EIGHTH ANNUAL CONVENTION

OF THE

INTERNATIONAL ASSOCIATION

OF

FACTORY INSPECTORS

OF

NORTH AMERICA.

HELD AT

Philadelphia, Pa., September 25—28, 1894.

FOREST CITY PRINTING HOUSE,
113 CHAMPLAIN STREET,
CLEVELAND, O.

OFFICERS.

JOHN FRANEY, New York,	President.
JOHN O'KEEFE, Penn.,	First Vice-President.
MARGARET FINN, New York,	Second Vice-President.
JOHN D'ARCY, New Jersey,	Third Vice-President.
M. N. BAKER, Penn.,	Fourth Vice-President.
EVAN H. DAVIS, OHIO,	Secretary-Treasurer.

ORDER OF BUSINESS.

Roll-call of Officers and Delegates.

Reading of Minutes.

Reports of Committees.

Unfinished Business.

Election of Officers.

PROCEEDINGS.

The Eighth Annual Convention of the International Association of Factory Inspectors convened in the Common Council Chamber, Independence Hall, Philadelphia, September 25, 1894.

Mr. John Franey, President of the Association, at 10.30 A. M. requested the delegates present to come to order, and then announced that Mayor Stuart and other prominent gentlemen were present, who desired to extend to the Convention the courtesies and hospitalities of the city, which to him was a guarantee of the interest taken by the manufacturers and business people of Philadelphia in the work of factory inspection.

Mayor Stuart, having been formerly presented by Mr. Franey to the Convention, made the following address of welcome:

MR. CHAIRMAN, LADIES AND GENTLEMEN!

"It gives me great pleasure to be here in your midst this morning. Your company is welcome to our city, and I am here as the representative of a great, thriving and generous hearted people to tell you so; you could assemble in no place where your presence, and your work, and the objects you have in view would be more appreciated than they are in this grand old Quaker City of Brotherly Love. We all understand what an important work factory inspection is, and how it requires wisdom, prudence and intelligence on your part to successfully carry out your duties. For this reason we can see how necessary it is for you to meet together occasionally to compare notes, and experiences, that you may by informing each other become better informed as a whole.

Philadelphia is the greatest manufacturing city on the American Continent and half the manufacturing interests of the State of Pennsylvania is found here; and we are glad to welcome you here to-day because your coming will be the means of suggesting to our lawmakers more advanced and beneficial legislation for the protection and safety of our working people.

You are particularly fortunate in holding your meetings in this most historical building of the United States; a building suggestive in all its

memories of patriotism, of freedom, of love for our fellow-beings and of all the noblest aspirations of the human heart. In the room below was signed and promulgated to the world the famous Declaration of Independence which meant liberty to everybody, "but liberty regulated by law." We say to every person who wants to come here, we require you to be a good man or woman, and with the desire in your soul to become a good American citizen. If you come here with these ideas you are welcome to come, but if you come with ideas inimical to our government, we do not want you; we have no place for you.

Our city is not only a great manufacturing city, but it is largely a city of workingmen's homes. There are over 250,000 dwelling houses and over 150,000 are occupied by mechanics and laboringmen and others dependent upon their earnings for their living. A great proportion of this property is owned by these tenants. Of this we are justly proud, and as a rule this vast home owning population are all good American citizens. And they are all interested in your doings while gathered in our city, for the work you do is for their benefit, and for the benefit of every community when the laws are intelligently and prudently enforced.

I am pleased to learn that arrangements are made for your entertainment while the guests of our Pennsylvania inspectors. This afternoon you are invited to visit Cramp's Ship Yards. I hope you will all do so, for it is a typical American industry, and there you will see great battle ships of the most modern patterns, built with the view of never running away, but with the power and speed to run after and overtake anything afloat."

In conclusion Mayor Stuart again welcomed the delegates in the name of the city of Philadelphia and of the State department of Factory Inspection, and personally to the freedom of the city.

President Franey in reply to the address of welcome expressed the thanks of the Convention for the encouraging and appreciative remarks of the Mayor, and for the cordial, hearty and generous reception which had been tendered to the delegates.

The first order of business being the roll-call of officers, the Secretary called the roll and the following responded:

John Franey, President; Mrs. M. B. McEnery, First Vice-President; J. W. McCloud, Fourth Vice-President; Evan H. Davis, Secretary-Treasurer.

The President than read his annual address:

PRESIDENT'S ADDRESS.

Ladies and Gentlemen of the Convention!

In the Common Council Chamber of the old City Hall in this beautiful city of Philadelphia seven years ago last June, the factory inspectors of the United States met for the first time in convention, and founded the National Association of State Factory Inspectors. There were but four States represented in that convention, and but five States in the Union — Massachusetts, New Jersey, Ohio, Wisconsin, and New York — had factory inspection laws. For the most part these laws were crude and immature, representing in their imperfections, however, the well-intentioned desire of their framers to do something practical for the welfare of the industrial masses who labored for a livelihood in the mills and workshops of their respective commonwealths. The number of officers created to enforce these most necessary laws was ridiculously small and inadequate, but in this again the desire to make a start in the right direction was apparent, and the promise of additional inspectors as soon as the practicability and necessity for an increase was proven, usually accompanied the initial legislation.

It was with a view of perfecting the laws, harmonizing their scope in the different States, promoting legislation of a remedial character, and by a comparison of experiences and ideas to aid one another in the performance of their duties, that the first and subsequent conventions of inspectors were held. To what extent these objects have been attained, a brief glance at recent legislation will show.

The proceedings of the first convention were printed and widely circulated, and attracted much attention. Legislators took up the subjects discussed, and formulated and amended statutes upon the practical lines laid down in the recommendations of the inspectors. During the following year Maine, Rhode Island and Connecticut passed factory laws, and New York, Ohio and Massachusetts improved their enactments. The number of inspectors were somewhat increased. At the second convention held in Boston, Mass., eight States were represented. Since then not a year has passed which did not show an addition to our ranks, and an advance in the shape of legislation. At the time of holding the Seventh Annual Convention last year in Chicago, fourteen States and Provinces had factory laws, which were enforced by 110 factory inspectors, 21 of whom were women. In several other States there is legislation proposed or pending which will no doubt result in the creation therein of new departments of inspection, and the time is not far off when every State with manufacturing industries of any importance will by wise and judicious legislation take up the cause of factory workers, and throw around them such protection as may be found essential for their welfare.

The day has gone by when mill owners view factory legislation with

an unfriendly eye. Wherever such remedial statutes have been passed, it has taken but a comparatively short time to convince the "captains of industry," as some one has termed the employers of labor, that factory laws are not framed for reprisal to satisfy the "revengeful clamoring of agitators," but that their proper and energetic enforcement is beneficial to master as well as to man. They add a security against suits for damages, for injuries sustained, by lessening the possibility of accidents; they lighten the burdens and increase the alacrity of workmen by requiring desirable improvements in ventilation and sanitation; they enforce a caution upon reckless overseers who oftentimes embroil employers and employed through a desire to "make a record"; they inculcate the lesson that evils may be remedied through law better than they can be rectified by disturbance.

In my early experience as an inspector — and it can safely be asserted that all you here have had similar experiences — I frequently encountered gentlemen who went wild when their premises were first officially visited, declaring in their wrath that their private rights as citizens were being invaded and trampled upon, and that they would devote time and money thereafter to wipe out the obnoxious law. I don't hear any more of this. On the contrary, many of these very gentlemen are now the most ardent advocates of the principles and practice of factory legislation, and would actively oppose any effort to rescind the factory laws. One instant in point is that of a manufacturer who was a member of the legislature when the first factory act passed in New York. He made the effort to defeat the bill almost a hobby, and worked against it in committee and on the floor. He asserted that he would not let an inspector "spy around" his factory, and "no court would force him to obey such an unconstitutional law." After the bill passed, in the course of time, I had occasion to visit his mill, and found him still bitterly opposed to the law. I went through the premises, although he was careful to say in advance that he permitted it only on the grounds of friendship, and did not concede me the right as an officer. When the tour of inspection was over and we returned to his office, I proceeded to make various suggestions as to changes in machinery here and there, elevator and sanitation, as the law required. As expected, he demurred and denounced the law more emphatically than ever. The usual written notices were sent him, and after a time a letter was received briefly stating that he had complied with our requirements. In a few months more I met him in Albany, where he was visiting as an ex-member of the legislature. He had completely changed in his views, he frankly stated. The recommendations made were all in line with what he conceived to be proper, he said, and he would have made the changes himself long ago if the necessity therefor had been called to his notice. He had been attending to one department of his business, and he had hired men to attend to other parts of it, said he in explanation, and he was now glad that his attention had been directed to the matters in question.

