the Government[5]—the shortage of houses in England during the war has become a factor in industrial unrest. The royal commission of inquiry into industrial unrest reports that a lack of housing in certain areas is one of a number of leading causes of disturbance.[6] While the shortage is fairly general over the country,[7] it varies in seriousness in different localities. The housing situation in one locality is characterized by the commission as a "crying scandal,"[8] and as being in the forefront as a cause of industrial unrest.[9] It is a serious problem in London,[10] Wales, and Monmouthshire.[11] That aspect of the housing situation, which as much as a mere shortage of housing, is causing industrial unrest, has been increased rentals, particularly in and about London.[10]

A committee was appointed by the Local Government Board in August, 1917, to consider questions of building construction, with a

[1] The Journal of the American Institute of Architects, Washington, D. C., 1917, vol. 5, No. 4, p. 157.

[2] Forty-fifth annual report of the Local Government Board for the year 1915–16. London, 1916, Part II, p. 8.

[3] When peace comes: The way of industrial reconstruction, by Sidney Webb, London, The Fabian Society, 1916, p. 10 (Fabian Tract No. 181).

[4] Local Government Chronicle, London, Aug. 4, 1917, pp. 429, 430.

[5] Order regulating and restricting building and construction work. Order of minister of munitions, July 14, 1916. (Defense of the Realm Manual, 3d enlarged edition, revised to Feb. 28, 1917. London, 1917, pp. 64, 313.)

[6] The report of this commission is reprinted in Bulletin 237 of the U. S. Bureau of Labor Statistics, Washington, D. C.

[7] Cf. also forty-fifth and forty-sixth annual reports of the Local Government Board, 1915–16, 1916–17. London, 1916, 1917. (Summarized in MONTHLY REVIEW of the U. S. Bureau of Labor Statistics, October, 1916, p. 102, and December, 1917, p. 252.

[8] Bulletin 237 of the U. S. Bureau of Labor Statistics, p. 67.

[9] Idem, p. 68.

[10] Idem, p. 106.

[11] Idem, p. 178.

view to securing economy and dispatch in the provision of houses.[1] As yet no report of this committee has appeared.

While the need for providing workingmen's houses has been brought into prominence by the war, it has been a subject of British legislation since 1851. Private enterprise in England has failed to meet the shortage and resort has been had to Government financial aid.[2] Under the laws of 1890 and 1909, which form the basis of British housing legislation, the different local governments are charged with authority to advance funds to lay out towns, buy land, build houses and to rent these to workingmen. Government funds are also available for advances to building societies, which may agree to limit their profits to 5 per cent.

THE HOUSING ACTS OF 1914.

Under the legislation outlined above, the central Government has never taken direct initiative in the housing question; it has done no direct building on its own part. The war, however, has hastened matters. Two housing acts, supplementing the existing body of legislation, were placed on the statute books early in August, 1914, "which but for the exceptional crisis would certainly not have passed without considerable discussion and opposition, if at all,"[3] although the Government was in reality carrying out part of the housing policy to which it had been committed before the war.[4]

These two British war housing acts, the Housing Act, 1914, and the Housing (No. 2) Act, 1914, both passed August 10, 1914. The first was introduced on July 8 and had no relation to the war. As drafted, it aimed to give the Board of Agriculture and Fisheries powers with respect to housing in agricultural districts, and to make provision for houses for persons employed by or on behalf of Government departments wherever dwelling accommodations might be insufficient. As passed, it deals only with the housing of Government employees or workingmen on Government contracts. It grants no powers for the compulsory purchase of land for housing. There are provided for its purposes not to exceed £2,000,000 ($9,733,000). The act applies to Great Britain and Ireland.

The Housing (No. 2) Act, 1914, was a direct consequence of the war. It contained the provisions of the first act as originally intro-

[1] Local Government Chronicle, London, Aug. 11, 1917, p. 448.

[2] For a discussion of the nature and extent of this aid, reference is made to Bulletin 158 of this bureau on Government Aid to Home Owning and Housing of the Working People in Foreign Countries. Washington, 1915, pp. 284–347. Cf. also: The Labor Yearbook, 1916. London [1916], pp. 605–612.

[3] The Housing Acts, 1914, being the text of the Housing Act, 1914, and the Housing (No. 2) Act, 1914, together with introduction, notes, circular letter, and a variety of supplementary matter, including the parliamentary discussion and a summary of housing legislation already in force, by the editors of the Local Government Journal [London, 1915], p. 7.

[4] The Yearbook of Social Progress for 1914–15, p. 228.

duced as respects rural housing by the Board of Agriculture and Fisheries and gave the Local Government Board power to lend money for housing or to build directly in urban communities. The primary purpose of the law was to mitigate unemployment in the building trades. As no widespread unemployment developed the act was not utilized at any time during the year it was to be in force, and the £4,000.000 ($19,466,000) appropriated for its purposes were never used.[1]

Under the Housing Act, 1914, two Government departments are authorized to sanction loans for industrial housing to local authorities and public utility or authorized societies which limit their profits to 5 per cent. These departments are the Local Government Board and the Commissioners of Works, who have direction of all public works and undertakings. The latter also has power to do direct building for Government employees.

Both the Local Government Board and the Board of Agriculture and Fisheries, by the second act of 1914, it may be noted, had been pledged not to do any direct building unless after public hearing they were satisfied that there was an insufficiency of accommodations or that existing dwellings were unsuitable or could not be provided otherwise.

Under the basic housing acts, 1890, 1909, the Government makes loans not only to local authorities and limited dividend companies but also to building associations of every sort and to private persons. Presumably, therefore, employers are entitled to loans for housing if they so desire. Private borrowers, furthermore, have borrowed in the past as much from the Government as the local authorities, in spite of the higher rates they must pay, as local authorities can secure funds almost anywhere at reasonable rates because borrowing on the security of their taxes.[2]

Employers in borrowing from the Government, it has been stated, have been permitted to charge a portion of the increase on the cost of building due to war conditions to the profits which might have gone to the Government under excess profits legislation.[3]

RATES OF INTEREST—PERIOD OF LOANS.

The new war legislation makes no changes in the period for which loans run—a maximum of 60 years for building, and 80 years for land loans. The Government probably makes the rate of interest the same at which it can borrow,[4] although housing reformers urged

[1] Forty-sixth annual report of the Local Government Board for the year 1916–17. London, 1917, Part II, p. 6.

[2] Bulletin 158, U. S. Bureau of Labor Statistics, pp. 292, 293.

[3] Nolen, John. What England has done in war housing. (Paper read before the Sixth National Housing Conference, Chicago, Oct. 15, 1917.)

[4] The Housing Acts, 1914. London [1915], p. 11.

it to loan at rates prevailing before the war.[1] A recent memorandum raised the rate of interest generally from 5 to 5½ per cent (Mar. 26, 1917)[2] to local authorities under the housing acts. The rate on loans secured by taxation is 5½ per cent for those not exceeding 30 years, and 5¾ per cent for those not exceeding 50 years. On loans not secured by taxation the rates to limited dividend companies are the same as for loans to local authorities. To other companies and other private persons who do not limit their profits the rate is 6 per cent on loans not exceeding 30 years and 6¾ per cent on those not exceeding 40 years.

OTHER GOVERNMENTAL HOUSING POWERS.

An amendment to the Defense of the Realm Act, on March 16, 1915, gave the Government the power to take possession of any unoccupied land for the purpose of housing workmen employed in any way in connection with the manufacture of war materials.[3] The terms of such acquisition and control were later more fully set forth and defined in the Defense of the Realm (Acquisition of Land) Act of December 22, 1916.[4] In paying for land taken for war purposes, the Government will not give consideration to unearned increments or decrements created since the beginning of the war as a result of work by the Government or other party not interested in the land. The section in question is as follows:

> In determining the amount of compensation, the value of the land acquired shall be taken to be the value which the land would have had at the date of the notice to treat, if it had remained in the condition in which it was at the commencement of the present war, without regard to any enhancement or depreciation in the value which may be attributable directly or indirectly to any buildings, works, or improvements, erected, constructed, or made on, over, or under the land, or any adjoining or neighboring land for purposes connected with the present war wholly or partly at the expense of the State, or, with the consent of the occupying department, at the expense of any person not being a person interested in the land.

To prevent the steady rise in rents resulting from a house famine, on December 23, 1915, the Government passed a law restricting, for the period of the war, the increase in rents and taxes on small dwelling houses after November 25, 1915, over the standard rates in force August 3, 1914.[5] The act applies to the dwelling and yard or lot connected with it, and only to those houses the standard rental value of

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[1] The Housing Act, 1914. London [1915], pp. 77, 78.

[2] Forty-second Annual Report of the Public Works Loan Board, 1916–17 (with appendices). London, 1917, 27 pp. (Parliamentary Paper H. of C., 1916–17, No. 85.)

[3] An act to amend the Defense of the Realm (Consolidation) Act, 1914, Mar. 16, 1915. (Public General Acts, London (1916), pp. 73, 74).

[4] Defense of the Realm (Acquisition of Land) Act 1916 (Defense of the Realm Manual, 3d enlarged edition, revised to Feb. 28, 1917, London, 1917, pp. 10–27).

[5] Increase of Rent and Mortgage Interest (War Restrictions) Act, 1915 (Public General Acts, London (1916), pp. 345–351).

which on August 3, 1914, in the metropolitan area did not exceed £35 ($170.33) per annum, £30 ($146) per annum if situated in Scotland, and £26 ($126.53) if elsewhere.

The landlord may not increase the rent for decorations, but for alterations and repairs he may add an amount equal to 6 per cent interest on the value of the improvements. The landlord may not ask the tenant to make repairs formerly made by himself. Neither may he extract a bonus or other premium for renting the house, but such a bonus, if charged, may be deducted by the tenant from any rent due. As respects mortgages, it is not lawful to foreclose, if interest and installments are paid regularly and repairs kept up; nor is it permissible to raise interest rates above the rates in force on August 3, 1914. The making of any illegal charges under the guise of arrears was prohibited by an amendment, July 10, 1917.

In order to control living conditions in localities where the Government has not found it necessary or practicable to erect additional housing facilities, the Billeting of Civilians Act was passed May 24, 1917. Through a Central Billeting Board, operating through local authorities and committees, surveys of housing conditions are made where warranted, and, if found necessary, civilian workers have been billeted upon the civil population. It is reported by Mr. Frederick L. Ackerman, representing the American Institute of Architects and the Housing Section of the Committee on Welfare of the Advisory Commission of the Council of National Defense is now in England, that it is possible in some cases to billet a working population equal to or greater than the population disclosed by the census.[1] It has also been possible to relieve congestion and increase the capacity in towns where it was assumed that conditions of crowding were bad.

While this legislation aims to secure the largest number of munition workers in a given amount of housing accommodations, the regulation added to the Defense of the Realm Regulations, September 29, 1917, is designed to secure stability in the supply of workers. The regulation in question prohibits the ejection from rented premises of munition workers within certain declared areas provided rent is paid regularly and the conditions of the lease observed except as regards yielding possession.

PRACTICAL RESULTS.

