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**TEXTILE SAFETY CODE**

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## PREFACE

**T**HE Textile Safety Code was formulated by the Textile Safety Code Committee. This is a committee of the American Standards Association, a national body organized to promote the development of industrial standards and codes for adoption and enforcement by States and for voluntary adoption by individual industrial concerns.

The procedure for each project of this kind is to appoint one or more organizations as sponsors to organize and supervise the work on that project. These sponsors organize a committee, usually consisting of 20 to 50 representatives of national organizations and groups interested in or affected by the project, including manufacturers of equipment and machinery, users of equipment and machinery, operatives, insurance companies, State and governmental bodies, and technical experts.

In this case, the American Standards Association appointed the National Safety Council as sponsor for the Textile Safety Code. The National Safety Council organized the Textile Safety Code Committee, the personnel of which follows:

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## TEXTILE SAFETY CODE

### INTRODUCTION

1. This code is one of a number of safety codes on various subjects which have been or are being formulated under the general auspices of the American Standards Association.

2. It is intended for voluntary adoption and use as a standard for safeguarding textile machinery and equipment by concerns operating such machinery and equipment and by the manufacturers of textile machinery and equipment.

### SECTION 1. SCOPE AND PURPOSE

#### Rule 10. Scope.

These requirements apply to all plants operating textile machinery and equipment such as pickers, cards, combing machinery, drawing frames, slubbers, roving frames, ring spinning frames, spinning mules, spoolers, twistors, warpers, slashers, looms, inspection machines, folding machines, baling presses, sewing machines, cloth singeing machines, washing machines, kiers, mercerizing and tenter frames, mangles, winders, dry cans, dyeing padders, jigs and vats, color mixers, printing machines, soapers, aging boxes, pasters, dampeners, calenders, hookers, doublers, extractors, bottles, and other machinery and equipment used for similar purposes.

#### Rule 11. Purpose.

The purpose of this code is to provide reasonable safety for life, limb, and health. In cases of practical difficulty or unnecessary hardships, the enforcing officers or body may grant exceptions from the literal requirements of this code or permit the use of other devices or methods, but only when it is clearly evident that equivalent protection is thereby secured.

#### Rule 12. Exceptions.

After the date on which this code becomes effective all new construction and installations shall conform to its provisions. Equipment installed prior to that date shall be modified to conform to its

provisions unless exception is allowed in accordance with rule 11 or elsewhere in this code.

**NOTE.**—To secure the uniform application of this code, enforcing officers are urged before rendering decisions on disputed points to consult the committee which formulated it—the Committee on Safety Code for Textiles, in care of the American Standards Association, 29 West Thirty-ninth Street, New York City—or the National Safety Council, 108 East Ohio Street, Chicago.

## SECTION 2. DEFINITIONS

### Rule 20. Definitions.

(a) The word “shall” is to be understood as mandatory, and the word “should” as advisory.

(b) “Approved” means approved by the authority having jurisdiction.

(c) “Nip” refers to the point of contact between two inrunning rolls, as in “The nip of inrunning rolls.”

(d) “Exposed to contact” means that the location of an object is such that a person is liable to come into contact with it in his normal course of employment.

(e) “Combing machinery” is a general classification including combers, sliver lap machines, and ribbon lap machines.

(f) “Pickers” is a general classification including pickers, bale breakers, openers, breaker lappers, intermediate lappers, and finisher lappers.

(g) “Interlock” means a device which will prevent the operation of the machine while the cover or door is open or unlocked and will also hold the cover or door closed and locked while the machine is in motion.

## SECTION 3. REFERENCE TO OTHER CODES

### Rule 30.

This code is supplemented by the following codes:

(a) Safety Code for the Construction, Care, and Use of Ladders.

**NOTE.**—Copies may be obtained from Superintendent of Documents, Government Printing Office, Washington, D. C.

(b) Safety Code for Mechanical Power-Transmission Apparatus.

**NOTE.**—Copies may be obtained from the American Society of Mechanical Engineers, 29 West Thirty-ninth Street, New York City.

(c) National Electrical Safety Code.

**NOTE.**—Copies may be obtained from Superintendent of Documents, Government Printing Office, Washington, D. C.

(d) National Electrical (Fire) Code.

**NOTE.**—Copies may be obtained from National Board of Fire Underwriters, 76 William Street, New York City.

(e) Safety Code for Walkway Surfaces.

**NOTE.**—This code is now in preparation, but tentative draft may be obtained from the American Standards Association, 29 West Thirty-ninth Street, New York City.

(f) Code of Lighting Factories, Mills, and Other Work Places.

**NOTE.**—Copies may be obtained from Superintendent of Documents, Government Printing Office, Washington, D. C.



**(g) Safety Code for the Protection of the Heads and Eyes of Industrial Workers.**

**NOTE.**—Copies may be obtained from Superintendent of Documents, Government Printing Office, Washington, D. C.

**NOTE.**—When the Textile Safety Code is adopted by a State or other authority, it is expected that rule 30 will be changed so as to refer to other regulations of such authority.

## **SECTION 10. GENERAL REQUIREMENTS**

### **Rule 100. Working space and aisles.**

Machinery shall be so located as to give sufficient clearance for cleaning machinery and floors and for aisles that will permit the free movement of employees bringing and removing material.

### **Rule 101. Means of disconnecting power.**

Every textile machine shall be provided with means for disconnecting all power from the machine and from the pulley on the machine. (See Power-Transmission Code listed in rule 30.)