His factory was improved, his help were better satisfied, and he now thought the law was a proper one.

Last winter that man came to Albany at my request to aid us in opposing a bill permitting the brick manufacturers to employ child-labor, and there is to-day no better friend of factory legislation to be found anywhere. His is a sample illustration of the way some men have altered their opinions of factory legislation.

While there is no doubt as to the benefits derived from the factory laws of the various States, the question has sometimes been asked me as to what good comes from holding these annual conventions. All of us who have taken part in these proceedings from year to year can readily answer this question. We know that the mutual interchange of views, the comparing of laws and experiences, the practical and scientific demonstration of remedies for conditions present to a greater or less extent in our respective fields of action, all contribute to the sum of general knowledge and usefulness, and fit us to better perform the duties devolving upon us. The scope of factory inspection is wide, and the situations needing attention are as diversified as the industries of the country. There must be specialists even in factory inspection, who, having devoted time and study to particular phases of our work, can briefly give us the benefit of results obtained by months and years of patient effort. There is a scientific and mechanical side to our duties, as well as a humane feature. The cases of individual hardship to children and oppressed workers in diverse vocations, require no more of the time of the inspector than does the defective gearing of a machine or the dangerous well-hole of the unguarded elevator. The escaping sewer gas which we detect in a workroom, and the vitiated atmosphere of a badly ventilated shop must have attention and a suggested remedy at our hands, as well as the child who is thought physically unable to perform the task put upon it, requires our quick and thoughtful protest. The multiplicity of duties now put upon inspectors in most States, require that there be an interchange of ideas and an explanation of methods. These conventions supply a needed school. We all return to our districts better equipped for the work at hand after one of these gatherings.

I will not detain you longer with my remarks. The papers to be read and discussions to be held will no doubt fully cover this field.

I wish, in conclusion, to extend my thanks to our esteemed Secretary, for his active co-operation and earnest endeavors during the past year to assist me in promoting the success of this meeting, and also to our Pennsylvania delegates, who have had put upon them considerable labor in preparing for the convention, which they have handsomely performed.

Some of our old members have been lost to us, let us hope temporarily, for we all desire to see each other once a year, anyway. To those who are attending our meetings for the first time, we extend the right hand of

fellowship, and hope that their coming is permanent. In the unavoidable mutations of official life, let us hope that those who follow us will keep up the spirit of honest endeavor to aid in bettering the conditions of our fellowmen in factory, mine, and workshop.

By motion of Mr. McCloud, delegates were required to furnish the Secretary with their address cards, in order to formulate a list of States represented. The number in attendance was found to be as follows.

MASSACHUSETTS.—Jos. A. Moore, John J. White, Jos. N. Dyson, Henry Splaine.

NEW YORK.—John Franey, *Assistant Chief;* Leonard Drake, N. S. Greene, Anne Campbell, Margaret Finn, Mary Donnelly, John Jordan, Thos. Gunn, Ella Nagle.

PENNSYLVANIA.—Robert Watchorn, *Chief;* John O'Keefe, Thos. Owens, Geo. J. McCrane, M. N. Baker, Dan. J. Donohue, B. J. Castles, David McEvoy, Mrs. M. B. McEnery, Miss M. A. O'Reilley, Mrs. Combes, Miss Mary Wagner, Anne Leisening.

OHIO.—J. W. Knaub, *Chief;* Evan H. Davis, Charles Burns, A. M. True, J. W. Bath, John H. Ellis, E. T. Ridenour, W. R. Mathews, Willard Ducomb, F. M. Campfield, Thos. Yeager, James A. Armstrong.

NEW JERSEY.— L. T. Fell, *Chief;* P. Callan, J. S. Weinthal, W. J. McCloud, John D'Arcy, W. W. Johnson.

ILLINOIS.—Mrs. Florence Kelley, *Chief;* Mrs. A. P. Stevens, *Deputy Chief;* Abraham Bisno.

RHODE ISLAND.—Elisha H. Rockwell, Mrs. Fanny Purdy Palmer.

MICHIGAN.—Chas. H. Morse, *Chief.*

Motion by Mr. McCloud, that a committee be appointed to prepare a programme of business. Amended by Mrs. A. P. Stevens, that said committee be composed of the Chief Inspectors of the different States represented. Motion as amended prevailed.

COMMITTEE ON PROGRAM. — Robert Watchorn, Pennsylvania; J. W. Knaub, Ohio; L. T. Fell, New Jersey; Florence Kelley, Illinois; Chas. H. Morse, Michigan.

Motion by W. J. McCloud, that a committee of three be appointed on Finance.

COMMITTEE.—W. J. McCloud, New Jersey; Mrs. M. B. McEnery, Pennsylvania; Jas. A. Armstrong, Ohio.

On motion of Mr. Dyson a recess of fifteen minutes was taken to give time to the Committee on Program to prepare its report, after which Mr. Watchorn, Chairman of the Committee, made a partial report, and Mr. Splaine, of Massachusetts, was called upon to read his paper, which was as follows:

THE INSPECTOR AT THE FACTORY.

Ladies and Gentlemen of the Convention!

The inspector at the factory, except for extraordinary reasons, would naturally seek admittance through the office of the mill.

There the inspector takes the first step towards the inspection of the factory. There he comes in contact with the owner or manager of the establishment, and much depends upon the impression made by the inspector upon the people in the counting room. If the inspector possesses the intelligence, the dignity and the deportment which should characterize the ideal inspector, he would probably, at first meeting, impress the management with the idea that the inspection of a factory is no first-class matter, and that it cannot be made in a careless or simply in a perfunctory manner; and also that his presence in the mill is not to agitate as between employer and employed, or to make war in the name of labor against capital, or to wage war in the name of capital against the wage earner, but simply to discharge an honorable and important duty as inspector of factories; and as an unbiased executor of the laws formed for the protection of the employes in the mill, he proceeds to discharge his duties in a disinterested and straightforward manner, then he would have accomplished much towards making a successful and profitable inspection, both towards the employes, whose rights under the inspection laws he is there to enforce, and towards the employer and capitalist, whose capital and mill and business must ultimately be benefited and made more profitable from the fact that the tendency under inspection laws is to brighten the operatives, and heighten their usefulness as employes; because the more healthful and vigorous their condition, the more perfect and profitable will be the work coming from their hands.

In the factory the inspector will naturally commence his work on the uppermost or the lowermost floor of the establishment, and, completing his task on that floor, would gradually work downwards or upwards, as the case may be. Commencing, say, on the uppermost floor, he should be careful to visit all quarters of the room, and, although he may be able to distinctly see all parts of the same from the door which he has just

entered, it is his duty, nevertheless, to make a thorough inspection with a view to ascertain whether there is ample means of egress in case of fire, and means as well of extinguishing an incipient fire; a careful examination of the machinery, with a view to guarding dangerous parts; a careful examination of the elevator, its cable, its hoisting gear, its well-openings and guards to the same on that floor.

He should look carefully after the time-tables which indicate the number of hours which women and minors work under the law, and, then and there enquire of such persons whether they are treated in that regard as contemplated by that law. He should also, and heshould never forget, to look after the retiring rooms—their location, their fitness, and their condition. He should, in States where laws touching the educational status of minors obtain, examine into their ability to read and write, and if they cannot, whether they are being given a fair opportunity to attend evening school, if such be provided in the town or city where the factory is located.

The examination of one floor of the mill will give the inspector a fair estimate of the task before him, and, having done his work thus far in an industrious and intelligent way, he will surely feel like making a good job of the whole factory.

And in this way, from floor to floor, observing as he goes the means of escape in case of fire, the means of extinguishing fire in its incipiency, noting the dangerous machinery which ought to be guarded, enquiring into compliance with the law requiring reduced hours of labor; the elevator, its well-openings, and guards to the same, its cables, gearing etc., the retiring rooms; the ventilation and process of carrying off dust and noxious matter from the atmosphere; and he should not forget at the lowermost floor to test the elevator, and to examine carefully the engine, with a view to guarding the fly-wheel and other parts of the engine, which require to be kept in motion.