It is extremely difficult to secure any data as to results of warhousing legislation in Great Britain—the extent of Government construction undertaken, what departments have engaged in it, and the amounts expended—as information has been held back for military

[1] From correspondence printed in Journal of the American Institute of Architects, Washington, D. C., 1917, vol. 5, No. 11.

and other reasons. Even the location of the different Government undertakings can not be ascertained definitely.[1] Mr. Culpin, secretary of the Garden City and Town Planning Association, who has been intimately connected with the progress of this governmental work, declares that "when the time comes for a record to be placed before the world of what has been done in this regard, it will be a revelation."[2] Numerous towns have been developed as permanent communities under the town-planning principles of the act of 1909. Buildings have been predominently of a permanent type, establishing a governmental policy in that respect.

In Scotland the Local Government Board has advanced funds to a local company to open an extensive development for the admiralty workers in the Rosyth Dockyards; and a law to hasten the development, permitting it to proceed expeditiously without waiting for the approval of the town-planning scheme as required under the law of 1909, was specially enacted.[3]

Thus far the only official of those mentioned in the housing acts of 1914 to do direct Government building has been the Commissioner of Works, to whom the Public Works Loan Board advanced funds for a development near the Woolwich Arsenal.

The construction work was done by two firms for cost, plus a percentage for establishment charges and an additional percentage for profit. Competitive bids were tried at first, but the offers were considered too high.

For the work there had been advanced up to March 31, 1915,[4] to the Commissioner of Works £100,000 ($486,650), which was all that had been advanced out of a total of £2,000,000 ($9,733,000) available under the Housing Act, 1914, as the Local Government Boards of both England and Scotland had as yet done no war housing under the 1914 laws.[5] The amounts actually expended in the Woolwich housing scheme up to March 31, 1915, were as follows:

Erection of buildings	£28,507 2s. 7d.	($138,729.94)
Roads, sewers, etc	1,004 4s.	(4,886.94)
Superintendence and miscellaneous charges	1,095 1s. 3d.	(5,329.12)
Total	30,606 7s. 10d.	(148,946.00)

[1] The remarkable application of town-planning principles to the wartime necessities of England, by Ewart G. Culpin, secretary of the International Garden Cities and Town Planning Association. (In The Journal of the American Institute of Architects, Washington, D. C., 1917, vol. 5, No. 4 (April), pp. 157–159.)

[2] Op. cit., p. 158.

[3] Housing (Rosyth Dockyards) Act, 1915 (Public General Acts, 1914–1916). London, 1916.

[4] Housing Act, 1914. Account 1914–15. London, 1915, 3 pp. (Parliamentary Papers, H. of C., 1914–15, No. 354.)

[5] Cf. Annual reports of the Local Government Board (45th and 46th). London, 1915, 1916.

During the fiscal year ending March 31, 1917, the Public Works Loan Board made new loans amounting to £111,479 ($542,513) for the housing of munition workers.[1]

TYPES OF HOUSES.

Mr. Raymond Unwin, architect and town planner, officially connected with the housing work of the Ministry of Munitions, has described the houses which are being erected by that department.[2] These are of four types, as follows:

(1) *Huts.*—Under this heading we include all the buildings of a temporary or semitemporary character, whether they are built of concrete slabs or of wooden framing, covered with plaster or weather boarding outside and lined inside usually with Beaver board. This I have found on the whole the most satisfactory material for lining the huts inside when they are constructed of wood, though we have used asbestos sheets largely, too.

Of these huts we have built three main types:

Type I.—Consisting of a pair of semidetached family huts having three bedrooms, living room, scullery, bath, etc.

Type II.—Is a small hostel containing 10 beds, which might be used either for a caretaker and nine single lodgers or for a family taking six or eight lodgers with them. It is moreover fairly easily converted into quarters for two families similar to Type I. We have found this hut very popular. Not only has it been used for operatives, but has been used for members of the staff, and even taken as a larger house by officials of a higher grade. We then have—

Type III, of which there are various subtypes marked A. B. C. This consists of a larger hostel in which single men or single women can be lodged in numbers up to about 100, either in open dormitories or in dormitories fitted with cubicles.

(2) *Hostels.*—We have also built a number of hostels in the form of cottage shells of a permanent character, which after the war can readily be converted into a good family cottage by slight alteration. These were adopted because we found that the cost of temporary buildings of wood and slabs, when account is taken of all the costs of drainage, road access, water supply, etc., is so little under that of permanent buildings that it seemed bad economy to erect the latter except where the greater speed in erection was a vital consideration. For this type of hostel we have usually adopted groups of four cottages each and taken three groups for one hostel, linking them up with temporary corridors and arranging them sometimes in a row and sometimes around three sides of a quadrangle. * * *

(3) *Completed cottages and staff houses* of various sizes to suit the means of the different grades of labor and staff employed in the factories. * * * These are built, the smaller cottages, usually in groups of four and spaced about 12 houses to the acre; the larger ones are built in pairs with a little more ground usually left to them.

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[1] Forty-second annual report of the Public Works Loan Board, 1916–17 (with appendices). London, 1917, 27 pp. (Parliamentary Papers, H. of C., No. 85.)

[2] Letter to Mr. John Nolen, Cambridge, Mass., made part of the Report of the Section on Housing to the chairmen of the Committee on Welfare Work, Advisory Commission of the Council of National Defense; conference held in Washington, Sept. 21, 1917. (Mimeograph copy in files of the Bureau of Labor Statistics.)

(4) In addition to these buildings, we have erected *shops, institutes,* and the other necessary public buildings required for a complete township in connection with some of the larger schemes, and in one case have had to provide bakeries, central kitchen, laundry, schools, churches, and the accessories of a small town.

At Well Hall, near the Woolwich Arsenal, the Ministry of Munitions has built some 1,600 houses of a permanent type. It has erected stores, halls, schools, and other public buildings; also bakeries, a central kitchen, laundries, and churches.[1]

A development at Eastriggs[2] is one of the more recent housing enterprises undertaken by the Ministry of Munitions. Here there have been constructed some of all of the different types of houses described above in Mr. Unwin's letter.

AFTER THE WAR PROBLEMS.

That after the war the housing problem will probably present greater difficulties than at present is the view of reformers.[3] Several reasons are given for this:[4] (1) High cost of construction. "With capital bearing interest at 5 per cent (at least) it is difficult to see how it will be possible to let a cottage, costing £250 ($1,216.63), for building construction, roads, and land, at a rent less than from 9s. ($2.19) to 9s. 6d. ($2.31) per week." (2) Increasing rents when limitation act expires. (3) Lack of a unified governmental policy—Unionist policy favoring State aid to local authorities and State subsidy if necessary to meet losses created by charging uneconomic rents; the Liberal policy favoring increase in wages to make charging of profitable rents possible; the Labor party view, a combination of the above policies. (4) Lack of compulsory town planning in rural areas. (5) Lack of definite municipal housing policies. Up to the present the action of local authorities has been confined to building and renting houses to municipal tenants. Local authorities, it is urged by housing reformers, should have power to acquire estates, to lay them out on town-planning principles, then to lease these sites and advance public money to all who might desire to build houses for the working people. Local authorities should also have power to form public utility societies for housing purposes.[5]

The Joint Committee on Labor Problems after the War, composed of representatives of the Parliamentary Committee of the Trade-

[1] Described with plans in the Journal of the American Institute of Architects, Washington, D. C., 1917, vol. 5, No. 9. Also same Journal for April, 1917, vol. 5, No. 4, pp. 157, 158.

[2] Described with plans in Journal of the American Institute of Architects, Washington, 1917, vol. 5, No. 10 (October), pp. 499–510.

[3] Cf. Webb, Sidney, op. cit., pp. 10, 11; Aldridge, Henry R., Housing after the war, p. 237. (In After-war Problems, edited by Wm. Harbutt Dawson. London, Allen and Unwin [1917], pp. 233–250.)

[4] Aldridge, op. cit., p. 237 et seq.

[5] Aldridge, op. cit., pp. 249, 250.

Union Congress, the executive committee of the Labor Party, the management committee of the General Federation of Trade-Unions, and the War Emergency Workers national committee, has suggested as a part of its housing program that priority should be given for four years after the war to building material for industrial cottages and that "luxury" building should be suspended.[1] In order to reach the class of labor to be benefited, it has also been proposed that only those persons who come within the national insurance scheme should be allowed to occupy cottages built by or with the aid of Government money.[2]

HOUSING IN SCOTLAND.

On January 19, 1909, representatives of the Scottish Miners' Federation made representations to the Secretary for Scotland on the question of housing conditions in the mining districts of Scotland. The deputation urged the appointment of a special committee of inquiry; but at that time the only action taken was to direct the medical officers in the mining counties to make such inquiry and to suggest possible lines of legislation to correct existing evils. On April 26, 1911, a second committee of the Miners' Federation was received in London by the secretary, who called attention to what had already been done through the medical officers (Report of Local Government Board for Scotland, 1910) and stated that the matter was still receiving the attention of the local authorities. On November 20, 1911, a deputation of Scottish members of the British Parliament, representing the mining districts, urged upon the secretary for Scotland the desirability of a departmental committee of investigation. The then secretary promised to consider the advisability and practicability of an extended investigation of housing conditions in Scotland, and on October 30, 1912, his successor appointed a commission of 12 members for the purpose in question.

The results of the investigation by this Scottish commission have recently appeared in a large folio volume of 460 pages, to be followed by volumes of hearings and reports of special investigations.[3]

The work of the commission, begun before the war, continued up to February, 1916, after which time it was halted for about a year on account of war activities, to be taken up again in January, 1917. The report covers a number of problems in housing growing out of the war emergency besides being an extremely comprehensive survey

[1] Local Government Chronicle, London, Aug. 4, 1917, p. 430.

[2] Idem, Oct. 6, 1917, p. 555.

[3] Royal Commission on Housing in Scotland. Report of the Royal Commission on the housing of the industrial population of Scotland, rural and urban. Edinburgh, H. M. Stationery Office, 1917, 460 pp. (cd. 8731).

of housing conditions in Scotland. Some of the headings in the table of contents are as follows: (1) Instances of bad housing conditions; estimated shortage of houses and extent of the housing problem; housing legislation and powers of local authorities; housing conditions and problems in cities; merits and demerits of tenement system; relations of landlords and tenants; the one-room house; overcrowding; housing conditions in fishing communities; housing of migratory and seasonal workers; housing in the crofter or small tenant farming districts; land in relation to housing; building, public utility, and copartnership societies; town planning and transit; Government aid to housing; and the formulation of a housing policy.

The war has created a widespread interest in housing, it is declared, as defective housing is one of the counts in an analysis of the industrial unrest created by the war. As a war problem "none is more pressing or more vital, in the interests of the welfare not only of the individual but also of the nation."

The housing problem is not wholly or distinctively an urban as opposed to a rural problem, it is noted. The two sets of problems—urban and rural housing—dovetail because the conditions that give rise to them overlap. Conditions of industrialism have been created in rural districts by the movement of industrial plants to the "outer rims" of the cities. "The real divisions of the subject are, indeed, not numerical so much as industrial," as exemplified by the study the commission made of miners' housing, a summary of which will appear in a future number of this REVIEW.