### **Rule 102. Power-transmission guards.**

All moving parts of equipment exposed to contact used in the mechanical transmission of power, including prime movers, intermediate equipment, and driven machines, shall be guarded in accordance with the Power-Transmission Code. (See rule 30.)

### **Rule 103. Electrical apparatus.**

All switches and other electrical apparatus shall be guarded in accordance with the National Electrical Safety Code. (See rule 30.)

### **Rule 104. Housekeeping.**

Aisles and working spaces shall be kept in good order and free from obstruction at all times.

### **Rule 105. Inspection and maintenance.**

Regular inspection shall be made of all guards and other safety devices and important mechanical equipment, such as starting and stopping devices, to insure their being kept in good operating condition.

## **SECTION 11. PICKERS**

### **Rule 110. Feeding.**

Hopper feed shall be provided or the feed rolls shall be provided with a cover or guard to protect the operative's fingers while feeding material.

### **Rule 111. Cylinder guard.**

The cylinder shall be covered.

### **Rule 112. Interlock.**

An approved interlock shall be provided on the beater cover and on the door to the dust bars.

## SECTION 12. CARDS

### Rule 120. Inclosures for cotton cards.

(a) Cylinders, workers, strippers, lickerin, and doffers shall be inclosed.

(b) The inclosures or covers shall be fastened securely so they can not be lifted or opened while the machine is revolving.

## SECTION 13. SPINNING MULES

### Rule 130. Clearance.

On new installations there shall be a minimum clearance of 18 inches between the end of the carriage run and any wall, column, machine, or other fixed structure. On existing installations this clearance shall not be less than 12 inches.

### Rule 131. Railing guard.

An approved railing (see specifications for guard rails in Power-Transmission Code mentioned in rule 30) shall be installed to guard the end of the carriage run.

### Rule 132. Fender.

A substantial fender of metal or hardwood shall be installed in front of the carriage wheels, the fender to extend to within one-fourth inch of the rail.

## SECTION 14. SLASHERS

### Rule 140. Steam-pipe covering.

Steam pipe exposed to contact within 6 feet of floor or working platform shall be covered with heat-insulating material.

### Rule 141. Pressure-reducing valve.

Where slashers are fed from steam lines carrying pressures in excess of 15 pounds, a pressure-reducing valve and a pressure gauge shall be installed in the steam line between the slasher and the boiler.

### Rule 142. Safety valve.

An approved safety valve shall be installed in the steam line between the slasher and the pressure-reducing valve.

### Rule 143. Safety stop.

The control levers of the slasher shall be connected to a horizontal bar or treadle located not more than 69 inches above the floor to control the operation from any point.

## SECTION 15. LOOMS

### Rule 150. Protection for loom fixer.

Provision shall be made so that every loom fixer can make it impossible for a loom to be started while the fixer is at work on the loom.

### Rule 151. Shuttle guard.

Each loom shall be equipped with a guard designed to prevent the shuttle from flying out of the shed, and the guard shall be frequently inspected and maintained in proper working order.

**Rule 152. Pin or stud guard.**

Pins or studs in eccentric motion of looms in or along passageways shall be guarded.

**SECTION 16. CLOTH-FOLDING MACHINES****Rule 160. Blade-guide rod.**

On machines where the blade-guide rod comes up the blade-guide rod shall be completely inclosed with a suitable guard.

**Rule 161. Barrier guard.**

A barrier shall be erected at the side of each cloth-folding machine to guard completely the arc described by the revolving crank.

**SECTION 17. SEWING MACHINES****Rule 170. Needle guard.**

A permanently attached needle guard shall be installed on each sewing machine so the operator's fingers can not pass under the needle. It shall be of such form that the needle can be threaded conveniently without removing the guard.

**Rule 171. Power transmission.**

Safety-type sewing tables with no exposed power-transmission parts should be used; otherwise the shafting and pulleys shall be guarded in accordance with the requirements specified in the Safety Code for Mechanical-Power Transmission Apparatus. (See rule 30.)

**SECTION 18. WASHING AND PREPARING MACHINES****Rule 180. Splash guards.**

All washing and preparing machines shall have splash guards.

**Rule 181. Barrel not inclosed.**

If barrel is not inclosed, the barrel shall be smooth or so guarded as to prevent accidental contact with operatives.

**Rule 182. Inclosed barrel.**

An approved interlock shall be provided on the inclosure door.

**NOTE.**—This rule is mandatory for all new construction and installations; it is advisory for existing installations.

**SECTION 19. KIERS****Rule 190. Pressure gauge.**

Every pressure kier shall be equipped with a pressure gauge, a pressure-reducing valve, and a safety valve. Construction and equipment shall comply with the requirements specified in the A. S. M. E. Code for Unfired Pressure Vessels.

**SECTION 20. MERCERIZING AND TENTER FRAMES****Rule 200. Oil cup.**

Oil cup shall be conveniently and safely located to permit easy access without reaching over the chain.

**Rule 201. Stopping devices.**

A convenient means shall be provided along the entire length and at each end of an open machine and at each end of an entirely closed machine to enable each operative to shut off the power.

**SECTION 21. DYEING JIGS AND PADDERS****Rule 210. Power control.**

- (a) Power-control devices shall be provided for each jig.
- (b) Roll arms on jigs shall be built to allow for extra-large batches and to prevent center bar being forced off, causing batch to fall.
- (c) Where the arms are short, a hinged latch on one side of each arm and fastened on other side by a pin shall be provided.

**Rule 211. Splash shield.**

A splash shield shall be installed extending across the pad in front of the nip to prevent splashing of hot liquid and to serve as a nip guard.