I contend that ample means of escape in case of fire is paramount to all other considerations connected with factory inspection, and if this be true, it must follow that the means of extinguishing fire in its incipient state must take second place in importance.

I look to guarding dangerous machinery as next in order on the list, followed by the ventilation or means of getting a breath of fresh air, and this in turn by the condition and fitness of the retiring rooms, and at the same time, all matters bearing directly or indirectly upon sanitation. Too much importance by the inspector cannot be attached to the means of escape in case of fire. A fire in nearly every case comes unexpectedly, and should it come to a factory where hundreds of people are employed, and that for want of proper means of escape lives should be lost, no excuse from an inefficient or careless inspector could possibly restore those lives, neither could any new law providing against danger from fire, even though it be retroactive, provide against the accident which has already occurred.

And this reminds one of the importance of being provided at all times in a mill with means for stamping out fire when it is first discovered.

Standpipe and hose, or a few buckets filled with water always ready at the danger points in the factory, may, when properly and promptly used, extinguish a fire which, if allowed to make head, might bring about deplorable loss of life and property.

In guarding dangerous machinery, the inspector should always bear in mind that there is danger in carrying the guarding too far. Machinery should not be guarded to the extent of stopping the business of the mill, for we all know that there is always danger wherever machinery is used, and that no extent of guarding it can possibly eliminate all danger. An intelligent inspector may go far enough but not too far. Good judgment in this case is the best safeguard.

A factory inspector, if he confines his efforts to an impartial discharge of his duties, has all the work that he can attend to, but the moment he attempts, in connection with his duties, to enter the field of politics, or enters the domain of agitation for or against capital or labor, he transcends the object of his appointment, and retards rather than helps the good intended to the wage-earner by the laws made for his protection in factory life, and he injures the chances of success which should attend the legitimate investment of capital. The capitalist and the laborer ought not to be arrayed one against the other, but rather should they be induced to walk hand in hand, confiding and dealing honorably and considerately with each other; and I say that any man who attempts to array one against the other just for the sake of agitation is doing a great wrong; and I say unhesitatingly, that any factory inspector who, either in his district, in this convention, or in any other public place condemns one or the other—capital or labor—is transcending the powers entrusted to him as an inspector, and injures rather than helps the wage-earner who is seeking the benefits intended for him by the wise labor laws of several of our States.

Mrs. Palmer, of Rhode Island, desired some explanation as to the limit rule under which minors and women were employed in Massachusetts, and whether she was to understand that the inspectors in that State depended for their information as to the observance of the law upon what they were told by the employers.

Mr. Splaine stated they did not, but that every means suggested to the inspector was employed to arrive at the true condition of things.

Mr. Dyson, of Massachusetts, also explained that the limit time of working was posted upon the walls of the factory.

These notices clearly stated what hours minors and women are to be employed, and that anything different given by the Superintendent, or discovered in any manner by the inspector, is *prima facie* evidence of violation.

Miss O'Reilley, of Pennsylvania, remarked that she did not quite agree with the author of the paper that inspectors should not be associated with any movement of a political or socialistic character. She maintained that separate from her duties as an inspector, she possessed an individual right to advocate and to agitate, if necessary, at all times and places what in her judgment would be conducive to the welfare of labor or was promulgative of good to her fellow-beings.

Mr. O'Keefe, of Pennsylvania, said that it was his opinion that we could not all take the same stand upon such a question. The position taken by inspectors in Massachusetts might be entirely out of place for an inspector in Pennsylvania to assume. Laws and conditions in different States were different in their operation and effects, and it would be difficult, if not unwise, for an inspector in one State to advise an inspector in some other State as to the course he should take in relation to social questions, or as to how he could wield his influence best for the benefit of the laboring people.

Mrs. Stevens, of Illinois, required more light upon the subject, and thought it possible Mr. Splaine was not understood as he desired to be.

Mr. Splaine rose and stated that no man or woman had more interest in the welfare of the laboring people than himself. He realized fully their needs and the disadvantage under which the masses in general labored, and was fully in accord with every proper movement tending to the amelioration of their condition, but when he accepted the position of inspector he realized that he had positive duties to perform, and that it became him to hew straight to the line, and that he had no right to assume the role of an agitator, or to do anything which would bring about differences between capital and labor, even in a political way. He could not do this under the laws

of Massachusetts, whatever might be done by inspectors of Pennsylvania under their laws.

Miss O'Reilly replied, saying that she felt in duty bound to do all in her power, irrespective of political faith, to advance the cause of humanity.

President Franey stated, that if there were any papers not yet submitted to the Committee on Program, that their titles be immediately given to the committee, so that provision could be made in the program for their reading.

The President also informed the delegates that at 12 A. M. on the 26th inst. a photograph would be taken of the members of the convention on the steps of Independence Hall.

Committee on Program, through its Chairman, Mr. Watchorn, read the following as its report.

"We recommend, 1) That we have a daily meeting beginning at 9 A. M. sharp, and an evening session from 7:30 to 10 o'clock on the evenings of Tuesday and Thursday.

2) That the papers handed to the Committee be read in the order given in the original program, excepting where a change is indicated; that debates hall be limited to five minutes to each speaker, and that no one speak a second time, until all others have had an opportunity to speak.

3) That a committee, to consist of one member from each State, be appointed immediately, to prepare a short synopsis of the inspection laws of each State, and to submit a list of subjects to be discussed at the next convention, and to assign the subjects to the different States.

4) That at 9:30 A. M., Friday, Professor Thomas Shaw be invited to exhibit and explain to the convention the operation of his mechanical apparatus for scientific ventilation of buildings.

Titles of papers read and approved:

1. "The Inspector at the Factory".—Henry Splaine, Massachusetts.

2. "What occupations should be regarded as dangerous to life and limb, or to health."—Robt. Watchorn, Penn.

3. "Need of Uniformity in Labor Legislation."—Mrs. Kelley, Illinois

4. "Accidents; how to prevent them where machinery is in use."—Evan H. Davis, Ohio.

5. "Is the employment of minors in tobacco factories injurious to health."—Miss Anne Campbell, New York.

6. "Causes of fires and the quickest and best means to extinguish them."--J. W. Knaub, Ohio.

7. "The prevention of sewer gas in dwelling houses and factories, and how to detect it."--Rufus R. Wade. To be read by Mr. Splaine.

8. "How to inspect a building from basement to attic."—W. J. McCloud, N. J.

After the reading of the report of the Committee on Program, a committee was appointed, one from each State, to draft a synopsis of the factory laws of the different States represented, and to submit the same to the Convention.

Session recessed to meet at 8 P. M.

EVENING SESSION, SEPT. 25.

Convention was called to order by President Franey at 8 P. M.

After calling the roll of officers a motion was made to dispense with the reading of the minutes.

Mr. Watchorn was called upon to read his paper, which was as follows:

WHAT OCCUPATIONS SHOULD BE REGARDED AS DANGEROUS TO LIFE AND LIMB, OR TO HEALTH.

Ladies and Gentlemen of the Convention:

This question would require much less time to answer, were it reversed entirely, for it would be much easier to name the occupations which might properly be regarded as free from danger, than to specify every occupation which has one or more of the elements of danger to life, limb or health.

The question does not confine itself to factory employment, but taking it for granted that no other employment is intended to be dealt with, I shall endeavor to confine myself to this view of it.

I think, however, it might be more advantageous to name the particular occupations in which the more serious accidents most frequently occur, for notwithstanding the fact that the subject as submitted does not permit me to do more than to simply point out what should be considered dangerous employment, it would involve a very tedious and lengthy paper were I to enumerate the multiplicity of places wherein accidents have occurred to the injury of limb, the impairment of health, and the loss of life, for alas, in every field of human endeavor there is no absolute immunity from accident. It is very gratifying to know from actual demonstration the accidents which are peculiar to factory life are capable of being very

materially lessened in number, and in many instances of being made less serious when they do occur. The reports of the various State Factory Inspection Departments amply prove this statement, and it is to be hoped that from the daily experience of the Inspectors recommendations will continue to be made, which through the desirable and wise action on the part of the various legislative bodies will be given the force of law, and thus tend to still further decrease the number of distressing accidents, which daily mar the onward march of a wonderful and phenomenal material progress.