The 12 commissioners are agreed as to the facts regarding housing conditions in Scotland; they divide, however, as to the remedies to abate existing evils and to meet the shortage of houses. The findings of the eight members of the majority are in their own words as follows:

MAJORITY REPORT.

The modest inquiry initiated by the Scottish Miners' Federation in 1909 has resulted in the national survey of Scottish housing here presented. These are the broad results of our survey: Unsatisfactory sites of houses and villages, insufficient supplies of water, unsatisfactory provision for drainage, grossly inadequate provision for the removal of refuse, widespread absence of decent sanitary conveniences, the persistence of the unspeakably filthy privy-midden in many of the mining areas, badly constructed, incurably damp laborers' cottages on farms, whole townships unfit for human occupation in the crofting counties and islands, primative and casual provision for many of the seasonal workers, gross overcrowding and huddling of the sexes together in the congested industrial villages and towns, occupation of one-room houses by large families, groups of lightless and unventilated houses in the older burghs, clotted masses of slums in the great cities. To these, add the special problems symbolized by the farmed-out houses, the model lodging houses, congested back

lands, and ancient closes. To these, again, add the cottages a hundred years old in some of the rural villages, ramshackle brick survivals of the mining outbursts of 70 years ago in the mining fields, monotonous miners' rows flung down without a vestige of town plan or any effort to secure modern conditions of sanitation, ill-planned houses that must become slums in a few years, old houses converted without necessary sanitary appliances and proper adaptation into tenements for many families, thus intensifying existing evils, streets of new tenements in the towns developed with the minimum of regard for amenity.

OVERCROWDING.

The last census showed that thousands of one-room houses continued to be occupied by families; that overcrowding reckoned even by the most moderate standard is practically universal in the one and two room houses; that, in spite of protest and administrative superintendence, domestic overcrowding of houses and overbuilding of areas have not been prevented. To our amazement, we found that, even if we take overcrowding to mean more than three persons per room, we should, to secure even this moderate standard for Scotland, have to displace some 284,000 of the population. But this is not all. We conclude that, at least, 50 per cent of the one-room houses and 15 per cent of the two-room houses ought to be replaced by new houses. In brief, merely to relieve existing overcrowding, and replace houses that should be demolished, some 121,000 houses are required, and, if an improved standard is adopted, as we recommend, the total number of new houses required would approach 236,000. For such gigantic figures our report submits full justification. On this point the commission is unanimous.

REASON FOR EXCESSIVE HOUSING INSUFFICIENCY AND LOW HOUSING STANDARD.

If it be asked how this enormous accumulation has occurred, one answer is: That the conditions of Scottish housing have never been adequately investigated. The Scottish inquiry by the Dilke Commission of 1885 was too limited in its scope. It is only now that the nation has had the means of discovering how far Scotland has been left behind, and by what poor standards the housing of her working classes has been measured. Our report, and the evidence it rests upon, will carry conviction to every disinterested person.

OBSTACLES TO HOUSING REFORM.

These, then, are the conditions that cry aloud for redress. But the path of reform is blocked by many obstacles: The failure of commercial enterprise to keep pace with housing needs, the failure of the local authorities, both of town and county, to appreciate the full value of their powers, the rapacity of property owners in their claims for compensation, the persistence of antiquated methods of arbitration, the absence of any definite basis for the assessment of compensation, the impotence of the arbiters to check speculative claims, the consequent enormous and deterrent expense of improvement schemes and reconstruction schemes, the impotence of the local authorities to control the prices of building sites within the city or of potential building land in the immediate neighborhood, the absence of a direct obligation on any authority to see that adequate housing is provided for the whole community, the inadequate size, area, and resources of many local authorities, the absence of powers to require combination of authorities, the consequent impossibility of effective enforcement of statutes by the central authority, the insufficiency of the central authority's

equipment, the unsatisfactory status of the central authority itself—these and their many derivative difficulties of procedure stand in the way of reform. Both commercial enterprise and municipal enterprise have failed to keep pace with the steadily rising demand for more and better house room.

COST AND ACQUISITION OF LAND.

To the various problems here named we have given earnest consideration. Above all, we adduce very definite views on the relation of land to housing. The question of the land is fundamental. If nothing is done to make it possible either for individuals or for public authorities to obtain building land at more reasonable prices than hitherto, housing reform will be paralyzed at the outset. If the methods of compulsory acquisition of lands, including land and other property, are not simplified, the exorbitant claims that have already stopped building schemes in the cities will continue to be raised. These two reforms are of primary urgency; our specific proposals we submit with every confidence.

OBLIGATION ON LOCAL AUTHORITIES FOR ADEQUATE HOUSING.

But there is an administrative point that is equally fundamental. From the national survey we have conducted, we are satisfied that, in the present unique disorganization of affairs the State alone, acting through the local authorities, can meet the present discontent. For the time being, commercial enterprise has failed to keep pace with the demand. The causes of the failure we have fully expounded. Doubtless the climax came with the war; the failure, however, had become manifest long before the war. But whatever its causes, the disorganization flowing from the war makes an immediate revival of uncontrolled commercial enterprise on an adequate scale impossible. There is, in our view, only one alternative: The State itself, through the local authorities, is alone in a position to assume responsibility. Here, then, is our primary point in procedure. Hitherto the local authorities, though their powers for the provision of houses are extensive, have for various reasons been restrained or have refrained from using them to any appreciable extent. We are satisfied that, if those powers are to be exercised on the scale necessary to realize the program we have set forth, the local authorities must be placed under an unmistakable obligation to maintain a continuous and systematic survey of their housing accommodation, to ascertain how far private enterprise can meet the demands, but failing provision of houses by other agencies, to undertake themselves—with financial assistance from the State—the necessary building schemes. Without such a definite obligation, exercised under direction of the central authority, we are satisfied that by no administrative machinery known to us, can the necessary houses be provided. For the double purpose of avoiding delay and assisting demobilization after the war, the consideration of building schemes should proceed at once. This matter broods no delay. For these strong conclusions we have given our detailed reasons in the body of the report.

CENTRAL AUTHORITY—ITS RELATION TO LOCAL ADMINISTRATIVE AUTHORITIES.

But if this obligation is to be made effective the local government board, as central authority, should be strengthened by an increase of its direct executive powers and an increase in its membership and staff. The nature of the extended powers is fully explained in the report, but one power we regard as of

primary importance, namely, the power to require the combination of existing authorities for all purposes of public health and housing. This poposal we make because it involves the least disturbance of existing authorities and because the urgency of housing should not be sacrificed to the prolonged discussion of elaborate reforms. On the other hand, we consider that the time has now come for a readjustment of public health and housing areas, and for a radical reconsideration of the relations between the various authorities in town and county. We are aware that proposals for a ministry of health are under consideration, but the proposals we now make are in no way inconsistent with larger proposals for the consolidation of health services, both local and central.

CENTRAL AUTHORITY TO BE A PRINCIPAL DEPARTMENT OF STATE.

In any such reforms, it is assumed, the Scottish ministry of health will be independent of an English ministry of health. But whatever form the new changes take, it is essential that the central authority for housing and public health should be elevated into a principal department of the State. At present the secretary of Scotland represents the local government board in Parliament not as president of that board, but as head of the Scottish office. This indirect responsibility to Parliament is not, in our opinion, compatible with the extended powers and increased responsibilities of the board. The local government board for Scotland should have at least the same parliamentary status as the Scotch Education Department.

THE ONE-ROOM HOUSE.

On one problem discussed in the report we desire to focus public attention, viz, the one-room house. That the one-room house is incompatible with decent or wholesome family life we have, we think, shown conclusively in our report. The policy adopted for dealing with the one-room house will determine, in large measure, the general housing policy of the country. That is why we have devoted to it a special chapter. In our opinion the time has now come when the Scottish nation should rid itself of the reproach of the one-room house. It is now time to say that, subject to the qualifications specified in our report, the one-room house must go.

OPPOSITION TO STATE SUBSIDIES TO SPECULATIVE BUILDERS AND OTHERS.

In our main specific suggestions for new policy we have, to our regret, not carried with us our colleagues of the minority. But we have given every consideration to their arguments; we have answered many of them directly or by anticipation, and in the remainder we have failed to find either any ground for a practical compromise or any reasons for altering the lines of policy we have laid down. If the present crisis is to be met in the way that Scotland, by her many sacrifices of life and treasure, has the right to expect, it can not be met either by a reversion to the building conditions of prewar days or by direct subsidies to employers of labor, landowners, and the speculative builders of to-day.

RESPONSIBILITY OF THE STATE.

For immediate and practical purposes we have suggested that for a period of 14 years, with an opportunity for revision at the end of 7 years, the State, in assuming full responsibility for housing, should operate through the local

authorities and should place upon them the responsibility of seeing to the provision of building. In our view the mere offer of financial assistance—to be taken or left—may stimulate some local authorities to a greater exercise of their present powers, but will not meet the situation, the urgency and gravity of which it would be difficult to exaggerate. To bear its full fruit, State assistance requires the imposition of definite obligations and the provision of simple and effective organization. In this latter connection we can not but look with strong disfavor on the proposals of the minority to create three new departments:

(1) An ad hoc board for the Outer Hebrides and Skye to supersede the central and local authorities.

(2) A special financial board to administer loans and grants which in our view would be more appropriately done by the central authority with their direct knowledge of housing requirements, and by the public works loan board, who are at present intrusted with the administration of loans, and by the Treasury, whose approval would be necessary to the distributions of grants.

(3) A special land court to assess the price of land taken for housing—with no definite basis of compensation laid down to guide them or limit their awards.

Such departments would in our opinion be expensive and useless additions to administrative machinery.

CONCLUSION.

Our national survey has revealed the set determination of the Scottish people to secure, for every class of the community, wholesome conditions of living. Their watchword is no longer limited to a healthy mind in a healthy body; rather it now is a healthy family in a healthy home. In this ambition they have our encouragement and support. From beginning to end our proposals are animated by the desire to see the housing of the Scottish people made more worthy of Scotland's great history as a nation.

MINORITY REPORT.

The four commissioners who sign the minority report declare that the house shortage is so acute as to require the cooperation of other agencies than the local authorities, who, it is pointed out, have hitherto supplied only 1 per cent of the necessary dwellings, although having all power to do so. Building funds, the minority believe, should come from as many sources as possible.

The minority members also deplore the tendency toward too great centralization of authority in housing matters, which they state the majority report features. They also emphasize the necessity of so administering State assistance during the period of reconstruction as to mark its emergency character.

WORKINGMEN'S SUBURB IN NEW SOUTH WALES.

The American consul general at Sydney, Australia, under date of August 30, 1917, reports that the Government of New South Wales has set aside 337 acres of Crown land in the suburbs of Sydney for

the purpose of erecting workingmen's cottages. Reservations have been made for roads, parks, and churches—for parks 32 acres, public schools and technical colleges 7½ acres, and churches 5¼ acres. There are also reservations for police stations and administrative buildings. The main roadway in the suburb will be 100 feet and the secondary highways 66 feet wide.

There are 211 acres reserved for cottages, which are now in course of construction, there being seven to each acre of land. Altogether there will be provided 1,437 cottages and 40 shops; and of this number 240 cottages and 6 shops have been completed. These cottages are built of brick or concrete, with tile or slate roofs. The cost of constructing each cottage ranges from £276 ($1,343) to £640 ($3,115). Each cottage will rent for from 12s. 6d. ($3.04) to 18s. 6d. ($4.50) per week.