**SECTION 22. CALENDERS****Rule 220. Roll guard.**

The nip at the inrunning side of the rolls shall be provided with a guard so arranged that cloth can be fed into the rolls without permitting the fingers of the operative to be caught between the rolls or between the guard and the rolls.

**SECTION 23. POWER-GUILLOTINE CUTTER****Rule 230. Two-hand trip.**

A device shall be provided which to operate the machine requires the use of both hands sufficiently distant from the knife to eliminate the possibility of an operative's hands being caught under the descending blade.

**SECTION 24. SLITTER****Rule 240. Inclosure.**

A guard inclosing the cutting disks shall be provided to protect the operative's fingers from the cutting edges while machine is in operation.

**SECTION 25. CENTRIFUGAL EXTRACTOR****Rule 250. Cover.**

A cover shall be provided for the revolving drum or basket.

**Rule 251. Interlock.**

An approved interlock shall be provided on the cover for the revolving drum or basket.

**Rule 252. Brake.**

A mechanically operated brake should be provided.

## SECTION 26. FLAT-WORK IRONER

### Rule 261. Feed rolls.

The feed rolls shall be provided with a bar across the front so arranged that the machine will stop if the operative's hand strikes the bar.

### Rule 262. Pressure rolls.

Pressure rolls shall be covered or guarded so that the operative can not reach into the rolls.

## SECTION 27. DRYING CANS

### Rule 270. Pressure-reducing valve and pressure gauge.

Where drying cans are fed from steam lines carrying pressure in excess of 15 pounds, a pressure-reducing valve and a safety valve shall be installed in the steam line between the drying can and the boiler; the safety valve shall be installed between the reducing valve and the drying can. Furthermore, a pressure gauge and a safety valve shall be installed on each set.

## SECTION 28. EXHAUST SYSTEMS

### Rule 280. Removal of dust and flying material.

The following machines shall be covered and exhaust systems shall be installed to remove dust or fly:

(a) Dusting and opening machines such as willows, burr pickers, and mixing machines used in manufacturing woolen and worsted yarns.

(b) Machines such as openers and pickers used in preparing cotton for carding cotton yarns.

(c) Machines such as willows, pickers, and openers used in manufacturing cotton yarns on cotton-waste cards.

(d) Machines such as willows, pickers, and cards used in spinning asbestos yarns.

## SECTION 29. COLOR-MIXING ROOM

### Rule 290. Floors.

Floors in color-mixing rooms shall be arranged to drain easily.

## SECTION 30. ACID CARBOYS

### Rule 300. Emptying carboys.

Carboys shall be provided with inclinators, or the acid shall be withdrawn from the carboys by means of pumping or hand-operated siphons.

## SECTION 31. CAUSTIC SODA

### Rule 310. Handling caustic soda and caustic potash.

Means shall be provided for handling and emptying caustic-soda and caustic-potash containers without operatives coming into contact with the caustic.

## **SECTION 32. FIRST AID FOR ACID AND CAUSTIC BURNS**

### **Rule 320. Clean water.**

Wherever acids or caustics are used, clean water shall be piped to a near-by location convenient for emergency use by operatives.

### **Rule 321. First-aid materials.**

Appropriate first-aid materials shall be provided for emergency use in case of acid or caustic burns.

## **SECTION 33. DYE KETTLES AND VATS**

### **Rule 330. Pipes and drains.**

Dye kettles and vats which may at any time contain hot or corrosive liquids shall not empty directly onto the floor but shall be provided with pipes or drains of sufficient capacity to carry off the contents safely.

## **SECTION 34. TANKS AND VATS**

### **Rule 340. Protection against falls.**

Tanks and vats containing hot or corrosive liquids shall be protected so that operatives can not accidentally fall into them.

**NOTE.**—Protection may be provided either by railings or other means or by elevating the tank or vat to a height of 3 feet or more above the floor or working platform.

### **Rule 341. Shut-off valves.**

Boiling tanks, caustic tanks, and hot-liquor containers shall have shut-off valves controlled from a point not subject to splash.

**NOTE.**—In lieu of the above, an automatic shut-off steam valve thermostatically controlled may be provided.

## **SECTION 35. CARPET SHEARS**

### **Rule 350. Knife guard.**

Revolving knives shall be provided with a cover or guard so arranged that the operative's fingers can not come in contact with the knives while feeding material.

## **SECTION 36. ROLL BENCHES**

### **Rule 360. Cleats.**

Cleats shall be installed on the ends of roll benches.

## **SECTION 37. DRAWING FRAMES, SLUBBERS, ROVING FRAMES, RING SPINNING FRAMES, TWISTERS**

### **Rule 370.**

It is recommended that on all new installations of drawing frames, slubbers, roving frames, ring spinning frames, and twisters, interlocks should be provided on the gear-housing covers.