The manufacturing industries of Pennsylvania may afford us ample opportunity to decide what may fairly be considered unusually dangerous employment, and will not perhaps differ very materially in this respect from the most prominent of the great states here represented.

Her industries are as great, varied, and permanent as those of any other state in the world, measured by any fair and equitable standard, ranging from the construction and equipment of the most powerful and magnificent ocean steamships and war vessels, the most gigantic and successful locomotives and stationary engines, to the ordinary lucifer match, and the common everyday needle and tack, to say nothing of the almost innumerable articles of manufactured goods, not so great as a ship, a locomotive or a railway car, nor as small as a match, a needle or a tack. Therefore, whatever may be said to be dangerous in the various enterprises in Pennsylvania may to a large extent be said to be equally so in other states. Taking this for granted, I submit the following as among the more dangerous occupations :

The manufacturing of iron is one of the most prolific sources of casualities, and its every phase, from the unloading of the ore, to the dumping of the slag, should be subjected to the most painstaking care and precaution.

The great and rapid growth of our population has rendered necessary, or at least introduced the high business buildings, which are becoming more and more numerous in all our large cities, which in turn has made the use of the hoisting elevator an essential feature to the profitable tenancy of all such superstructures, and the elevator has made its own sad and deplorable record, and has to its credit in the Keystone State a surprisingly large list of fatal accidents, and many more which are very sad and distressing.

The elevator is more than ordinarily dangerous, and should be so rated. More especially is this the case where its operation is not confined to one responsible person, but is rather used promiscuously by any or everybody in the factory.

During the year ending November 30th, 1893, we had 46 fatal accidents reported.

The greatest number in any given line were killed on elevators, and in the various branches of work where iron is manufactured.

These occupations may safely be classed as the most dangerous, for while we must admit that the loss of limbs, health, or faculties are bad enough, the employment where one is most likely to meet sudden death is certainly the most to be feared, for, has it not been said that "All that a man hath will he give for his life." Ironworks and the use of elevators in my judgment are the most prolific of violent deaths.

The machinery used for cutting iron and steel, tin and wood, and making them up into marketable articles are most largely responsible for the loss of fingers, hands and arms. The Pennsylvania Factory Inspection records for 1893 show that forty fingers, five hands, and two arms were amputated, 75 per cent of which were sacrificed on the cold cutting machines. The same annual record shows that nine hands, 23 arms were fractured; the majority of those thus injured were employed in factories where sheet-iron and steel are largely used to construct the goods or articles manufactured.

The textile industry is not the least dangerous employment by any means, the constant and regular movement of the intricate machinery, the frightful velocity of the shuttle, together with the almost incredible noise, which characterizes the weaving loom, are a constant menace to both health and limb. The rag cutter and picker are also very dangerous machines.

It does not follow that the long list of factories, which for want of time I cannot here specify, are not dangerous, for, as I have already stated, I do not regard any factory entirely free from danger.

Wherever steam power is used danger is enhanced, for with every throb of the engine, every pulsation of the machine, and every movement of the shuttle, and every revolution of the belts and wheels and pulleys, there is an element of danger which, we are compelled to admit, is frequently made more so by the carelessness, negligence, or indifference of the most thoughtless in the vast army of factory employes.

Next to the iron and steel works, the elevators, the cold punches and cutting machines, and the weaving room, I regard the following factories as being noted for their dangerous elements: Dye works, because of the boiling vats and pans, the hot rooms, and the deleterious ingredients of the dyes.

Soap works and hat factories, because of similar reasons. Blasting powder and dynamite works, and oil refineries, because of their liability to explosions. Squib and match factories are also subjected to similar risks.

All set screws not countersunk on revolving wheels and pulleys are a source of very great danger.

The wearing of long hair loosely or loose garments should be avoided in all work rooms where machinery, belting, etc. are used, for they materially increase the danger of such places.

The cleaning of machinery while in motion often costs a hand, an arm, or a life, and no matter how great the rush of business, nor how precious the machinery, the cost of cleaning it is too great at such a fearful sacrifice.

There is another dangerous thing which is too frequently ignored, i. e., the absence of fire escapes on all buildings, from which the escape of the employes is doubtful in case of fire. Nor does the erection of adequate fire escapes fully remove this element of danger, for too often the escapes are erected in accordance with the requirements of law, and then left unused altogether, until some dire emergency arises for its use, and then it is found to be out of order, and the employes are so unaccustomed to leave the factory through an emergency path, that confusion seizes the panic stricken crowd, and much injury and loss of life may result therefrom.

This danger could be very materially lessened, by having the escapes used regularly as a means of exit, at least once a week.

The employment which should be regarded as being particularly dangerous to health are chemical works, patent medicine factories, the rag picker in the textile works, all places where employes are crowded in too small a breathing space. All places of employment where employes are compelled to stand for many weary hours, without change or rest.

Oxygen is as essential to life as food, and if fifty men and women, boys or girls are crowded into a space where they can get no more oxygen than twenty require, the wonder is not that they have failing health, but that they have not succumbed before.

We stand aghast at a record of fifty fatal accidents in one year, but we do not notice nor call attention to the untimely deaths of hundreds and hundreds of workingmen and boys, women and girls.

The doctor has ascribed their deaths to some common disease or other, we give them a momentary sigh of pity and all is over.

Perish the pitiful and miserable efforts that strive only to avoid the danger of the elevator, the molten metal, the vats, pans and cauldrons, the loom, the shuttle, the belts, the pulleys, and other dangerous elements in the mechanical world, if they are not extended to the vastly more important fields of ventilation and sanitation.

Dangerous machinery has slain its thousands, but a defective sanitary system, together with an insufficient supply of ventilation has slain its tens of thousands.

The former claims its victims in such a rude and revolting fashion, that we instinctively strive to remedy its defects, but the latter steals his victims by a slower but not less sure method, creeping into their vitals, and making its citadel there, pours out its insidious poison, not only to the destruction of the life of such victims, but all too frequently entailing on society a race of consumptives and weaklings, who often become paupers and a menace to public health. It is not sufficient that a few windows remain open in order that a mill or factory should be ventilated, but a ventilating apparatus is as essential, where numbers of people are employed in a factory as it is in a mine, on a ship or down in a diving bell.

One thousand cubic feet of fresh air per minute will not serve to keep twenty people supplied with a sufficiency of oxygen any more than a small loaf of bread would amply feed and nourish them.

There is nothing more injurious to human life than inhaling the exhalations of human lungs, and yet thousands of people are annually going to untimely graves because they have been compelled to inhale the disease tainted breaths of their less healthy fellow toilers.

Two hundred cubic feet of fresh air per minute for every person employed should be forced into every factory, workshop and mercantile establishment; not only forced in, but properly distributed so that each person should get a healthy quantity.

This lack of ventilation is the most insidious foe, the most dangerous element of factory life. Mere lack of air is bad enough, but when the already vitiated atmosphere of a workroom is further impregnated with disease and death from the dust and vapors in the chemical works, the cigar factory, the tobacco shop, the bakery, the candy works, the chenille factory, soap works, and, worst of all, the room in which old carpets, old clothes contaminated with filth, dirt, and disease are torn into shreds for use in the shoddy mills, filling the place with a stifling dust, and dirt, and disease germs, it is infinitely worse, and I doubt not, but you will agree with me, in declaring that these dangers are truly alarming and invite our most serious considerations.

Mr. Dyson, of Massachusetts, spoke approvingly of the merits of the paper. In his opinion the subject of ventilation was a very important one, and should obtain close study on the part of inspectors. The danger attendant upon badly ventilated rooms to their occupants was very great, and, notwithstanding the more apparent injurious results occuring from defective and illy guarded machinery, he felt that health and life was in more imminent danger from badly ventilated workshops, fac tories and school buildings than from any other source. Not withstanding this, he felt the importance also of paying close attention to all kinds of machinery, especially large machinery, and the conditions surrounding workers in large factories, such as foundries and rolling mills. It was the duty of inspectors to endeavor to foresee the possibility of accident, and to devise means by which it might be averted.

Mr. Bisno, of Illinois, desired information from States having laws requiring ventilation of factories, as to the operation of such laws and the results hitherto obtained.