LABOR LAWS AND COURT DECISIONS.

COURT DECISIONS ON LABOR QUESTIONS IN THE UNITED STATES.

An unusual array of important decisions is presented by the United States Bureau of Labor Statistics in its annual compilation of court decisions on labor questions, just published as Bulletin No. 224. A number of the decisions of the Supreme Court of the United States, handed down since December, 1916, are included in this bulletin, but for the most part the decisions were made in the calendar year 1916.

Most notable among the Supreme Court decisions, on account of the circumstances attending the enactment of the law construed by it, is the decision sustaining the constitutionality of the Adamson eight-hour law for trainmen in interstate commerce and declaring at the same time the right of Congress compulsorily to arbitrate disputes between the railroads and their employees for the benefit of the public.

The first broad decisions ultimately deciding the constitutionality of workmen's compensation laws are also noted in this volume. Although a number of State courts of last resort had passed upon laws of this type, it was not until the Supreme Court of the United States had given the seal of its approval that the matter could be considered as finally settled. In upholding the compulsory compensation law of New York and of Washington, the latter also providing for a compulsory State insurance fund, the farthest reach of compensation legislation has received judicial approval. The elective law of Iowa was likewise sustained.

Another important decision by this highest court was that sustaining the Oregon 10-hour day for factory employees without regard to sex or age—a marked reversal of position from the action of the same court in 1905 in holding the 10-hour law of New York applicable to bakeries unconstitutional; the power of the State to enact laws limiting the hours of service of adult males in private employment, as well as the hours of females and of children, is now recognized. The fixing of wages for women and minors under 18 is also a valid exercise of the police power according to another decision of this court, the Oregon minimum wage law being left undisturbed in its position of constitutionality as determined by the

supreme court of that State; on this point the Federal supreme bench was equally divided, one justice not voting.

Of hardly less interest than these decisions of the Supreme Court is the action of the court of last resort of the State of Massachusetts in declaring unconstitutional an act of that State which undertook to limit the issue of injunctions in labor disputes, declaring that injunctions should issue only when property rights are affected, and that labor is not property. The court took the view that this attitude excludes from the protection of the law those who have no other property than their right to work, and held that such a deprivation could not be effected by statute.

Besides the decisions of the Supreme Court on the subject of workmen's compensation, the bulletin contains numerous decisions and rulings by the State courts, questions of construction and constitutionality being involved. The Kentucky Court of Appeals, which had declared unconstitutional the workmen's compensation law of 1914, found the enactment of 1916 conformable to the tests of validity established by it; while the Supreme Court of Texas sustained the compensation law of that State in all points as against an opinion of a subordinate court that the provision was void which took from employees of accepting employers their option to accept or reject the act.

The point that continues and apparently will continue to furnish the greatest number of cases for determination is found in the phrase which appears in most of the compensation laws—"injury arising out of and in the course of employment." In the State of Washington, however, the law does not contain the limitation, "arising out of employment," so that discussion of this point is avoided, the supreme court of the State saying that the employee "is the soldier of organized industry, accepting a kind of pension in exchange for absolute insurance on his master's premises."

No less prolific of litigation is the Federal liability law covering railroads in interstate commerce, since not only must the employing company be an interstate carrier, but the injured person must at the time of his injury have been employed in interstate commerce; it is only when he is so employed that he can claim the benefits of the act, while, on the other hand, if so employed he is restricted to such recovery as that statute provides. With the wide extension of compensation legislation (now found in 37 States), there is constant contrast, not to say conflict, between the two classes of remedy, i. e., by compensation and by suits for damages; furthermore, as appears from a number of the cases discussed in this bulletin, it is frequently a practical impossibility to determine whether relief should be sought under the one law or under the other until the evidence has been

submitted to a jury and a verdict rendered. While therefore such a compilation of decisions, selected for their particular interest as illustrating the various legal phases of the labor question, possesses an attraction for every student of labor, it is of especial value as indicating those points in our legislative system which require attention, to the end that more certain and prompt adjustments may be made of the rights of the respective parties to labor contracts. At the same time certain boundaries are indicated which can not be passed without an alteration of constitutions, or at least of views of constitutional interpretation. Evidence is not lacking of changes in both these respects.

RECENT LABOR LAWS OF VENEZUELA.[1]

The Congress of Venezuela recently enacted legislation[2] providing for the safety and health of industrial laborers. The law requires that all workshops and establishments shall be kept in constant and perfect conditions of cleanliness, ventilation, and hygiene; and that all machinery, apparatus, and appliances used in such establishments, which may become the cause of bodily injuries, shall be safeguarded for the protection of health and life.

Eight and one-half hours shall constitute a day's work, except in cases where mutual agreements provide for a longer working period. Working days include every day in the year except those known as rest days, days declared national holidays, and January 1, Holy Thursday, and Good Friday.

The retention by any employer, owner, or director of any portion of the pay due an employee or laborer for the sustenance of any cult or for the benefit of any association is prohibited.

The President of the Republic and municipal authorities are vested with authority to issue regulations under this law.

[1] Gaceta Oficial. Estados Unidos de Venezuela, June 28, 1917.
[2] June 25, 1917; effective June 28, 1917.

ARBITRATION AND CONCILIATION.

CONCILIATION WORK OF THE DEPARTMENT OF LABOR, OCTOBER 16 TO NOVEMBER 15, 1917.

Under the organic act of the department, which gives the Secretary of Labor the authority to mediate in labor disputes through the appointment, in his discretion, of commissioners of conciliation, the Secretary exercised his good offices between October 16 and November 15, 1917, in 57 labor disputes. The companies involved, the number of employees affected, and the results secured, so far as information is available, were as follows:

STATEMENT SHOWING NUMBER OF LABOR DISPUTES HANDLED BY THE DEPARTMENT OF LABOR, THROUGH ITS COMMISSIONERS OF CONCILIATION SUBSEQUENT TO OCT. 15, 1917.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Strike, Chester Shipyards, Wilmington, Del.	156	.....	Adjusted.
Strike, General Processing Co., Philadelphia, Pa.	50	.....	Do.
Strike, Harlan & Hollingsworth Shipyards, Wilmington, Del.	900	.....	Do.
Strike, Springfield Woolen Mills, Springfield, Tenn.	47	250	Do.
Controversy, Savage Arms Corporation and its union machinists, Utica, N. Y.	65	.....	Do.
Controversy, Merrill-Stephens Shipbuilding Co. and its machinists, Jacksonville, Fla.	1,268	.....	Do.
Controversy, Great Northern R. R. Co. and its station employees, Sioux City, Iowa.	23	.....	Do.
Controversy, Southern Saddlery Co., Chattanooga, Tenn.	90	200	Pending.
Controversy, General Electric Co., Pittsfield, Mass.	48	6,000	Adjusted.
Strike, clerks, Atlantic Coast Line R. R. Co.	700	5,000	Pending.
Strike, American-British Manufacturing Co., Providence, R. I.	200	.....	Do.
Controversy and strike, Gulf Coast oil regions, as follows:			
Louisiana oil fields—			
Mooringsport	555		
Vivian	333		
Oil City	1,325		
Trees	425		
Goss	475	.....	Do.
Ged	325		
Edgerly	100		
Lensburg	325		
Shreveport	143		
Texas oil fields—			
Goose Creek	2,450		
Sour Lake	1,000		
Humble	825		
Damond's Mound	275		
Saratoga	209	.....	Do.
Batson	180		
Spindle Top	111		
Clemville	110		
Texas, teamsters and handy men	522	.....	Do.
Firms operating in Texas and Louisiana oil fields—			
Standard Oil Co.			
Atlas Oil Co.			
Caddo Oil Co.			
Gulf Refining & Production Co.			
Texas Oil Co.			

STATEMENT SHOWING NUMBER OF LABOR DISPUTES HANDLED BY THE DEPARTMENT OF LABOR, ETC.—Continued.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Controversy and strike, Gulf Coast oil regions—Concluded.			
Firms operating in Texas and Louisiana oil fields—Con.			
Producers Oil Co.			
Sims Sinclair Corporation.			
Sun Oil Co.			
Humble Oil Co.			
Republic Producing Co.			
Magnolia Petroleum Co.			
Arkansas Natural Gas Co.			
Reserve Gas Co.			
South Western Gas Co.			
Controversy, American Shipbuilding Co. and its boilermakers and helpers, Cleveland, Ohio.	85	1,725	Adjusted.
Strike, McCray Refrigerator Co., Kendallville, Ind.	214	300	Pending.
Controversy, Pacific States Telephone & Telegraph Co. and its electrical workers, involving California, Washington, Oregon, Idaho, and Nevada.	.....	.....	Do.
Controversy, railroad shopmen, Southern Pacific R. R. Co., Oakland, Cal. [Commissioners report as follows: "While there were a few men who went on strike at Oakland, it does not appear that any of the other shops were affected, and it does not look as if employees will work in such unison that they will materially affect the business of their employers. Actual number of employees who were to strike if concessions not granted vague and indefinite.]			
Controversy, flour mills, St. Paul and Minneapolis, Minn.	7	6,000	(1)
Controversy, C., B. & Q. R. R. Co. and its carmen, Aurora, Ill.	350	.....	Pending.
Controversy, metalliferous miners, Bingham, Utah	.....	.....	Adjusted.
Controversy, Pacific Steamship Co. and International Longshoremen's Union, San Diego, Cal.	90	60	Pending.
Threatened strike, blacksmiths, Texas Shipbuilding Co., Bath, Me.	24	[2] 1,400	Do.
Threatened strike, blacksmiths, Hyde-Windless Plant, Bath, Me.	22	[2] 600	Adjusted.
Threatened strike, blacksmiths, Bath Iron Works, Bath, Me.	15	[2] 1,500	Pending.
Controversy, Port Newark Terminal, Newark, N. J.	.....	.....	Do.
Strike, Watertown Arsenal, Boston, Mass.	.....	.....	Do.[3]
Controversy, longshoremen and employing stevedores, San Pedro, Cal.	240	250	Do.[4]
Controversy, Willys-Morrow Co., Elmira, N. Y.	25	.....	Do.
Controversy, Spreckels Bros. Commercial Co., San Diego, Cal.	110	40	Do.
Strike, painters, Wm. Cramp & Sons Ship & Engine Co., Philadelphia, Pa.	116	(5)	Adjusted.
Strike, Fore River Shipbuilding Co., Quincy, Mass.	3,500	1,000	Do.
Controversy, Kerr Turbine Co., Moore Turbine Co., Wellsville, N. Y.	350	.....	Unable to adjust
Controversy, oil and gas well workers and oil operators, California.	6,584	15,000	Pending.
Lockout, Sexton Garment Co., Princeton, Ind.	55	85	Do.
Controversy, General Aluminum & Brass Manufacturing Co., Detroit, Mich.	.....	.....	Do.
Controversy and walkout, Southern California iron and steel workers, Los Angeles, Cal.	100	.....	Do.
Strike, St. Louis Smelting & Refining Co., Collinsville, Ill.	420	.....	Unable to adjust
Strike, Thew Automatic Shovel Co., Lorain, Ohio	100	430	Adjusted.
Threatened strike, machinists, Cleveland, Cincinnati, Chicago & St. Louis R. R. Co. (Big Four), Indianapolis, Ind.	600	800	Pending.
Lockout, packing house employees, St. Joseph, Mo.	.....	.....	Do.
Strike, S. Slater & Sons Woolen Mills, Webster, Mass.	98	1,375	Adjusted.
Controversy, Mechanical crafts, Toledo and Cincinnati division, Baltimore & Ohio R. R. Co.	637	1,500	Pending.
Strike, carmen, Gulf & Ship Island R. R. Co., Gulfport, Miss.	.....	.....	Do.
Controversy, coal drivers, Jersey City, N. J.	.....	.....	Adjusted.
Controversy, Seaboard Air Line R. R. Co. and its laborers and helpers, southeastern States.	.....	.....	Pending.
Strike, freight handlers, Boston & Maine R. R. Co., and Boston & Albany R. R. Co., Boston, Mass.	400	(6)	Adjusted.
Strike, shopemployees, Morgantown & Kingwood R. R. Co., Morgantown, W. Va., to Morgantown and Kingwood Junction, W. Va.	67	.....	Do.