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Gauges, pressure:		Guards for (rules 151, 152)-----	4, 5
Drying cans (rule 270)-----	7	Protection for loom fixer (rule 150)-----	4
Kiers equipped with (rule 190)-----	5	Machines:	
Gear-housing covers, interlocks recommended, on new installations (rule 370)-----	8	Cloth-folding, guards (rules 160, 161)-----	5
Guards:		Exhaust systems for (rule 280)-----	7
Bar across feed rolls, flat-work ironer (rule 261)-----	7	Mercerizing and tenter frames, stopping devices for (rule 201)-----	6
Barrier, cloth-folding machine (rule 161)-----	5	Sewing, guards (rules 170, 171)-----	5
Blade-guide rods, cloth-folding machine (rule 160)-----	5	Slitter, guard inclosure (rule 240)-----	6
Calenders (rule 220)-----	6	Washing and preparing, guards for (rules 180-182)-----	5
Cleats on roll benches (rule 360)-----	8	Maintenance, inspection and (rule 105)-----	3
Cutting disks, slitter (rule 240)-----	6	Materials, first-aid (rule 321)-----	8
Cylinder, pickers (rule 111)-----	3	Means of disconnecting power (rule 101)-----	3
Hopper feed (rule 110)-----	3	Mechanical equipment. (See Equipment.)	
Inspection of (rule 105)-----	3	Mechanical power-transmission apparatus, reference to code (rules 30, 101, 102)-----	2, 3
Knife, carpet shears (rule 350)-----	8	Mercerizing and tenter frames (rules 200, 201)-----	5, 6
Needle, sewing machine (rule 170)-----	5	Mixing machines, exhaust systems (rule 280)-----	7
Pins or studs in eccentric motion of looms (rule 152)-----	5	Mules, spinning, guards and clearances (rules 180-182)-----	4
Power-transmission (rules 102, 171)-----	3, 5	Needle guard on sewing machines (rule 170)-----	5
Presser rolls, flat-work ironer (rule 262)-----	7	Nip, defined (rule 20)-----	2
Rails for carriage run, spinning mules (rule 131)-----	4	Nip guard, dyeing jigs, and padders (rule 211)-----	6
Shuttle, for looms (rule 151)-----	4	Oil cup, mercerizing and tenter frames (rule 200)-----	5
Splash, washing and preparing machines (rule 180)-----	5	Openers, exhaust systems to be installed (rule 280)-----	7
Splash shield, dyeing jigs and padders (rule 211)-----	6	Padders, dyeing jigs, power control and splash shield (rules 210, 211)-----	6
Tanks and vats, to prevent falls (rule 340)-----	8	Pickers:	
Handling caustic-soda containers (rule 310)-----	7	Defined (rule 20)-----	2
Heads and eyes of industrial workers, protection of, reference to code (rule 30)-----	3	Exhaust systems to be installed (rule 280)-----	7
Hopper feed, guard for (rule 110)-----	3	Feed and guards (rules 110-112)-----	3
Hot-liquor containers, shut-off valves (rule 341)-----	8	Pipes, dye kettles and vats (rule 330)-----	8
Housekeeping (rule 104)-----	3	Potash, caustic, handling containers (rule 310)-----	7
Inclinators, emptying acid carboys (rule 300)-----	7	Power control:	
Inclosures, cotton cards (rule 120)-----	4	Dyeing jigs and padders (rule 210)-----	6
Inspection and maintenance (rule 105)-----	3	Means of disconnecting (rule 101)-----	3
Interlocks:		Power-guillotine cutter, two-hand trip (rule 230)-----	6
Barrel, washing and preparing machines (rule 182)-----	5	Power-transmission:	
Beater cover and dust bars, pickers (rule 112)-----	3	Guards (rule 102)-----	3
Centrifugal extractor (rule 251)-----	6	Sewing machines guarded (rule 171)-----	5
Defined (rule 20)-----	2	Pressure gauge. (See Gauge, pressure.)	
Gear-housing covers, new installations (rule 370)-----	8		
Ironer, flat-work, guards (rules 261, 262)-----	7		
Jig, dyeing, power control and splash shield (rules 210, 211)-----	6		



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Pressure-reducing valves. (See Valves.)		Soda, caustic, handling (rule 310)---	7
Protection for loom fixer (rule 150)---	4	Space, working, and aisles (rule 100)---	3
Protection of heads and eyes, industrial workers, reference to code (rule 30)---	3	Spinning frames, ring, interlocks on gear-housing covers (rule 370)---	8
Purpose of code (rule 11)-----	1	Spinning mules, guards and clearance (rules 130-132)-----	4
Railing guard:		Splash shield, dyeing jigs and pad-ders (rule 211)-----	6
Spinning mules (rule 131)-----	4	Steam-pipe covering, slashers (rule 140)-----	4
Tanks and vats (rule 340)-----	8	Stopping devices. (See Devices.)	
Requirements, general (rules 100-105)-----	3	Strippers, inclosures for (rule 120)---	4
Revolving knives, carpet shears, guards (rule 350)-----	8	Switches, electrical, guards for (rule 103)-----	3
Ring spinning frames, interlock on gear-housing covers (rule 370)---	8	Tanks and vats, protection against falls (rule 340)-----	8
Rods, blade-guide, cloth-folding machine (rule 160)-----	5	Tenter frames (rules 200, 201)-----	5, 6
Roll benches, cleats to be installed (rule 360)-----	8	Twisters, interlocks on gear-housing covers (rule 370)-----	8
Rolls:		Two-hand trip, power-guillotine cutter (rule 230)-----	6
Feed, flat-work ironer (rule 261)-----	7	Valves:	
Pressure, flat-work ironer (rule 262)-----	7	Pressure-reducing, drying cans (rule 270)-----	7
Roving frames, interlocks on gear-housing covers (rule 370)---	8	Pressure-reducing, kler equipped with (rule 190)-----	5
Rule 40, changed to meet State regulations, on adoption (note)-----	3	Pressure-reducing, slashers (rule 141)-----	4
Safety:		Safety, drying cans (rule 270)---	7
Codes, reference to (rule 30)---	2, 3	Safety, klers equipped with (rule 190)-----	5
Devices, inspection of (rule 105)---	3	Safety, slashers (rule 142)---	4
Stop, control levers of slasher (rule 143)-----	4	Shut-off, tanks and vats (rule 341)-----	8
Valves. (See Valves.)		Vats, dye, pipes and drains (rule 330)-----	8
Scope of code (rule 10)-----	1	Walkway surfaces, safety code for, reference to (rule 30)-----	2
Sewing machines, guards (rules 170, 171)-----	5	Water, clean, piped for emergency use (rule 320)-----	8
Shall, defined (rule 20)-----	2	Willows, exhaust systems to be installed (rule 280)-----	7
Shears, carpet, knife guard (rule 350)-----	8	Workers, inclosures for (rule 120)---	4
Shut-off valves. (See Valves.)		Working space and aisles (rule 100)---	3
Shuttle guard for looms (rule 151)---	4		
Slashers, safety valves and stops (rules 140-143)-----	4		
Slitter, guard inclosure (rule 240)---	6		
Stubbers, interlocks on gear-housing covers (rule 370)-----	8		