Mr. Baker, of Pennsylvania, spoke of the necessity of properly ventilating small workshops where there was no steam or other power employed, and desired to know if there was no

system which could be applied to such workshops. While inspectors might reasonably demand proper means of ventilation in large factories, they could not insist upon the introduction of the Smead or Sturtevant system into tenement cigar shops and other similar work places. Yet these places were just as much entitled to the care of the inspector as the largest establishments. Must we insist upon the closing of such shops, or what must the inspector do in such premises? The most suitable and satisfactory method for ventilating such shops, so far as his experience went, was by properly adjusting the windows so as to create a current of air to pass continually into and out of the room.

Mr. Dyson remarked, that there is no factory so liable to break down the health of employes as the small factory, the tenement, for instance, where ten to fifteen persons are gathered the whole day in an unventilated room. In his opinion the elevator, as a life destroyer, was not to be compared with it. He was anxious to hear the subject discussed, as for himself, he was better prepared from experience to discuss the ventilation of school buildings.

Mr. Moore, of Massachusetts, took up the subject of schoolhouse ventilation. He showed what size ducts would fairly ventilate different sized rooms and buildings, and that the principle could be applied to workshops and factories. Where steam could not be utilized, a very small gas jet would serve in every case to create an upward current of air. In the majority of small factories power could be applied, and fans used to good advantage. In his judgment the ingenuity of the inspector could provide in some way or other for the most difficult cases. While there was foul air within the factory and pure air without, all that was necessary to do was to provide means by which an exchange could be effected, and nature would do the rest.

Mr. Baker said that he had in mind factories without the application of power of any kind, dependent entirely upon window ventilation, and they were ventilated too upon scientific principles. For instance, the lower sash of one window

would rest upon a board six or eight inches high, through which a number of pieces of galvanized or tin pipes would pass with their ends turned upwards on the inside of the window. Another window would have the same appliance at the top, and in this manner a continual circulation was kept up.

Mr. Bisno stated that he was interested in the subject of guarding machinery, and that during his visits to different factories he had come across machinery very dangerous to operate, yet for which he could devise no means by which employes engaged at them could be protected from injury. He had found in the stock yards of Chicago a press for canning meat at which girls worked. Frequently their hands were caught and very serious injuries resulted, but he could recommend no guard or appliance which would lessen the mutilation. He also stated that young boys were employed to feed stamping machines from which numerous accidents happened, yet there appeared to be no remedy excepting the stopping of the machine. He would like the opinion of older inspectors as to what they would do in such cases.

Miss O'Reilly returned to the subject of ventilation by saying that in a certain cordage factory in Philadelphia there are times when there is so much dust in the atmosphere as to make it difficult to see the machinery, and, though she had given considerable thought to the matter, as yet she could find no remedy for it. It was impossible to cover with hoods the dust producing machinery, and she knew of no other way by which the dust could be collected and carried away. If she should insist upon the absolute ventilation of one factory of the kind she had in mind, it would drive the proprietors out of the business.

Mr. Dyson desired to know how other inspectors would proceed to have dust extracted from an open room, without subjecting the employes therein to drafts and other conditions, probably as injurious to health as the inhalation of dust.

Mrs. Kelley was anxious to learn something more upon the subject of guarding machinery, something of the cost imposed upon manufacturers in carrying out the changes ordered

by the inspectors of States having full control over such matters, and if there was any publication to be obtained upon the subject of machinery guards.

President Franey stated in reply, that a book upon the subject had been published in Germany to which reference is made in the New York Factory Inspectors Report for the present year.

Mr. Moore stated that there is also a French work published which is quite exhaustive upon the subject.

Mr. Mathews remarked that before the discussion closed, Mr. Bisno's question should be answered. He thought that no guard could be applied to a press or stamping machine, and the only protection he could suggest was the use of a stick to remove the scrap or material from the dies. For the meat-canning machine he could see no reason why the meat could not be fed to the machine through a hopper. This would obviate contact of the fingers with the machine. He could conceive of no more exhausting and enervating labor than that of feeding stamping machinery without change or diversion the whole day long, and he did not wonder that so many accidents happened in connection with such labor. He would hail with pleasure any approach made to feeding such machinery by automatic process.

Mr. Watchorn announced that at the opening of the morning session there would be exhibited a new fire escape device, also an automatic elevator gate.

President Franey stated that opportunity would be given at the same time for the exhibition of all other devices brought to the convention.

Mrs. Kelley, of Illinois, then read a paper, which was as follows:

NEED OF UNIFORMITY IN LABOR LEGISLATION.

Throughout the history of legislation on behalf of the wage-earning class, a favorite argument used by employers against each successive proposed measure has been this, that unless the law can be made to affect all employers at once, it must work a hardship, and should, therefore, not be enacted until it can be made universal.

This argument was most vehemently urged when Massachusetts re-

duced the working week for women and miners to 60 hours, and limited the working age of children. It was predicted that competing manufacturers in Rhode Island and Connecticut, who were not subjected to similar restrictions, would speedily bankrupt the law-abiding employers of Massachusetts. But we all know how little real economic difference the measure made. Machinery was speeded somewhat higher, employes came fresher to their work, foremen watched more closely the dovetailing of work among the various sets of hands, so that there was less time wasted, and the end of it was, that the employes had more leisure and the employers as large a product as before.

There was, however, one unlooked-for result. People who wished to have their children go to work early, and who were ready to sacrifice the blessing of leisure for themselves, gravitated to those States in which there were no restrictions, and as these are not a desirable sort of population, we have lived to see Connecticut and Rhode Island in self-defence follow slowly after Massachusetts.

In Europe, the English manufacturers saw ruin staring them in the face when the ten-hour bill became law. But the history of two generations shows England still leading the industrial nations of the world, in spite of the long working day maintained by her competitors in France and Germany. There is the same tale, of speeded machinery and fresher vigor among the employes, more careful watching of odd minutes by the foremen; and an equal product for the employer with more leisure for the employe.

In Illinois, when the eight-hour law was enacted there was the same outcry, that Illinois manufacturers would be driven out of the field. The law has not yet had a sufficient trial for us to judge its effects, but certainly no manufacturer has left the State to escape its workings, and none has plead it as an excuse for bankruptcy.

The truth is, that just as the strikes of this century have promoted invention by stimulating the effort to substitute machines for men, so the shortening of the hours of labor stimulates economy of time, effort and strength; and while it is probable that if the legislature reduced the hours of work from 10 to 4 in some one State, the employers might be unable to compete with other States; we have reason to believe that in those establishments which have loyally obeyed the law and reduced their working hours from 10 to 8, no serious disadvantage has resulted, because the 20 per cent. reduction has been nearly covered by the economics indicated.

One consideration is very apt to be overlooked in a discussion of the hours of labor. This is the fact of the dull season, which is a regular part of the experience of every year. There is no factory known to me which works the full twelve months of the year. For most factories the shortening of the working day means not the employment of more people and the enlarging of the plant to make room for them, but simply the addition of some days work in the year for the employes already engaged, and the working of shifts for a few days or weeks at the height of the busy season, each shift containing perhaps a few more hands than heretofore. The diminution of

the dull season is an unqualified advantage to the employes, and is practicable in a very large number of trades.

There are, of course, certain establishments in which the absolute regulation of the working day is keenly felt. These are printing houses where *rush* work is much in vogue, and all the varieties of the garment shops where fashion decrees the limits of the season within which garments must be placed upon the market. But in these, also, the arrangement of working gifts, wherever tried, has obviated the difficulty and relieved the girls of the strain and exitement of overtime work, which used to be followed for many of them by an illness which swallowed up any extra earnings accumulated by the extra work of the rush season.

From all this it will be seen that, so far as our limited observation has gone, we have reason to believe that the urging of uniform legislation is not so vitally necessary from the point of view of the employer as is usually assumed. We see as a matter of fact, to-day, manufacture carried on with a working-day of 16 to 18 hours in the bakeries of Berlin, and 8 hours in the trade union bakeries of Chicago. Or, to take for example a branch of manufacture in which there may be competition between the two places, we see the 66 hours working-week for the cotton-spinner of Switzerland, and the 56 hours week for the spinners in England, while, if I am not mistaken, the spinners in Massachusetts work 58 hours a week, and in New York 60.