[1] Commissioner withdrew from case.
[2] Metal tradesmen.
[3] Men have agreed to return to work pending settlement of question causing strike.
[4] Men promised to continue work pending adjustment.
[5] Several hundred.
[6] Several thousand.

STATEMENT SHOWING NUMBER OF LABOR DISPUTES HANDLED BY THE DEPARTMENT OF LABOR, ETC.—Concluded.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Controversy, Kelley-Springfield Tire Co., Akron, Ohio	.....	.....	Pending.
Walkout, ship carpenters, McBride & Law Shipyards, Beaumont, Tex.	.....	.....	Do.
Controversy, Kling Bros. Engineering Co. and its iron molders, Chicago, Ill.	35	100	Do.
Strike, plumbers, New Jersey Shipbuilding Co., Gloucester, N. J.	55	500	Adjusted.
Threatened strike, shipyards, Orange, Tex.:			
International Shipbuilding Co.			
National Shipbuilding Co.			
Weaver & Son	.....	.....	Pending.
Southern Dry Dock & Construction Co.			
Orange Maritime Corporation			
Strike, firemen, Great Lakes Towing Co., Buffalo, N. Y.	.....	.....	Adjusted.
Strike, Crown, Willamette & Hawley Pulp & Paper Co., Oregon City, Lebanon, Oreg., and Camas, Wash.	.....	.....	Pending.
Strike, machinists, Burns Bros. Garage, N. Y.	.....	.....	Do.
Strike, Glenwhite Mine, Beckley, W. Va.	.....	.....	Do.
Strike, Nestor Manufacturing Co., New York	.....	.....	Do.
Strike, pipe fitters, American Shipbuilding Co., Cleveland, Ohio.	.....	.....	Do.

Cases in October statement noted as pending have been disposed of as follows:

Strike, boiler makers, Volk & Murdock's Boiler Shop, Charleston, S. C. Adjusted.

Strike, L. Wolff Manufacturing Co., Chicago. Unable to adjust.

Shipbuilding controversy, San Francisco. Temporarily adjusted.

Controversy, Loose-Wiles Co., Kansas City, Mo. Strike declared off.

Controversy, Curtiss Aeroplane Co. and its pattern makers, Buffalo, N. Y. Adjusted.

Controversy, Northern Pacific Railroad and its railway clerks and station employees. Adjusted.

Controversy, Columbus Oil Producing Co., Brea, Cal. Unable to adjust.

Lockout, machinists, Anniston, Ala. Adjusted.

General controversy, weavers, Philadelphia. 13 adjusted; 29 pending.

Strike, machinists, Symington Anderson Plant, Rochester, N. Y. Adjusted.

Controversy, jewelry employees and manufacturers, Newark, N. J. 10 adjusted; 8 pending.

Strike, velvet workers, American Velvet Co., Stonington, Conn. Adjusted.

Controversy, Texas & Pacific Railroad Co. and car department employees, Dallas, Tex. Adjusted.

Lockout, American Lace Co., Elyria, Ohio. Adjusted.

Strike, roofers, Los Angeles, Cal. Adjusted.

STRIKES AND LOCKOUTS.

STRIKES AND LOCKOUTS OCCURRING IN THE UNITED STATES DURING SEPTEMBER, 1917.

According to information received by the United States Bureau of Labor Statistics, 290 strikes and lockouts occurred in this country during the month of September, 1917. Inasmuch as many reports do not reach the bureau for many months after the strikes occur, it is believed the number of strikes in the country probably approached 450 in the month under consideration. For the corresponding month in 1916 the number reported to the bureau was 225. It should not be considered, however, that the number of strikes this year is twice that of last, for the facilities of the bureau in the collection of data have increased during that time. The number, nevertheless, seems to be in excess of that of last year. Complete data relative to these strikes have not been received by the bureau, and it has not been possible to verify what have been received. The figures given should therefore be understood to be only an advance statement and to be considered merely as approximate.

The more important strikes of the month were those of the workers in the shipyards on the Pacific coast, in which the number involved aggregated nearly 50,000; of the packing-house employees of Omaha and Kansas City, involving 10,000 persons; the general strike at Springfield, Ill., involving 8,000 persons; and the strikes of longshoremen at New York City, Norfolk, and New Orleans; the telephone workers in Arkansas and Oklahoma; the telegraphers on the Pennsylvania system; the clothing workers in New York City; the miners in Pennsylvania and Ohio; the steel workers in Pittsburgh; and the switchmen in South Chicago and Gary.

The data in the following tables relate to the 283 strikes and 7 lockouts reported to have occurred in the month of September, 1917:

STATES IN WHICH FIVE OR MORE STRIKES AND LOCKOUTS WERE REPORTED AS OCCURRING IN SEPTEMBER, 1917.

State.	Strikes.	Lockouts.	Total.	State.	Strikes.	Lockouts.	Total.
New York	47	2	49	Washington	8	1	9
Pennsylvania	30	.....	30	Louisiana	8	.....	8
Missouri	21	.....	21	Texas	8	.....	8
Ohio	21	.....	21	Connecticut	7	.....	7
Illinois	15	.....	15	Virginia	5	.....	5
Massachusetts	15	.....	15	Wisconsin	5	.....	5
New Jersey	12	1	13	22 other States	51	3	54
Arkansas	10	.....	10				
Oregon	10	.....	10	Total	283	7	290
Rhode Island	10	.....	10				

Of these disputes 171 strikes and 3 lockouts occurred east of the Mississippi and north of the Ohio and Potomac Rivers; 91 strikes and 2 lockouts west of the Mississippi; and the remaining 21 strikes and 2 lockouts south of the Ohio and Potomac Rivers and east of the Mississippi.

As to sex, the distribution was as follows: Males, 220 strikes and 5 lockouts; females, 21 strikes and 1 lockout; both sexes, 15: not reported, 27 strikes and 1 lockout.

The industries in which four or more strikes and lockouts were reported were as follows:

NUMBER OF STRIKES AND LOCKOUTS IN SPECIFIED INDUSTRIES REPORTED AS OCCURRING IN SEPTEMBER, 1917.

Industries.	Strikes.	Lockouts.	Total.	Industries.	Strikes.	Lockouts.	Total.
Clothing	40	2	42	Street and paving	5	.....	5
Railroads	22	.....	22	Glass working	4	.....	4
Building trades	19	.....	19	Lumbering	4	.....	4
Mining	19	.....	19	Meat cutting and butchering	4	.....	4
Metal trades	15	2	17	Musicians and theatrical employees	4	.....	4
Telegraph and telephone	15	.....	15	Waiters and cooks	4	.....	4
Textiles	14	.....	14	Tobacco	3	1	4
Shipbuilding	13	.....	13	Miscellaneous	51	1	52
Street railways	13	.....	13	Not reported	1	.....	1
Iron and steel	10	1	11				
Teaming	8	.....	8				
Express companies	5	.....	5	Total	283	7	290
Longshoremen	5	.....	5				
Munitions	5	.....	5				

Included in the above are 6 strikes of carpenters, 6 of machinists, and 5 of tailors.

In 176 strikes and 5 lockouts the employees were reported as connected with unions; in 23 strikes and 2 lockouts they were not so connected; the remaining 84 strikes were not reported. In but 3 strikes were the employees reported as connected with the I. W. W.

The following table shows the causes of the strikes and lockouts in so far as reported. In about two-thirds of the strikes the question of wages or hours or both was prominent; in 16 per cent the question of the recognition of the union in some way was involved.

PRINCIPAL CAUSES OF STRIKES AND LOCKOUTS REPORTED AS OCCURRING IN SEPTEMBER, 1917.

Causes.	Strikes.	Lockouts.	Total.	Causes.	Strikes.	Lockouts.	Total.
For increase of wages	104	1	105	Recognition and hours	1	.....	1
Because of decrease of wages	2	.....	2	Recognition, wages, and hours	4	.....	4
Because of nonpayment of wages	2	.....	2	To compel discharge of foreman	5	.....	5
For decrease of hours	5	1	6	Because of discharge of employees	16	.....	16
For increase of wages and decrease of hours	30	.....	30	Because of presence of nonunion men	4	.....	4
General conditions	6	.....	6	In regard to agreement	17	.....	17
Conditions and wages	5	.....	5	Sympathy	9	.....	9
Conditions and hours	1	.....	1	Jurisdiction	1	.....	1
Conditions, wages, and hours	1	.....	1	Miscellaneous	8	.....	8
Recognition of the union and closed shop	17	4	21	Not reported	29	1	30
Recognition and wages	16	.....	16	Total	283	7	290

In 171 strikes the number of persons involved was reported to be 147,349, an average of 862 per strike. In 31 strikes, in each of which the number involved was 1,000 or more, the strikers numbered 120,387, thus leaving 26,962 involved in the remaining 140 strikes, or an average of 193 in each. In 4 lockouts the number reported to have been involved was 705.

In 211 strikes and 5 lockouts only one employer was concerned in each disturbance; in 8 strikes, two employers; in 7 strikes, three; in 15 strikes and 1 lockout, more than three; in 42 strikes and 1 lockout the number of employers was not reported.

One hundred and sixty-one strikes and 3 lockouts were reported as ending in September. Of this number, 112 strikes and 2 lockouts began in September and 49 strikes and 1 lockout began in former months. Of these, 66 strikes and 1 lockout were reported as terminating in favor of the employees, 19 strikes and 1 lockout in favor of the employers, 41 strikes and 1 lockout were compromised, in 16 strikes the men returned to work under promise of the employer to arbitrate the matter in dispute, while in 19 strikes the result was not reported. The duration of 127 of these strikes was given as follows: Less than 1 day, 11; 1 day, 5; 2 days, 20; 3 days, 18; 4 days, 8; 5 to 7 days, 14; 1 to 2 weeks, 24; 2 to 3 weeks, 8; 3 weeks to 1 month, 9; 1 to 6 months, 10. The number of days lost was 1,701. Average duration of these strikes was less than 13½ days. The average duration of the 117 strikes that lasted less than one month was about 7⅓ days.