# LIST OF BULLETINS OF THE BUREAU OF LABOR STATISTICS

*The following is a list of all bulletins of the Bureau of Labor Statistics published since July, 1912, except that in the case of bulletins giving the results of periodic surveys of the bureau only the latest bulletin on any one subject is here listed.*

*A complete list of the reports and bulletins issued prior to July, 1912, as well as the bulletins published since that date, will be furnished on application. Bulletins marked thus (\*) are out of print.*

## Conciliation and Arbitration (including strikes and lockouts).

- \*No. 124. Conciliation and arbitration in the building trades of Greater New York. [1913.]
- \*No. 133. Report of the industrial council of the British Board of Trade on its inquiry into industrial agreements. [1913.]
- No. 139. Michigan copper district strike. [1914.]
- No. 144. Industrial court of the cloak, suit, and skirt industry of New York City. [1914.]
- No. 145. Conciliation, arbitration, and sanitation in the dress and waist industry of New York City. [1914.]
- \*No. 191. Collective bargaining in the anthracite coal industry. [1916.]
- \*No. 198. Collective agreements in the men's clothing industry. [1916.]
- No. 233. Operation of the industrial disputes investigation act of Canada. [1918.]
- No. 255. Joint industrial councils in Great Britain. [1919.]
- No. 283. History of the Shipbuilding Labor Adjustment Board, 1917 to 1919.
- No. 287. National War Labor Board: History of its formation, activities, etc. [1921.]
- No. 303. Use of Federal power in settlement of railway labor disputes. [1922.]
- No. 341. Trade agreement in the silk-ribbon industry of New York City. [1923.]
- No. 402. Collective bargaining by actors. [1926.]
- No. 468. Trade agreements, 1927.
- No. 481. Joint industrial control in the book and job printing industry. [1923.]

## Cooperation.

- No. 313. Consumers' cooperative societies in the United States in 1920.
- No. 314. Cooperative credit societies in America and in foreign countries. [1922.]
- No. 437. Cooperative movement in the United States in 1925 (other than agricultural).

## Employment and Unemployment.

- \*No. 109. Statistics of unemployment and the work of employment offices in the United States. [1913.]
- No. 172. Unemployment in New York City, N. Y. [1915.]
- \*No. 183. Regularity of employment in the women's ready-to-wear garment industries. [1915.]
- \*No. 195. Unemployment in the United States. [1916.]
- No. 196. Proceedings of the Employment Managers' Conference held at Minneapolis, Minn., January 19 and 20, 1916.
- \*No. 202. Proceedings of the conference of Employment Managers' Association of Boston, Mass. held May 10, 1916.
- No. 206. The British system of labor exchanges. [1916.]
- No. 227. Proceedings of the Employment Managers' Conference, Philadelphia, Pa., April 2 and 3, 1917.
- No. 235. Employment system of the Lake Carriers' Association. [1918.]
- \*No. 241. Public employment offices in the United States. [1918.]
- No. 247. Proceedings of Employment Managers' Conference, Rochester, N. Y., May 9-11, 1918.
- No. 310. Industrial unemployment: A statistical study of its extent and causes. [1922.]
- No. 409. Unemployment in Columbus, Ohio, 1921 to 1925.

## Foreign Labor Laws.

- \*No. 142. Administration of labor laws and factory inspection in certain European countries. [1914.]
- No. 494. Labor legislation of Uruguay.

## Housing.

- \*No. 153. Government aid to home owning and housing of working people in foreign countries. [1914.]
- No. 263. Housing by employers in the United States. [1920.]
- No. 295. Building operations in representative cities in 1920.
- No. 469. Building permits in the principal cities of the United States in [1921 to] 1927.
- No. 500. Building permits in the principal cities of the United States. (In press.)