From the point of view of the wage-earning class, uniformity can be desirable only when it is on the plan of the most advanced legislation ; and the mill-girls of Massachusetts would have to deplore, to-day, the loss of twenty years of enjoyment of a legally limited working week if Massachusetts, before proceeding to the change, had waited for Georgia to adopt the 60-hour week.

There is, however, one case in which uniformity of legislation is absolutely essential. This is where *all* the conditions in a vast trade, or series of related trades, are so bad that thorough-going legislative improvement in one place results in banishing the manufacture to *other* places, where the bad conditions are undisturbed, and the profits of the exploiters are such that they can and do undersell the law-abiding manufacturers of the more progressive place. But this phase of the need of uniformity of legislation will be fully treated in a paper devoted to the prohibition of tenement house manufacture.

From the day on which the Illinois inspectors began their work, 14 months ago, it was manifest the 8-hour law was obnoxious to employers, and that its faithful enforcement would be bitterly contested. As a first move in that direction the Manufacturers' Protective Association was formed, its membership embracing many of the wealthiest and most influential employers in all trades, and from all parts of the State. The purpose of the Association was openly and definitely announced to be the overthrow of the 8-hour provision. To this end the members were assessed, and their response was liberal and prompt. The Association retained excellent legal talent, a legal Chicago firm, one of whose members is an ex-judge,

undertaking to have the 8-hour provisions pronounced unconstitutional.

The first step was an endeavor to limit the whole State factory law to the garment and cigar trades and, indeed, to the sweat-shops only, within these trades. This point was met and successfully contested in the courts in a series of suits, embracing paper-box manufacture, diverse branches of the printing and other trades; our contention that the law applied wherever anything was made for sale, being invariably upheld by the courts.

A second effort of the Association was in the direction of compromise. An amicable settlement was proposed, under which a test case should be made up to cover all the points at issue. Pending the decision of the Supreme Court upon this agreed case, and the constitutionality of the law involved in it, all efforts of the inspectors to enforce the law should be suspended.

Bearing in mind how long a time ordinarily elapses before the final adjudication of a case by the Supreme Court of any State, as is so markedly shown by the suits now pending in the New Jersey courts under the 55-hour law, we promptly rejected this modest proposal of the Illinois Manufacturers' Association.

Whenever the inspectors found the 8-hour sections violated, and secured what seemed adequate proof, suit was instituted. Large corporations were made defendants in justice courts where the suits were begun, as well as the small employers who had been left outside of the Manufacturers' Association. In every case the court convicted, through stipulating, of course, that the question of constitutionality as not passed upon, that lying beyond the jurisdiction of the lower courts. When, finally, thirteen cases in which members of the Manufacturers' Association were involved, had been decided in our favor, one of them a second conviction of the corporation prosecuted, the Association appealed the cases, and nine of them were carried to the Supreme Court, via the Criminal Court, where the decision of the justice was affirmed.

The argument before the Supreme Court, upon the constitutionality of the law, was had in May of this year. A decision is promised early in October. If it is not then rendered, we shall endeavor to hasten the action of the court by prosecuting all offenders. We owe it to the many employers who are obeying the law in good faith to insist that all others in the State shall do the same, if the statute is good. If, however, it is held unconstitutional, we must, if possible, know the fact before the reconvening of the legislature.

It would have strengthened our position vastly, before the people and with employers and the court, if bills had been vigorously pushed towards adoption, for a legal reduction of the working day, in the great competing States: New York, Pennsylvania, New Jersey, Ohio, Massachusetts and Minnesota; for, whatever the actual facts, as shown by the history of the reduction of hours, the feeling is very strong still among employers, that the manufacturers of shoes in Massachusetts, of garments in New York, and of textiles and wooden wares in other States, are benefitted to the prejudice

of the Illinois manufacturers, by the greater length of their working week. We cannot but fear that this wide-spread, freely-expressed feeling will have weight with the Supreme Court in forming the opinion soon to be handed down ; and it would have been of value incalculable if we could have shown them, to counteract this influence, that in the competing States the initiative had already been taken towards obtaining the legal 8-hour day, and that legislation to that end was only a question of time.

In this matter of taking the initiative, it seems to me that the duty of the inspectors is a most urgent and binding one. For we are, in some respects, more competent to judge what labor legislation is promptly attainable than the working people themselves. Going into all the factories of all sorts, we see the whole field of industry as no other eyes see it, and have an opportunity, enjoyed by no other observer, of judging which grievances are general enough to be legislated upon immediately without involving that class discrimination which wrecked the New York tenement house cigar law. Moreover, the legislators regard us as, in a manner, experts, and attach weight to our opinions. If we have done our duty faithfully, and enforced the law, the working people stand ready to endorse our recommendations, and urge the passage of our bills. Of course, if we decide on our own responsibility that this or that clause need not be obeyed, so usurping the place of the courts, instead of enforcing the whole letter of the law, and leaving the work of limiting it to the courts, we need not look for any cordial respect from the wage-earner, or any vigorous support from them for measures which we may propose to the legislature. If, on the other hand, we have kept the respect of the community by prosecuting offenders to the limit of the powers entrusted to us, we shall both have the respectful hearing of the legislature, whatever its political complexion, and shall find the wage-earners rather disposed to leave to us the initiative in progressing legislative measures.

Then, too, we can decide what constitutes uniformity better than mere legislators can, because we learn daily in the courts how much a single word or its omission means, and we are not likely to be tricked into approving measures which seem to offer "about the same thing." We have learned from bitter experience the power of the single word *knowingly* to vitiate a penalty clause ; and we perceive the elasticity of the word *family*. We know the radical difference between *regulating* and *prohibiting ;* and we have a more exact appreciation of the impossibility of regulating such things as tenement house manufacture, and the employment of children in dangerous occupations. We know that the only way to get any uniform regulation of these is to regulate them out of existence by prohibition.

One important opportunity for inspectors to promote uniform legislation, which becomes more conspicuous from year to year, is the scientific preparation of the statistical part of the annual report. To us who are asking for an educational clause restricting the labor of children, it would be of very great value if we could show that in New York, the year before this amendment was passed, the number of children employed was so many thous-

and greater in the same industries, in which children are employed in Illinois, than it was after the amendment had been in force a year. Or if the employment of children in a list of specified occupations designated as injurious to health, morals, life and limb in Ohio, had fallen off, as shown by tables of the Ohio Inspector's reports of the year before, and the year after, the enactment of the admirable clause of the Ohio law which we are about to ask the Illinois legislature to adopt is highly commendable.

In the case of the regulation of the hours of women, it is true that the Massachusetts Bureau of Labor Statistics has, to some extent, made good the omission of the inspectors' annual reports, by its investigation of the introduction of the ten-hour day. But no census, taken once in five or ten years, and no spasmodic collecting of information by the Bureau of Labor Statistics, can afford any such opportunity of acquaintance with the condition of labor as we enjoy who are always in the field, and whose daily schedules form a record of high scientific value, because of it continuousness and its minuteness.

To summarize the work of individual inspectors, and the advance in factory legislation of the different States, is the aim which brings us together in annual convention. The great value of the knowledge thus obtained is its use in securing further and uniform legislation throughout the States. We meet now to learn, by comparing notes, what each State has done during the past year. Has any department obtained the introduction of an 8-hour bill? Has the legal working age of children in New Jersey and Pennsylvania been raised to the standard of 14 years? Have the provisions of the factory act been extended to mercantile establishments outside of Massachusetts? Has any State adopted or farther extended provisions restricting the sweating system? Or have bills been introduced in these directions? Doubtless all these questions will be raised and answered by the papers read before this convention, and the discussions thereon.

The proceedings of our conventions, issued annually, should be so formulated as to have high educational value, not alone to the factory inspector, but also, and in a greater degree, to the voter, the sociologist, and the legislator. Whatever can add to the value of this volume should be welcomed; and I venture to suggest the appointment of a committee, to consist of one delegate for each State represented, to prepare a report, which, upon adoption by the convention, shall become a part of its proceedings; the report to show, year by year, the status of the law in each State, governing :—

1) Age and other limitations upon the employment of children.
2) Hours of labor.
3) Mercantile establishments.
4) Sweat shop and tenement house manufacture.
5) Safeguards; including boiler inspection and sanitary inspection.
6) Weekly payments, truck acts, etc.