It is impossible to state how many strikes were in progress at the end of the month. The bureau has a record of the ending in October of 21 of the strikes that started in September. It has a record of 268 others that started before the month of September that are still known to be pending. It is believed, however, that the number pending is much larger than these figures would indicate.

STRIKES AND LOCKOUTS IN GERMANY, 1916.[1]

Statistics of strikes and lockouts during the year 1916 have recently been published as volume 232 of the Statistics of the German Empire (Statistik des Deutschen Reiches). The principal facts given in this volume are the following:

The number of labor disputes reported during the year 1916 is considerably greater than the number reported since the outbreak of the war up to the end of 1915. A total of 240 strikes with 124,183 striking workers were reported for 1916, 225 of these strikes being offensive strikes and 15 defensive strikes. No lockouts took place

[1] Bremer Bürger-Zeitung. Bremen, Aug. 6, 1917.

during the year. For the first five months of the war (August to December, 1914) only 26 strikes with 2,084 strikers were reported, and the statistics for 1915 show a total of 137 strikes and four lockouts with 124,183 striking or locked-out workers. Nevertheless the number and intensity of the strikes of 1916 appear very insignificant if compared with the data of the strike statistics of peace times. In 1913, for instance, 2,127 strikes and 337 lockouts with 311,048 participant workers were officially reported.

The real extent of labor disputes is best indicated by the number of working days lost, which is obtained by multiplying the number of striking or locked-out workers with the duration of the disputes. During the year 1913 the number of working days lost was 11,190,497; in 1914 it fell to 2,843,895; in 1915 (the first full year of the war) it fell still more, namely, to 45,511, and during 1916 it rose to 245,404, or one-fortieth of the number of days lost in 1913. In 1916 labor disputes were most extensive in the metal working and machinery industry, i. e., in those industries which now are essentially war industries. The number of strikers in these two industry groups was 65,081, or more than half of the total number of strikers. The next largest number of strikers, namely, 44,166, is reported for the mining industry. All other industry groups participate, with small numbers of strikers.

As to the result of the strikes, only 2.4 per cent terminated with full success for the strikers; 55.1 per cent were partly successful, while 42.5 per cent were unsuccessful. The corresponding percentages for the preceding year were 12.0, 51.7, and 36.3, i. e., much more favorable to the strikers. The majority of the labor disputes of 1916 were caused by demands for wage increases.

IMMIGRATION.

IMMIGRATION IN AUGUST, 1917.

The number of immigrant aliens admitted to the United States during the year 1916 was 355,767, as compared with 258,678 for the year 1915, an increase of 97,089, or 37.5 per cent. There was also an increase from month to month during 7 of the 12 months in 1916. During the current year the figures for the first three months show a considerable decrease from month to month. The decrease from the preceding month for January, February, and March, 1917, is 19.9, 22.3, and 19.4 per cent, respectively. For April, however, the number of immigrant aliens admitted shows an increase of 32.3 per cent over the number admitted in March. As compared with April, the figures for May show a decrease of 48.9 per cent. The figures for June indicate an increase of 5.5 per cent over those for May. During July immigration reached a very low point, only 9,367 immigrant aliens having been admitted, a total even smaller than that for May, which was the smallest total for any month in many years. As compared with figures for July, however, those for August show an increase of 7.3 per cent. These facts are brought out in the following table:

IMMIGRANT ALIENS ADMITTED INTO THE UNITED STATES IN SPECIFIED MONTHS, 1913 TO 1917.

Month.	1913	1914	1915	1916	1917	
					Number.	Per cent increase over preceding month.
January	46,441	44,708	15,481	17,293	24,745	[1] 19.9
February	59,156	46,873	13,873	24,740	19,238	[1] 22.3
March	96,958	92,621	19,263	27,586	15,512	[1] 19.4
April	136,371	119,885	24,532	30,560	20,523	32.3
May	137,262	107,796	26,069	31,021	10,487	[1] 48.9
June	176,261	71,728	22,598	30,764	11,095	5.5
July	138,244	60,377	21,504	25,035	9,367	[1] 15.6
August	126,180	37,706	21,949	29,975	10,047	7.3
September	136,247	29,143	24,513	36,398	.....	.....
October	134,440	30,416	25,450	37,056	.....	.....
November	104,671	26,298	24,545	34,437	.....	.....
December	95,387	20,944	18,901	30,902	.....	.....

[1] Decrease.

Classified by races, the number of immigrant aliens admitted into and emigrant aliens departing from the United States during August, 1916 and 1917, was as follows:

IMMIGRANT ALIENS ADMITTED AND EMIGRANT ALIENS DEPARTED FROM THE UNITED STATES, AUGUST, 1916 AND 1917.

Race.	Admitted.		Departed.	
	August, 1916.	August, 1917.	August, 1916.	August, 1917.
African (black)	606	517	109	96
Armenian	202	19	39	355
Bohemian and Moravian	25	10	2	6
Bulgarian, Servian, Montenegrin	110	13	10	342
Chinese	145	151	192	243
Croatian and Slovenian	39	3	.....	.....
Cuban	488	175	144	81
Dalmatian, Bosnian, Herzegovinian	8	7	.....	.....
Dutch and Flemish	741	103	96	41
East Indian	13	8	2	3
English	3,042	992	607	1,084
Finnish	452	234	47	173
French	1,874	699	256	738
German	912	166	53	64
Greek	4,767	781	599	394
Hebrew	1,344	417	37	138
Irish	1,502	445	218	286
Italian (north)	297	99	849	80
Italian (south)	3,964	600	1,732	222
Japanese	366	1,055	44	165
Korean	2	15	.....	7
Lithuanian	38	7	2	4
Magyar	47	2	9	1
Mexican	2,222	160	58	39
Polish	445	5	32	1
Portuguese	1,084	65	129	36
Roumanian	66	549	8	602
Russian	315	22	576	7
Ruthenian (Russniak)	197	129	1	988
Scandinavian	2,058	2	381	3
Scotch	1,176	1,129	95	526
Slovak	13	387	5	306
Spanish	765	.....	201	2
Spanish-American	208	728	53	348
Syrian	105	246	12	63
Turkish	39	17	2	22
Welsh	66	.....	20	3
West Indian (except Cuban)	94	33	37	36
Other peoples	138	39	127	29
Not specified	.....	18	902	35
Total	29,975	10,047	7,686	7,569

PUBLICATIONS RELATING TO LABOR.

OFFICIAL—UNITED STATES.

KANSAS.—*Department of Labor and Industry. Report on coal-mine accidents. Topeka, 1917. 67 pp.*

Devoted almost exclusively to a report, including testimony taken, on two coal-mine disasters, in one of which 20 men lost their lives; in the other, two were suffocated. During the year 1916, 54 fatal accidents occurred in coal mines, the largest number, 19, or 35.2 per cent, being caused by falls of rock. Of 1,015 nonfatal accidents, 305, or 30 per cent, were due to cars, 250, or 24.6 per cent, to falls of rock, and 245, or 24.1 per cent, to miscellaneous causes. The report tabulates fatalities in coal mines from January 1, 1900, to January 1, 1917, showing a total of 529, of which 248, or 46.9 per cent, were caused by falls of roof or slate, while 119 men, or 22.5 per cent, met their death while firing shots. On account of the disasters mentioned above, the record for 1916 is the largest of any year during the 17-year period.

MASSACHUSETTS.—*Bureau of Statistics. Forty-seventh annual report of the statistics of labor for the year 1916. Public Document No. 15. Boston, 1917. Six parts in one volume. 59, 103, 60, 83, 254, 59 pp.*

The various parts comprising this volume have been issued as labor bulletins, and include (1) Fifteenth annual directory of labor organizations in Massachusetts, 1916 (see MONTHLY REVIEW for August, 1916, p. 94); (2) Sixth annual report on union scale of wages and hours of labor in Massachusetts, 1915 (see MONTHLY REVIEW for September, 1916, p. 102); (3) Rates of wages and hours of labor in steam and electric railway service in Massachusetts (see MONTHLY REVIEW for October, 1916, p. 93); (4) Labor legislation in Massachusetts, 1916 (see MONTHLY REVIEW for January, 1917, p. 158); (5) Labor injunctions in Massachusetts (see MONTHLY REVIEW for May, 1917, p. 795); (6) Eighth annual report on labor organizations for the year 1915 (see MONTHLY REVIEW for July, 1917, p. 162).

—— *Fourth annual report of the State Board of Labor and Industries, January, 1917. Boston, 1917. 197 pp.*

That portion of this report which relates to industrial health and occupational diseases is noted on pages 202 to 204 of this issue of the MONTHLY REVIEW.

MICHIGAN.—*Department of Labor. Thirty-fourth annual report. Lansing, 1917. 627 pp.*

Although not stated, the statistics indicate for the most part that this report covers the calendar year 1916. The commissioner comments on "the phenomenal growth of the industries of our State," noting the fact that during the year covered by the report there was an increase of 104,272 wage earners over the number employed during the preceding year in the factories and workshops of the State. It is recommended that the fire marshal and the commissioner of labor be designated and empowered to prepare standard specifications for all fire escapes to be used throughout the State; that the industrial accident board be authorized to establish an office in each of the industrial cities of the State

where injured workers may apply for information as to their rights under the law; that legislation should be enacted fixing, for all male employees, the number of hours which shall constitute the standard workday, the provision of the present 54-hour law affecting certain classes of female employees being extended so as to include all female employees and all males as well; that a special legislative committee be appointed to investigate and report on the employment situation throughout the State; and that a more liberal appropriation be made available to carry on the work of the free employment bureaus. The commissioner believes "that the security of a position or job should not be the subject of barter and exchange," and that those desiring work should be furnished information free and as expeditiously as possible as to where it can be secured. To this end five additional free employment offices were established during the year, "and so steadily has the business increased that last year we succeeded in furnishing nearly double the number of positions which we had furnished the year previous, and at the amazingly low cost of a fraction over 13 cents each." The number of positions secured, according to the report, was 104,048.

The report tabulates 191 accidents in 15 coal mines, 2 of the accidents being fatal, 13 serious, 66 severe, and 110 slight.

During the year 14,692 factories and workshops were inspected, the number of workers employed being 557,537, wages being paid to 543,442. The aggregate wages paid was $1,515,171.06 and the average daily wage was $2.78. The number of girls under 16 years of age employed was 550, their average daily wage being $1.01, and the number of boys under 16 years of age employed was 1,106, their average daily wage being $1.17.

MICHIGAN.—*Annual report of the inspector of mines, Marquette County, for the year ending September 30, 1917.* [*Ishpeming, October 1, 1917.*] *19 pp.*

Gives details of 15 fatal accidents, 5 of which were caused by falls of rock or ore from roof or wall, and 4 by falling down shafts; 2 were surface accidents. There were 21 serious and 29 slight accidents. Of 117 mines in the county, 35 were in operation, employing 5,569 men. The accident rate per 1,000 employees was 2.69.