### **Industrial Accidents and Hygiene.**

- \*No. 104. Lead poisoning in potteries, tile works, and porcelain enameled sanitary ware factories. [1912.]
- No. 120. Hygiene of the painters' trade. [1913.]
- \*No. 127. Dangers to workers from dusts and fumes, and methods of protection. [1913.]
- \*No. 141. Lead poisoning in the smelting and refining of lead. [1914.]
- \*No. 157. Industrial accident statistics. [1915.]
- \*No. 165. Lead poisoning in the manufacture of storage batteries. [1914.]
- \*No. 179. Industrial poisons used in the rubber industry. [1915.]
- No. 188. Report of British departmental committee on the danger in the use of lead in the painting of buildings. [1916.]
- \*No. 201. Report of committee on statistics and compensation insurance cost of the International Association of Industrial Accident Boards and Commissions. [1916.]
- \*No. 209. Hygiene of the printing trades. [1917.]
- \*No. 219. Industrial poisons used or produced in the manufacture of explosives. [1917.]
- No. 221. Hours, fatigue, and health in British munition factories. [1917.]
- No. 230. Industrial efficiency and fatigue in British munition factories. [1917.]
- \*No. 231. Mortality from respiratory diseases in dusty trades (inorganic dusts). [1918.]
- \*No. 234. Safety movement in the iron and steel industry, 1907 to 1917.
- No. 236. Effects of the air hammer on the hands of stonecutters. [1918.]
- No. 249. Industrial health and efficiency. Final report of British Health of Munition Workers' Committee. [1919.]
- \*No. 251. Preventable death in the cotton-manufacturing industry. [1919.]
- No. 256. Accidents and accident prevention in machine building. [1919.]
- No. 267. Anthrax as an occupational disease. [1920.]
- No. 276. Standardization of industrial accident statistics. [1920.]
- No. 280. Industrial poisoning in making coal-tar dyes and dye intermediates. [1921.]
- No. 291. Carbon-monoxide poisoning. [1921.]
- No. 293. The problem of dust phthisis in the granite-stone industry. [1922.]
- No. 298. Causes and prevention of accidents in the iron and steel industry, 1910-1919.
- No. 306. Occupational hazard and diagnostic signs: A guide to impairments to be looked for in hazardous occupations. [1922.]
- No. 392. Survey of hygienic conditions in the printing trades. [1925.]
- No. 405. Phosphorus necrosis in the manufacture of fireworks and in the preparation of phosphorus. [1926.]
- No. 427. Health survey of the printing trades, 1922 to 1925.
- No. 428. Proceedings of the Industrial Accident Prevention Conference, held at Washington, D. C. July 14-16, 1926.
- No. 460. A new test for industrial lead poisoning. [1928.]
- No. 466. Settlement for accidents to American seamen. [1928.]
- No. 488. Deaths from lead poisoning, 1925-1927. (In press.)
- No. 490. Statistics of industrial accidents in the United States to the end of 1927.
- No. 507. Causes of death by occupation. [1929.] (In press.)

### **Industrial Relations and Labor Conditions.**

- No. 237. Industrial unrest in Great Britain. [1917.]
- No. 340. Chinese migrations, with special reference to labor conditions. [1923.]
- No. 349. Industrial relations in the West Coast lumber industry. [1923.]
- No. 361. Labor relations in the Fairmont (W. Va.) bituminous-coal field. [1924.]
- No. 380. Postwar labor conditions in Germany. [1925.]
- No. 383. Works council movement in Germany. [1925.]
- No. 384. Labor conditions in the shoe industry in Massachusetts, 1920-1924.
- No. 399. Labor relations in the lace and lace-curtain industries in the United States. [1925.]

### **Labor Laws of the United States (including decisions of courts relating to labor).**

- No. 211. Labor laws and their administration in the Pacific States. [1917.]
- No. 229. Wage-payment legislation in the United States. [1917.]
- No. 285. Minimum-wage laws of the United States: Construction and operation. [1921.]
- No. 321. Labor laws that have been declared unconstitutional. [1922.]
- No. 322. Kansas Court of Industrial Relations. [1923.]
- No. 343. Laws providing for bureaus of labor statistics, etc. [1923.]
- No. 370. Labor laws of the United States, with decisions of courts relating thereto. [1925.]
- No. 408. Laws relating to payment of wages. [1926.]
- No. 444. Decisions of courts and opinions affecting labor, 1926.
- No. 486. Labor legislation of 1928.

**Proceedings of Annual Conventions of the Association of Governmental Labor Officials of the United States and Canada.** (Name changed in 1928 to Association of Governmental Officials in Industry of the United States and Canada.)

- \*No. 266. Seventh, Seattle, Wash., July 12-15, 1920.
- No. 307. Eighth, New Orleans, La., May 2-6, 1921.
- No. 323. Ninth, Harrisburg, Pa., May 22-26, 1922.
- No. 352. Tenth, Richmond, Va., May 1-4, 1923.
- \*No. 389. Eleventh, Chicago, Ill., May 19-23, 1924.
- \*No. 411. Twelfth, Salt Lake City, Utah, August 13-15, 1925.
- No. 429. Thirteenth, Columbus, Ohio, June 7-10, 1926.
- No. 455. Fourteenth, Paterson, N. J., May 31 to June 3, 1927.
- No. 480. Fifteenth, New Orleans, La., May 21-24, 1928.
- No. 508. Sixteenth, Toronto, Canada, June 4-7, 1929. (In press.)

**Proceedings of Annual Meetings of the International Association of Industrial Accident Boards and Commissions.**

- No. 210. Third, Columbus, Ohio, April 25-28, 1916.
- No. 248. Fourth, Boston, Mass., August 21-25, 1917.
- No. 264. Fifth, Madison, Wis., September 24-27, 1918.
- \*No. 273. Sixth, Toronto, Canada, September 23-26, 1919.
- No. 281. Seventh, San Francisco, Calif., September 20-24, 1920.
- No. 304. Eighth, Chicago, Ill., September 19-23, 1921.
- No. 333. Ninth, Baltimore, Md., October 9-13, 1922.
- No. 359. Tenth, St. Paul, Minn., September 24-26, 1923.
- No. 385. Eleventh, Halifax, Nova Scotia, August 26-28, 1924.
- No. 395. Index to proceedings, 1914-1924.
- No. 406. Twelfth, Salt Lake City, Utah, August 17-20, 1925.
- No. 432. Thirteenth, Hartford, Conn., September 14-17, 1926.
- No. 456. Fourteenth, Atlanta, Ga., September 27-29, 1927.
- No. 485. Fifteenth, Paterson, N. J., September 11-14, 1928.