We of Illinois certainly showed our high opinion of the value of last

year's proceedings, when, in spite of the very limited amount of our appropriation, we sent a thousand copies among influential journals, the libraries and the law-makers of Illinois, in order that it might be seen how much more other States do, in some respects, than Illinois for the welfare of the wage-earning class. Yet we feel strongly that the educative value of the present report will be far greater if it embodies such a committee report as is here proposed.

Such a scientific presentation of the present chaotic condition of legislation in the different States is a necessary first step towards securing that uniformity of laws, which is in the highest interest alike of employer and employe.

By means of this annual report of its proceedings, the convention can stimulate a movement in the industrial States simultaneously, and can furnish in more systematic form than we have ever done the results achieved in some States, and the needs found urgent in others.

The times are ripe for labor legislation. The working people demand it. No legislature dare wholly ignore their demand. The courts of Massachusetts and New York have set the precedent of upholding such legislation.

Ours is the noble duty of taking the initiative in promoting uniformly effective measures. Noblesse obligé! Our technical knowledge fits us for the task. Let us not lose the opportunity of the coming winter.

Mr. Rockwell, having made some remarks upon the paper just read, President Franey requested him to give a brief statement of the factory laws of Rhode Island.

In reply Mr. Rockwell said that the Factory Act was enacted last May, and inspection was started last July. It covers all establishments, mercantile and manufacturing, having five or more persons employed therein. He had found manufacturers generally satisfied with the law, and usually disposed to comply with all changes recommended. The full text of the act must be posted in every shop and factory. He explained at some length the workings of his department, and felt satisfied that very much good had already been accomplished.

Mrs. Kelley inquired if the age of a child employed in any factory had to be attested to by any one.

Mr. Rockwell replied that the parents of the child attested to its age.

Mrs. Kelley asked if this was done under oath?

Mr. Rockwell said it was not.

Mrs. Kelley then remarked that it was her experience that a statement of that kind unsworn to amounted to nothing.

Mr. Baker inquired if a certificate as to the child's age had to be filed at the office.

Mr. Rockwell replied that a school certificate alone was required.

Mr. Watchorn then asked Mr. Rockwell, if he should find a child employed whom he felt assured was under the legal age, would he remove that child irrespective of the consent of the manufacturer.

Mr. Rockwell in response said, that as yet he had encountered no case of that kind. Where he felt certain that a child was below the age he acquainted the proprietor of the factory thereof, and he had met with no difficulty in having the child removed. In such cases he would not arrest the employer. He proceeded to illustrate how the work was carried on. He did not claim that the law was sufficiently stringent, but as far as it went it was comparatively a good law, and the people of his State regarded it as being much better than no law at all. He had no doubt it would be improved by future legislation to meet every requirement, as the department became better informed and more competent to recommend such legislation.

Mrs. Kelley desired to know if any State represented had made any effort towards securing an eight hour law.

Mrs. Purdy replied that a nine-hour law had been introduced in the State of Rhode Island.

Mr. Franey stated, that an eight-hour law had been introduced in the New York Legislature, but that there was little prospect of its getting any farther.

Mrs. Stevens inquired if the nine-hour law in Rhode Island applied to both sex.

Mr. Rockwell replied that it did.

Mrs. Kelley then inquired if the bill introduced in the New York Legislature applied to both sex.

Mr. Franey in reply stated that it applied to women and males under eighteen years of age. It was similar in text to

the 56-hour law. He also suggested that an effort be made in every State to secure a reduction of the hours of labor in the manner attempted in New York. Wherever there is a law in operation regulating the hours of labor for women and children, it is much easier to have such a law amended than to introduce and carry through new measures, while the effect of continually reducing the hours for women and children would bring about a like result in the hours of the male adult.

Mr. Dyson said, that the only way apparent to him to obtain the correct age of children employed in factories was to examine their baptismal certificate. Young children engaged in factory labor were in the main foreign born, and to them a certificate of baptism was a very essential thing to possess. He did not see the wisdom in inspectors urging the enactment of eight-hour laws to apply to male adults. It belonged to the workingmen of the country to do that for themselves. The eight-hour law introduced in the Legislature of Massachusetts, and which was defeated in the Senate, applied only to minors of both sex, but he felt certain that what would shorten the hours for women and minors, would affect all labor alike.

Mr. Watchorn stated, that the law of Pennsylvania limited the hours of labor for minors to twelve each day. An effort had been made to set the limit at ten hours, but a large proportion of the industries of the State worked night and day continuously through the week, and a concession of twelve hours had to be made to accomodate these industries. He thought the question raised by Mrs. Kelley a very important one. The hours of labor ought to be shortened in all branches of industry, and it was very desirable to know what States had taken advanced ground in that direction. Such States could be pointed to when measures of a reform character were asked for by others.

Mrs. Purdy Palmer said, she could not permit to go unchallenged the remark made that the law of Rhode Island was not worth the paper it was printed upon. She maintained it was a step onward, and in the right direction, and probably farther advanced and more comprehensive in its provisions than were the original laws of some of the other States, which

to-day could boast of some very efficient laws. It shows that a move is being made in Rhode Island to relieve the existing condition of which her working people complain, and the best proof of its value is the fact that much good has already been effected through its operation. She accepted the suggestion of Mr. Dyson relative to the baptismal certificate as being a very good one. It would be a great step made toward securing the full enforcement of the law if a certificate of birth could be obtained, but not being able to obtain it, what is there that can be done?

Mr. Franey stated that passports of emigrants from the old world could be consulted and absolutely trusted.

Mrs. Kelley asked what could be done if these passports were lost?

Mr. Dyson remarked that the laws of Massachusetts required every employer of minor labor to obtain a certificate of the age of children previous to their engagement, and he requested that delegates become informed upon the provisions of the Massachusetts law.

Mr. Watchorn said, that inspectors could not be held responsible for the construction or efficiency of factory laws, but it was his opinion, that, if the judges and lawyers of Rhode Island were of the same order of beings as were judges and lawyers in Pennsylvania, the laws of Rhode Island would rarely be enforced.

On motion of Miss O'Reilley, further discussion of Mrs. Kelley's paper was suspended to be resumed at the morning session of the following day.

Convention recessed at 10 P. M.

SEPTEMBER 26, '94.

The Convention came to order at 9:15 A. M. with President Franey in the chair.

After the roll of officers was called the President suggested that a recess be taken to afford opportunity to the delegates to examine the different devices placed upon exhibition before the Convention.

A recess was declared, and the delegates gathered around the Secretary's desk, to inspect the models thereon, and to discuss with each other the merits claimed by the patentee for each particular device.

The devices on exhibition were Shaw's Gas Tester and Inspector's Instrument, Fairchild's Improved Fire Escape, the Flexible Steel Clad Fire Proof Door, the Eureka Automatic Safety Elevator Gate, the Richmond Safety Elevator Gate, and the Hobbs Adjustable Safety Elevator Gate.

The meeting at 10:15 resumed the regular order of business. On motion of Mr. Armstrong the reading of minutes was dispensed with.

The President announced that the paper of Mrs. Kelley was before the Convention for discussion.

Mr. Morse remarked, that after having heard the discussion of the previous evening, and an examination of the laws of the different States represented, he felt convinced that Michigan had a pretty fair factory act. Its provision regulating the employment of minors had worked so far very satisfactorily. He could suggest improvements, but on the whole the results showed that it was possible to accomplish very much good by carrying out the law as it was.

Mrs. Palmer said, that, being a new inspector, she wished to be pardoned for asking questions. It was her desire to know the workings of the laws in other States than her own. She thought it would be well for inspectors when questioned to give actual conditions and results. Only such could be of benefit to other States desirous of improvement in their present laws. She requested Mr. Morse to state, whether the many improvements brought about in the factories of Michigan was the result of actual factory inspection or of sentiment engendered by the law favorable to said improvements.

Mr. Morse replied, that, in his opinion, it resulted from an effort on the part of his department to enforce the law. Undoubtedly laws engendered wholesome sentiment, yet, if no evidence was shown that the law had to be lived up to, it would eventually be of very little service. While laws might

not be explicit or forcible enough, there were ways by which the objects of such laws might be obtained without necessarily resorting to prosecution.

There being no apparent disposition to continue the discussion, Mrs. Kelley desired to know if it would be in order to ask for a report from the Committee on Synopsis of Laws.