MINNESOTA.—*Department of Labor and Industries. Bulletin No. 14. Court decisions, attorney general's opinions, Department of Labor opinions, relative to the workmen's compensation act. St. Paul, September, 1917. 49 pp.*

Contains decisions on the following subjects: Determination of compensation; dependency; employments covered by compensation act; injuries, when covered by act; limitations, when effective; medical; procedure; territorial scope of act; third party cases; computation of wages; words and phrases.

NEW JERSEY.—*Department of Labor. Thirty-ninth annual report of the Bureau of Industrial Statistics for the year ending October 31, 1916. Trenton, 1917. 275 pp.*

The thirty-ninth annual report of the bureau of industrial statistics of the New Jersey Department of Labor is presented in three parts included in one volume, giving (1) the statistics of manufactures; (2) a report and analytical review of steam-railroad operations in the State, with particular reference to labor conditions as regards the working time and wages of all classes of labor employed; and also a compilation of prices of a selected list of food supplies based on reports from retail dealers representing all cities, towns, and rural centers of the State; (3) a comprehensive presentation of current industrial history as shown by the erection of new buildings for industrial purposes and the enlargement of old establishments; changes in working hours and wages; industrial property destroyed by fire; organization of trade and labor unions; and a detailed record of strikes and lockouts.

PENNSYLVANIA.—*Department of Labor and Industry. Monthly bulletin, June, 1917. Harrisburg, 1917. 54 pp.*

The leading article in this issue is the report of an investigation of the health of 400 tobacco workers, preceded by a statement of the establishment by the Department of Labor and Industry, in cooperation with the University of Pennsylvania, of a clinic for the study of occupational diseases. Reports by the bureaus of statistics and information and of workmen's compensation show that 1,032 workers were killed during the first four months of 1917, and that 82,044 other workers were injured; that during the same period compensation amounting to $1,529,932.55 was awarded to dependents of workers killed, and $816,159.01 to workers disabled. Records of accidents during 1916 show a total of 255,616, of which 2,670 were fatal. Industrial accidents caused workers to lose time equivalent to 3,025,371 working days, the total amount of wages lost being $7,535,059. Approximately 23.4 per cent of the accidents caused disabilities exceeding 14 days in duration.

UNITED STATES.—*Congress. Senate. Document No. 84. British Labor's War Message to American Labor. Addresses and discussions at a meeting of the committee on labor of the Council of National Defense, held in Washington, D. C., on May 15, 1917. Washington, 1917. 100 pp.*

The addresses and discussions appearing in this pamphlet present in concise form, from authoritative sources, detailed information relative to the industrial problems which Great Britain has been called upon to face by reason of the war and the methods that have been employed for their adjustment. The purpose of the meeting of the committee on labor of the Council of National Defense, at which the addresses were given, was to afford an opportunity for American labor to receive the benefit of and profit by the British experience in meeting industrial problems. There were about 200 members and guests present, representing all phases of our industrial and civic life, and "the addresses and discussion proved of extraordinary practical value, both from the standpoint of industrial justice and of the highest patriotism."

—— —— *House. Committee on Interstate and Foreign Commerce. Hearings on H. R. 5723, to amend the Bureau of Insurance act so as to insure the men in the Army and Navy. August 11, 1917. Washington, 1917. 29 pp.*

Included in this pamphlet is a copy of the proposed amendment, which, with certain changes, subsequently became a law, and a copy of the letter by the Secretary of the Treasury to the President outlining the purposes of the amendment.

—— *Department of the Interior. Bureau of Mines. Advanced first-aid instruction for miners: a report on standardization. Washington, 1917. 154 pp.*

This publication, prepared with the assistance of the Red Cross, is an effort to standardize first-aid practices as applied by the Bureau of Mines rescue corps. It is intended to be used as a textbook for the guidance of the bureau's teachers, and is also to serve as a guide and reference book to miners and others.

—— —— —— *Control of hookworm infection at the deep gold mines of the mother lode, California, by Dr. James G. Cumming and Joseph H. White. Bulletin 139. Washington, 1917. 52 pp. Illustrated.*

The United States Bureau of Mines, working with the California State Industrial Accident Commission and the State board of health, has made an investigation of hookworm infection in the deep gold mines of the mother lode in California, a report of which appeared in July, 1917, under the above title.

In this investigation an examination of 1,096 miners from 8 mother lode mines revealed 337 cases (31 per cent) of infection, by far the largest proportion being among miners working underground. But little attention was given

to determining the source of the infection, the important fact to be faced being that it is present in these mines and ought to be eradicated.

The investigation showed that the skip tenders and bosses and repair men are more liable to infection than the miners and the muckers and car men; also that the proportion of infection is greatest among Austrian workers and least among Italian workers, no satisfactory explanation of this fact being given.

The report includes recommendations for the prevention of hookworm infection, applicable primarily to the mother lode workers, but containing suggestions of practical value to operators of other mines where hookworm infection may appear.

OFFICIAL—FOREIGN COUNTRIES.

AUSTRALIA.—*Bureau of Census and Statistics. Labor and Industrial Branch. Report No. 7. Prices, purchasing power of money, wages, trade-unions, unemployment, and general industrial conditions, 1916. Melbourne, 1917. pp. 333–586.*

Portions of this report are noted on pages 131, 142, and 143 of this issue of the MONTHLY REVIEW.

—— (VICTORIA).—*Report of the registrar of friendly societies, for the year 1916. Melbourne, 1917. 4 pp.*

DENMARK.—*Sygekasseinspektørens. Indberetning til Indenrigsministeriet for aaret 1916. Copenhagen, 1917. 36 pp.*

The annual report of the inspector general of sickness insurance funds for the year 1916, presented in two parts, one covering the operations of recognized sickness insurance funds, and the other the operations of funds entirely subject to Government supervision. Shows the number of funds, the number of persons insured, and the number receiving benefits; also a statement of receipts and expenses.

FRANCE.—*Ministères du Travail et de la Prévoyance Sociale, de la Guerre et de l'Interieur. Office National des Mutilés et Réformés de la Guerre. Bulletin No. 1 (Extraits) Année 1916. Paris, 1917. 69 pp.*

The National Office for Soldiers Maimed and Invalided in the War (*Office National des Mutilés et Réformés de la Guerre*) was created by a joint decree of the ministers of war, interior, and labor, under date of March 2, 1916. Its object is to coordinate public and private effort and to bring together information for the purpose of facilitating the return of war invalids to active life under conditions most advantageous to the welfare of all concerned. The office comprises (1) an administrative committee in charge of general questions and the centralization of information relating to war invalids, (2) a commission of reeducation to give advice on technical questions of reeducation and on the granting of subsidies for reeducational centers, and (3) an advisory board whose purpose is to safeguard the general interests of the men. The national office unites in a common work the departmental and local committees organized in the various departments.

The bulletin discusses in detail the purpose, organization, and program of the national office and the departmental committees for the reeducation, employment, and support of the war invalid. Included there are reprints of laws passed and a summary of proposed legislation on the subject and a list of departmental committees and schools of reeducation, which indicates the number of pupils that can be accommodated and the occupations taught.

A study based on this bulletin and such additional information as can be obtained, will appear in a future issue of the MONTHLY REVIEW.

GREAT BRITAIN.—*County Borough of Salford. Annual report of the medical officer of health for the year 1916. Manchester and London, 1917. 190 pp.*

GREAT BRITAIN.—*Home Office. Mines and quarries. General report with statistics for 1916. Part I: Divisional statistics and reports. London, 1917. 63 pp.*

Notes a total of 998,063 persons employed in and about 2,847 coal mines in Great Britain and Ireland; 19,455 employed in and about 468 metalliferous mines in Great Britain, Ireland, and the Isle of Man; and 48,196 employed in and about 5,476 quarries (more than 20 feet deep) in the three places mentioned. The statistics of fatalities are as follows:

NUMBER OF MEN EMPLOYED AND NUMBER KILLED IN MINES AND QUARRIES IN 1916, SHOWING FATALITY RATES IN 1916 AS COMPARED WITH 1915.

Item.	Number employed.	Accidents.	Fatality rates.	
			1916	1915
Coal mines	998,063	1,313	1.32	1.36
Metalliferous	19,455	23	1.18	1.06
Quarries	48,196	58	1.20	1.19

——*Local Government Board. Forty-sixth annual report of the Local Government Board, 1916–17. London, 1917. 3 pts. in 1 (59 pp.).*

On account of the war the report, it is stated, is much abbreviated. The report of a year ago noted a continued diminution in the activities of the local authorities in housing matters, a remark which applies with even greater force to the year under review.

The board sanctioned loans to 11 local authorities during the year, to the amount of £58,531 ($284,841.11). This is only one-twentieth of the loans sanctioned in 1914–15. Five of the 11 loans, amounting to £55,712 ($271,122.45), were for war requirements, and would make possible the erection of 218 houses.

——*Ministry of labor. Agreements between employers and workpeople with regard to the substitution of female for male labor in industries other than the manufacture of munitions reported to the Ministry of Labor up to May 1, 1917. 48 pages.*

Copies of agreements regulating the substitution of female for male labor in 23 industries, ranging from gold, silver, and electroplating to cooperage and brass manufacture. The earliest, signed May 12, 1915, is a very brief and informal agreement that manufacturers of china and earthenware who engage women to fill the places left vacant by men going to the war shall employ them at the same wages and under the same conditions as those of the men whose places they fill, with the distinct understanding that the men on their return shall have the first claim on their old places. The later agreements become increasingly precise as to the extent to which women may be introduced, the kind of work they may do, and the wages they are to receive. Also, they become more insistent that women are not to be employed on any other ground than the impossibility of securing men. It is a frequent provision that women shall be employed in place of men only "where and for so long as it is not possible to obtain competent male labor."

Very generally it is provided that the women thus engaged shall hold their positions only while the scarcity of men persists. In a few cases three or six months are allowed after the declaration of peace for the dismissal of female workers employed under these agreements, but more often it is expressly stated that the agreement is an emergency measure to be effective only during the continuance of the present war.

In the larger industries there are carefully worked out scales of wages which the women are to receive. Where such scales are not agreed upon it is usually stated that they shall be paid the same wages "as are now paid to males for

an equivalent quantity of work." Little effort is apparent to safeguard their health, though it is sometimes stipulated that they are not to be employed in occupations for which they are not physically fit. There is a conspicuous failure to provide that membership in a trade-union shall be a condition of employment for women substitutes. One binders' union stipulates that in employing women preference shall be given those who belong to the union, and in another agreement it is provided that women engaged in making clay tobacco pipes shall within one month after employment join the national union; apart from these two instances the subject is ignored.

GREAT BRITAIN.—[*National Health Insurance.*] *National Insurance Acts. Handbook for the use of approved societies (Irish edition). Dublin, 1917. 317 pp. Price, 1s. 9d., net.*

The announced purpose of this volume is to provide the officers of approved societies with a book of reference to which they can turn for information on procedure and for assistance in the application of the provisions of acts and regulations. It is believed that complaints will be considerably reduced if in any difficulty which may arise a member's rights and duties are explained to him.

—— *Substitution of women for men. Tabular reports by H. M. Inspectors of Factories showing the present position in industries other than munitions industries. January, 1917.*

Reports on 31 industries, showing to what extent women have been substituted for men, on what processes they are working, how far these processes are considered suitable for them in normal times, the amount of training required, and any reasons militating against their employment. The extent of substitution seems greatest in industries in which before the war women were but little employed.