**Proceedings of Annual Meetings of the International Association of Public Employment Services.**

- No. 192. First, Chicago, December 19 and 20, 1913; second, Indianapolis, September 24 and 25, 1914; third, Detroit, July 1 and 2, 1915.
- No. 220. Fourth, Buffalo, N. Y., July 20 and 21, 1916.
- No. 311. Ninth, Buffalo, N. Y., September 7-9, 1921.
- No. 337. Tenth, Washington, D. C., September 11-13, 1922.
- No. 355. Eleventh, Toronto, Canada, September 4-7, 1923.
- No. 400. Twelfth, Chicago, Ill., May 19-23, 1924.
- No. 414. Thirteenth, Rochester, N. Y., September 15-17, 1925.
- No. 478. Fifteenth, Detroit, Mich., October 25-28, 1927.
- No. 501. Sixteenth, Cleveland, Ohio, September 18-21, 1928.

**Productivity of Labor.**

- No. 356. Productivity costs in the common-brick industry. [1924.]
- No. 360. Time and labor costs in manufacturing 100 pairs of shoes, 1923.
- No. 407. Labor cost of production and wages and hours of labor in the paper box-board industry. [1926.]
- No. 412. Wages, hours, and productivity in the pottery industry, 1925.
- No. 441. Productivity of labor in the glass industry. [1927.]
- No. 474. Productivity of labor in merchant blast furnaces. [1928.]
- No. 475. Productivity of labor in newspaper printing. [1928.]

**Retail Prices and Cost of Living.**

- \*No. 121. Sugar prices, from refiner to consumer. [1913.]
- \*No. 130. Wheat and flour prices, from farmer to consumer. [1913.]
- No. 164. Butter prices, from producer to consumer. [1914.]
- No. 170. Foreign food prices as affected by the war. [1915.]
- No. 357. Cost of living in the United States. [1924.]
- No. 369. The use of cost-of-living figures in wage adjustments. [1925.]
- No. 464. Retail prices, 1890 to 1927.

**Safety Codes.**

- \*No. 331. Code of lighting: Factories, mills, and other work places.
- No. 336. Safety code for the protection of industrial workers in foundries.
- No. 350. Specifications of laboratory tests for approval of electric headlighting devices for motor vehicles.
- No. 351. Safety code for the construction, care, and use of ladders.
- No. 375. Safety code for laundry machinery and operations.
- No. 378. Safety code for woodworking plants.

### **Safety Codes—Continued.**

- No. 382. Code for lighting school buildings.
- No. 410. Safety code for paper and pulp mills.
- No. 430. Safety code for power presses and foot and hand presses.
- No. 433. Safety codes for the prevention of dust explosions.
- No. 436. Safety code for the use, care, and protection of abrasive wheels.
- No. 447. Safety code for rubber mills and calenders.
- No. 451. Safety code for forging and hot-metal stamping.
- No. 463. Safety code for mechanical power-transmission apparatus—first revision.

### **Vocational Workers' Education.**

- \*No. 159. Short-unit courses for wage earners, and a factory school experiment. [1915.]
- No. 162. Vocational education survey of Richmond, Va. [1915.]
- No. 199. Vocational education survey of Minneapolis, Minn. [1917.]
- No. 271. Adult working-class education in Great Britain and the United States. [1920.]
- No. 459. Apprenticeship in building construction. [1928.]

### **Wages and Hours of Labor.**

- \*No. 146. Wages and regularity of employment and standardization of piece rates in the dress and waist industry of New York. [1914.]
- \*No. 147. Wages and regularity of employment in the cloak, suit, and skirt industry. [1914.]
- No. 161. Wages and hours of labor in the clothing and cigar industries, 1911 to 1913.
- No. 163. Wages and hours of labor in the building and repairing of steam railroad cars, 1907 to 1913.
- \*No. 190. Wages and hours of labor in the cotton, woolen, and silk industries, 1907 to 1914.
- No. 204. Street-railway employment in the United States. [1917.]
- No. 225. Wages and hours of labor in the lumber, millwork, and furniture industries, 1915.
- No. 265. Industrial survey in selected industries in the United States, 1919.
- No. 297. Wages and hours of labor in the petroleum industry, 1920.
- No. 356. Productivity costs in the common-brick industry. [1924.]
- No. 358. Wages and hours of labor in the automobile-tire industry, 1923.
- No. 360. Time and labor costs in manufacturing 100 pairs of shoes, 1923.
- No. 365. Wages and hours of labor in the paper and pulp industry, 1923.
- No. 394. Wages and hours of labor in metalliferous mines, 1924.
- No. 407. Labor costs of production and wages and hours of labor in the paper box-board industry. [1926.]
- No. 412. Wages, hours, and productivity in the pottery industry, 1925.
- No. 416. Hours and earnings in anthracite and bituminous coal mining, 1922 and 1924.
- No. 442. Wages and hours of labor in the iron and steel industry, 1907 to 1925.
- No. 454. Hours and earnings in bituminous-coal mining, 1922, 1924, and 1926.
- No. 471. Wages and hours of labor in foundries and machine shops, 1927.
- No. 472. Wages and hours of labor in slaughtering and meat packing, 1927.
- No. 476. Union scales of wages and hours of labor, 1927. [Supplement to Bul. 457.]
- No. 482. Union scales of wages and hours of labor, May 15, 1928.
- No. 484. Wages and hours of labor of common street laborers, 1928.
- No. 487. Wages and hours of labor in woolen and worsted goods manufacturing, 1910 to 1928.
- No. 492. Wages and hours of labor in cotton-goods manufacturing, 1910 to 1928.
- No. 497. Wages and hours of labor in the lumber industry in the United States, 1928.
- No. 498. Wages and hours of labor in the boot and shoe industry, 1910 to 1928.
- No. 499. History of wages in the United States from colonial times to 1928.
- No. 502. Wages and hours of labor in the motor-vehicle industry, 1928. (In press.)
- No. 503. Wages and hours of labor in the men's clothing industry, 1911 to 1928 (In press.)
- No. 504. Wages and hours of labor in the hosiery and underwear industries, 1908 to 1928. (In press.)

### **Welfare Work.**

- \*No. 123. Employers' welfare work. [1913.]
- No. 222. Welfare work in British munitions factories. [1917.]
- \*No. 250. Welfare work for employees in industrial establishments in the United States. [1919.]
- No. 458. Health and recreation activities in industrial establishments, 1926.

### **Wholesale Prices.**

- No. 284. Index numbers of wholesale prices in the United States and foreign countries. [1921.]
- No. 453. Revised index numbers of wholesale prices, 1923 to July, 1927.
- No. 493. Wholesale prices, 1913 to 1928.

### **Women and Children in Industry.**

- No. 116. Hours, earnings, and duration of employment of wage-earning women in selected industries in the District of Columbia. [1913.]
- \*No. 117. Prohibition of night work of young persons. [1913.]
- No. 118. Ten-hour maximum working-day for women and young persons. [1913.]
- No. 119. Working hours of women in the pea canneries of Wisconsin. [1913.]

### **Women and Children in Industry--Continued.**

- \*No. 122. Employment of women in power laundries in Milwaukee. [1913.]
- No. 160. Hours, earnings, and conditions of labor of women in Indiana mercantile establishments and garment factories. [1914.] \*
- \*No. 167. Minimum-wage legislation in the United States and foreign countries. [1915.]
- \*No. 175. Summary of the report on conditions of women and child wage earners in the United States. [1915.]
- \*No. 176. Effect of minimum-wage determination in Oregon. [1915.]
- \*No. 180. The boot and shoe industry in Massachusetts as a vocation for women. [1915.]
- \*No. 182. Unemployment among women in department and other retail stores of Boston, Mass. [1916.]
- No. 193. Dressmaking as a trade for women in Massachusetts. [1916.]
- No. 215. Industrial experience of trade-school girls in Massachusetts. [1917.]
- \*No. 217. Effect of workmen's compensation laws in diminishing the necessity of industrial employment of women and children. [1918.]
- No. 223. Employment of women and juveniles in Great Britain during the war. [1917.]
- No. 253. Women in the lead industries. [1919.]

### **Workmen's Insurance and Compensation (including laws relating thereto).**

- \*No. 101. Care of tuberculous wage earners in Germany. [1912.]
- \*No. 102. British national insurance act, 1911.
- No. 103. Sickness and accident insurance law in Switzerland. [1912.]
- No. 107. Law relating to insurance of salaried employees in Germany. [1913.]
- \*No. 155. Compensation for accidents to employees of the United States. [1914.]
- No. 212. Proceedings of the conference on social insurance called by the International Association of Industrial Accident Boards and Commissions, Washington, D. C., December 5-9, 1916.
- \*No. 243. Workmen's compensation legislation in the United States and foreign countries, 1917 and 1918.
- No. 301. Comparison of workmen's compensation insurance and administration. [1922.]
- No. 312. National health insurance in Great Britain, 1911 to 1921.
- No. 379. Comparison of workmen's compensation laws of the United States as of January 1, 1925.
- No. 477. Public-service retirement systems, United States and Europe. [1928.]
- No. 496. Workmen's compensation legislation of the United States and Canada as of January, 1929. (With text of legislation enacted in 1927 and 1928.)

### **Miscellaneous Series.**

- \*No. 174. Subject index of the publications of the United States Bureau of Labor Statistics up to May 1, 1915.
- No. 208. Profit sharing in the United States. [1916.]
- No. 242. Food situation in central Europe, 1917.
- No. 254. International labor legislation and the society of nations. [1919.]
- No. 268. Historical survey of international action affecting labor. [1920.]
- No. 282. Mutual relief associations among Government employees in Washington, D. C. [1921.]
- No. 290. Personnel research agencies: A guide to organized research in employment management, industrial relations, training, and working conditions. [1921.]
- No. 319. The Bureau of Labor Statistics: Its history, activities, and organization. [1922.]
- No. 326. Methods of procuring and computing statistical information of the Bureau of Labor Statistics. [1923.]
- No. 342. International Seamen's Union of America: A study of its history and problems. [1923.]
- No. 346. Humanity in government. [1923.]
- No. 372. Convict labor in 1923.
- No. 386. Cost of American almshouses. [1925.]
- No. 398. Growth of legal-aid work in the United States. [1926.]
- No. 401. Family allowances in foreign countries. [1926.]
- No. 439. Handbook of labor statistics, 1924 to 1926.
- No. 461. Labor organizations in Chile. [1928.]
- No. 462. Park recreation areas in the United States. [1928.]
- No. 465. Beneficial activities of American trade-unions. [1928.]
- No. 479. Activities and functions of a State department of labor. [1928.]
- No. 483. Conditions in the shoe industry in Haverhill, Mass., 1928.
- No. 489. Care of aged persons in United States. (In press.)
- No. 491. Handbook of labor statistics: 1929 edition.
- No. 505. Directory of homes for the aged in the United States. [1929.]
- No. 506. Handbook of American trade-unions: 1929 edition.