INDIA.—*Government of Madras. Home Department (Judicial). Factories Report, 1916. Madras, July 17, 1917. 15 pp.*

Reports a total of 460 factories subject to the Indian Factories Act, 1911, employing a daily average of 91,415 operatives, an increase of 6,996 over 1915. Approximately 25 per cent of those employed were women and children. The daily wages paid to the main classes of labor in factories in the Presidency ranged from 1 rupee 4 annas 8 pie (41.9 cents), paid to engine drivers, to 4 annas 6 pie (9.1 cents), paid to messengers. There were 420 accidents (15 being fatal), the accident rate per 100 operatives employed being 0.46. The number of accidents is an increase of 23.5 per cent over 1915.

SCOTLAND.—*Royal commission on housing in Scotland. Report of the royal commission on the housing of the industrial population of Scotland, rural and urban. Edinburgh, 1917. 460 pp. (Cd. 8731.) Price, 4s.*

A review of this report appears on pages 229 to 234 of this number of the MONTHLY REVIEW.

UNOFFICIAL.

ALEXANDER HAMILTON INSTITUTE. *Business and the war: An investigation of the ability of America's industries to serve the Government and care for the needs of private consumers during the war. New York, Alexander Hamilton Institute, 1917. 46 pp.*

A survey of American trade and industry immediately before and since the outbreak of the war. In an appendix is a detailed list of war orders by the United States from the time of our entrance into the conflict up to July 31, as far as such information is available. Eight pages of the booklet are devoted to the effects of the war upon business in Canada.

BOYCE, W. SCOTT, Ph. D. *Economic and social history of Chowan County, N. C., 1880–1915. New York, Columbia University, 1917. 293 pp.*

CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING. *Federal aid for vocational education. By I. L. Kandel. Bulletin No. 10. 576 Fifth Avenue, New York City. [1917.] 127 pp.*

Gives the legislative history of Federal aid for vocational education, a statement of constitutional and educational precedents upon which vocational education is based, and brief chapters on recent movements for Federal grants for education, land-grant colleges, and students of agriculture, and an outline of the curricula of agricultural colleges.

COLE, G. D. H., AND ARNOT, R. PAGE. *Trade-unionism on the railways: Its history and problems. London, Allen & Unwin, 1917. 147 pp. Price, cloth, 2s. 6d.; paper, 1s. Fabian Research Department, Trade-union series No. 2.*

This book was planned and partly written in 1913–14, but has been thoroughly revised and now constitutes a comprehensive study of trade-unionism on the railways of Great Britain from its earliest history to the spring of 1917. Trade-unionists in every industry are looking forward to the problems which will confont them after the war. "The organized railway workers have an enviable chance of leading the way for the whole trade-union movement and for this they have need to equip themselves with the fullest possible knowledge of their industry and of its organization."

DE VESSELITSKY, V. *The home worker and her outlook: A descriptive study of tailoresses and box makers. London, G. Bell & Sons, 1916. 118 pp. Price, 2s. net. Ratan Tata Foundation (University of London), Studies in the minimum wage, No. 4.*

The object of this study is to supplement earlier reports on the working of the British Minimum Wage Act of 1909 by examining its effect upon home workers in the London tailoring and box-making industries.

ELLINGER, BARNARD. *Productivity of labor after the war. Leeds (Eng.), Inman & Sons, 1917. 24 pp. Price, 6d.*

A paper read before the Bankers' Institute, Manchester, England, in January, 1917.

JACKSON, D. D., AND BUSWELL, A. M. *Disinfection of tannery wastes. In Journal of the American Leather Chemists' Association, June, 1917. pp. 229–253.*

About two years ago an epidemic of anthrax was said to have been caused by the infection of meadows by the waste from a tannery. The authors were requested to investigate the subject and devise means for treating the effluent from the tannery which would prevent the possibility of any further spread of infectious matter. The investigation showed that anthrax was at times present in the factory effluent. Accordingly laboratory experiments were carried out with various disinfectants to determine what was the most effective and least expensive method of treating the sewage.

The results of these experiments are summarized in the article under review. As far as the authors are aware the installation described is "the only one where disinfection of a tannery effluent for the prevention of spread of anthrax has been attempted on a large scale and over a long period." Though on six occasions anthrax has been found in the raw sewage, at no time since the installation was complete—a period of 14 months—has it been found in the treated sewage.

MILLER, JOSEPH DANA, ED. *Single tax yearbook (quinquennial): The history, principles, and application of the single-tax philosophy. New York, Single Tax Review Publishing Co., 1917. 460 pp. Bibliography.*

NATIONAL CANNERS' ASSOCIATION. *Canners' directory and lists of members of the Canning Machinery and Supplies Association and the National Canned Foods and Dried Fruit Brokers' Association. Washington, D. C., 1739 H Street, 1917. 170 pp.*

NATIONAL CHILD LABOR COMMITTEE. *Federal aid to elementary education. A reprint from The Child Labor Bulletin, May, 1917. 105 East 22d Street, New York City. 12 pp.*

Contains two articles, one by John Dewey, of Columbia University, and the other by Hon. P. P. Claxton, United States Commissioner of Education.

—— *The rural child-labor problem. By A. C. Monahan. A reprint from The Child-Labor Bulletin, May, 1917. 105 East 22d Street, New York City. 8 pp.*

REA, SAMUEL. *How the States can cooperate in the efficient national regulation of railroads. Philadelphia, Allen, Lane & Scott, 1917. 30 pp.*

An address by the president of the Pennsylvania Railroad system before the National Association of Railroad Commissioners, at Washington, D. C., in October of the present year, on the pressing need for the cooperation of the State commissions with national agencies.

RECALLED TO LIFE, No. 2, SEPTEMBER, 1917. *London, 1917. pp. 205–320. Edited by Lord Charnwood.*

The first issue of Recalled to Life, a journal devoted to the care, reeducation, and return to civil life of disabled sailors and soldiers, issued in June, 1917, was reviewed in the MONTHLY REVIEW for October, 1917, pp. 48–52.

The September number, under title "Recent developments," reviews arrangements for the care of the disabled made by the Pension Ministry, the War Office, and the British Red Cross Society, which are in progress or which have been recently completed. In an article called "A general survey" the editor outlines the different forms which disablement takes and the needs arising in each case, the actual extent to which provision for these needs is lacking or is relatively complete, the practical issues involved in controversies in the matter, and the functions of the different authorities and institutions in regard to disabled men. There is a brief account of reeducation and reemployment of crippled sailors by Fleet Surg. P. Hamilton Boyden. A statement concerning the general attitude of the Labor Party toward the question of the treatment of disablement caused in war, made by G. J. Wardle, M. P., is reprinted elsewhere in this REVIEW. A report on the "Management of neurasthenia and allied disorders," contributed by Sir John Collie, president of the special medical board for neurasthenia and allied nervous diseases, and director of institutions for neurasthenia, under the Ministry of Pensions, deals with causes, effects, and treatment of nervous diseases. Of the 160,000 to 170,000 pensioners about 20 per cent are suffering from functional nervous diseases. A consideration of steps which are being taken to secure for the tuberculous soldier the care best suited to him is presented by Maj. P. Horton-Smith Hartley. There are also brief surveys of the work in Canada, Newfoundland, India, and South Africa, and a report of the constitution and proceedings of the joint committee on institutional treatment for the period February 12, 1917, to August 12, 1917. This committee, representing the Ministry of Pensions, the War Pensions Statutory Committee, the War Office, and a joint war committee of the British Red Cross Society and the Order of St. John of Jerusalem in England, has for its function the arrangement for provision of suitable institutional treatment for paraphlegics, neurasthenics, epileptics, and advanced cases of tuberculosis. A letter from Mr. A. Gwynne James, a county court judge under the workmen's compensation acts, calls attention to the need for orthopedics in industrial accident cases, and the necessity for perpetuation of the institutions and training now being founded for injured soldiers, that they may be available to the English workman. The Joseph and Jane Cowen Home for the training for disabled soldiers and sailors at New-Castle-upon-Tyne, and

the Lord Roberts Memorial workshops are described. There is a list of the special hospitals and special institutions which have been established in Great Britain.

RUSSELL, BERTRAND. *Principles of social reconstruction. London, Allen & Unwin, 1917. 252 pp.*

Lectures written in 1915 and delivered in the beginning of 1916. Included among these reviews because of the chapter on "Property," consisting of 32 pages and dealing largely with the present industrial system.

SPOONER, HENRY J. *Industrial fatigue in its relation to maximum output. London, Copartnership Publishers, 1917. 59 pp. Price, 6d. net.*

Reprinted by the Labor Copartnership Association from Copartnership, December, 1916, to May, 1917, with forewords by Sir Robert A. Hadfield, chairman of Messrs. Hadfields (Ltd.), and Mr. J. R. Clynes, M. P., district secretary of the National Union of General Workers. These papers form a valuable contribution to the discussion of the length of the working day by an authority on the science of industrial engineering.

THE MERCHANTS NATIONAL BANK, BOSTON. *Women's work in war time, by W. Irving Bullard, Manager Textile Department. Cambridge, Mass., The University Press, 1917. 85 pp.*

A discussion of the replacement of men by women in Great Britain in the wool industry, the cotton industry, printing, bleaching and dyeing, hosiery and knitting, heavy and light clothing manufacture, leather tanning and currying, boot and shoe manufacturing, the leather trade (case and fancy leather), the glove industry, soap and candle trades, paper making, glass-bottle and flint-glass trades, woodworking trades, pottery (coarse ware) and brick trade, china and earthen ware trade, silver and electro plate trades, the chemical industries, color, paint and varnish trade, and in sugar refineries. Gives lists of processes in which women have either wholly or in part taken the place of men.

WEYFORTH, WILLIAM O. *The organizability of labor. Baltimore, Johns Hopkins Press, 1917. 277 pp. Johns Hopkins University Studies, Series XXXV, No. 2.*

A monograph by the present instructor in economics in Western Reserve University. The sources of information for the conclusions drawn were trade-union publications, various Government reports, the work of other students along the same lines, and personal interviews with trade-union officials.

A summing up of the factors affecting organization leads the author to the conclusion that "on the whole, those influences favorable to organization are likely to increase in importance in the future, and the unfavorable influences seem likely to decline."

WHETHAM, WILLIAM CECIL DAMPIER. *The war and the nation: A study in constructive politics. London, John Murray, 1917. 312 pp. Bibliographies.*

YOUNGSTOWN [OHIO] SHEET & TUBE CO. *Rules and instructions. Third edition, July, 1917. 98 pp.*

General rules and rules applicable to each department of the plant are presented, preceded by a brief outline of the safety organization of the company and by instructions to superintendents and to foremen. The pamphlet contains also rules for emergency work, instructions for resuscitation, information applicable to the employment bureau, and a statement of the benefits afforded by the relief association.

—— *Safety first. 22 pp. Illustrated.*

This pamphlet describes the safety and welfare work as carried on by the Youngstown Sheet & Tube Co. and is a reprint of an article which was prepared by the safety director for publication in the Electric Journal of August [1917].