The President replied that it would be in order.

Mrs. Stevens stated that she was prepared to give a partial report, and proceeded as follows:

REPORT OF COMMITTEE ON SYNOPSIS OF LAWS.

Ladies and Gentlemen of the Convention.

Your Committee on a Synopsis of Legislation existing in the different States, beg to report that they have compiled the provisions of the laws of Pennsylvania, New York, New Jersey, Massachusetts, Rhode Island, Ohio, Michigan and Illinois, covering the following points:

1. Age and other limitations upon the employment of children.
2. Hours of labor.
3. Mercantile Establishments.
4. Sweat shops and tenement house manufacture.
5. Safeguards, including boiler and sanitary inspection, and the immediate reporting of accidents to the inspection department.
6. Weekly payments, truck acts, etc.

The result is as follows:

AGE AND OTHER LIMITATIONS UPON THE EMPLOYMENT OF CHILDREN.

Rhode Island.

No children under 12 years employed.
No sworn statement of age required.
No wall records required.
Office register required for all children under 16 years.

Michigan.

No child under 14 years employed,
No sworn statement of age required.
No wall records required.
Office register required for all minors under 16 years.
Inspectors can require health certificate from county physician.

New Jersey.

No boy under 12 years and no girl under 14 years employed.
Sworn statement of age required.
No wall record and no office register required.

Prohibits employment of child under 15 years unless such child shall have attended school for 12 weeks during the year preceding its employment.

Pennsylvania.

No child under 13 years employed; sworn statement of age required; wall records and office register required; no boy under 14 year is allowed to run elevator.

Ohio.

Limits the age, at which children can begin work, to 14 years, but with a provision that children between 12 and 14 years can be employed "8 hours per day during the time they are not required to attend school." No sworn statement of age required. An act of 1890 also provides that "no child under sixteen years shall be employed by any person, firm, or corporation in this State at any employment whereby its life or limb is endangered, or its health is likely to be impaired, or its morals may be depraved by such employment." The word "willfully" in the penalty clause vitiates this act.

Massachusetts.

No child under 13 years employed; sworn statement re-required, also school age certificate. Children between 13 and 14 years must attend school 30 weeks in the year, and in cities where there is manual training this school attendance is required to the age of 15. Children under 15 years are prohibited from running elevators, or appearing in the theatres and other places of amusement. The chief of the department, with the consent of the Governor can prohibit the employment of any child under 14 years at any occupation deemed dangerous. A child under 14 years of age must have a certificate that he or she can read and legible write simple sentences in the English language.

Illinois.

No child under 14 years employed; sworn statement of age required; wall records and office register required; health certificate can be demanded from any minor, that it is physically able to perform the work at which the child is found engaged.

New York.

No child under 14 years employed; sworn statement of age required; wall records and office register is required; educational qualifications, requiring all children under 16 years of age to read and write simple sentences in the English language; illiterate children can be employed only during vacation; the same health certificate as Illinois; no boy under 15 years can run elevator; no boy under 18 years can run elevator having speed of more than 200 feet per minute.

HOURS OF LABOR.

Rhode Island.

No restriction in factory law.

Michigan.

For males under 18 years, and females under 21 years 60 hours per week.

New Jersey.

Fifty-five hours per week, irrespective of sex; law pending before the Supreme Court.

Pennsylvania.

No minor employed more than 12 hours in any one day, or sixty hours in any one week in any manufacturing or mercantile establishment, laundry or renovating establishment.

Ohio.

No minor under 18 years employed more than 10 hours in any one day, or 60 hours in one week in any factory, workshop or mine.

Massachusetts.

No minor under 18 years of age, and no woman employed in any manufacturing establishment more than 10 hours in any one day, or 58 hours in any one week. No minor under 18 years in any mercantile establishment more than 60 hours in any one week. Legal days work for both sexes, irrespective of age, when employed by the commonwealth, 9 hours; employes of street corporations not to be worked more than 10 hours and these to be within twelve consecutive hours, unless bound to other hours by a contract prior to 1894. No child under 14 years of age can be employed before 6 A. M. or after 7 P. M.

New York.

No minor and no woman under 21 years more than 10 hours in any one day, and 60 hours in any one week. No minor under 18 years, and no woman under 21 can work before 6 A. M. or after 8 P. M.

Illinois.

No female can work more than 8 hours in any one day, or 48 hours in any one week. Law now pending before the Supreme Court.

MERCANTILE ESTABLISHMENTS.

Mercantile establishments are included under the factory law in Rhode Island, Massachusetts and Pennsylvania, and in no other States.

SWEAT SHOPS AND TENEMENT HOUSE MANUFACTURE.

Massachusetts.

Regulated by tag and license laws.

New York.

Regulated by tag and license laws.

Pennsylvania and *Rhode Island.*

Inspectors have no jurisdiction over shops employing less

than five persons and have no special provisions relating to sweat shops.

Ohio, *Michigan* and *New Jersey*.

Have no special provision relating to sweat shops.

Illinois.

Inspectors have access to every place in which any article is manufactured for sale, and power to condemn and order destroyed garments found infectious, or infected with vermin, and to prohibit the employment in any dwelling rooms of any persons not members of the family living therein.

Mr. Davis objected to the remarks of the committee, that in the penalty clause of the Ohio Law to prevent children under 16 years being employed in dangerous or unhealthy employments, the word 'willful' vitiated the act. The law had proved a most beneficial one, and he had found no difficulty in having children removed, under its provision, from dangerous occupations. The opinion of the inspectors as to what employments are dangerous or unhealthy is seldom disputed, and once so declared the manufacturers are not disposed to incur any risks. The word 'willful' could possibly be spared from the act, and the act might be more effectual without it, yet there is no evidence so far to show that manufacturers had taken advantage of its implication to evade the requirements of the law. While it is difficult at times to decide what employments are unhealthy or likely to deprave morals, yet it is not difficult to determine employments that are dangerous, and the law in that respect is generally carried out.

Mr. Armstrong stated, that he had found no obstacle to requiring full compliance with the act, except in cigar factories. The large cigar factories of the city of Cincinnati had apparently combined to oppose the law. They maintained that cigar manufacturing was not unwholesome employment, and they have medical authority to back them in their position; but he had no difficulty otherwise in securing obedience to the law.

Mr. Davis, reverting again to the report of the committee, said, that in the State of Ohio all children under 16 years of age without employment were required to attend school. The compulsory education law so provided, and truant officers in

every school district are empowered to enforce the law. He maintained that factory inspectors should have equal power in this respect with truant officers, so that when a child is removed from the factory the inspector could complete the work and require school attendance. He stated that a law is in operation requiring the payment of regular wages to minors and which prevented the imposition of fines upon them. That an effort had been made to amend the law providing that children under 14 years of age should not work in factories, to apply also to stores, but it had failed mainly because the legislature regarded such employment a means of education. There had been a statute requiring payment of wages semi-monthly which is still observed in the State, but which a few months ago had been declared unconstitutional by the Supreme Court of the State.

Mr. Ellis desired to inform the committee that Ohio had a truck-law in operation, and that its enforcement is not within the power of the Department of Factory Inspection, but in the hands of the County Prosecutor.

Mr. True requested information as to whether any State has a law requiring a certificate of birth of children. He said he had met with much difficulty in learning their proper age, and thought that the only sure way of getting it would be by demanding such certificate.

Mr. Bisno explained the workings of the Illinois law relative to the employment of children, and said that in many cases women and children deserted the shorter hour factories, for employment in those where longer hours prevailed. It seemed to him that human greed upon the part of the employes had more to do with keeping up the long hours system than anything else. Some people would regard it a calamity, unless permitted to work full twelve hours a day, and any very rapid reform in that direction could not be expected while people are permitted to go unrestricted.

Mr. Watchorn declared himself in favor of an active and aggressive movement all along the line for shorter hours of employment for women and children, maintaining that the

welfare and progress of the nation, and the permanency of its liberal institutions depended upon it. He could show by many letters received from men of eminence and ability, that the best minds are in sympathy and harmony with factory inspectors upon the question, and are ready to co-operate with them to bring about this desirable reform.

Mr. Davis being called, read his paper, which was as follows:

"ACCIDENTS, AND HOW TO PREVENT THEM WHERE MACHINERY IS IN USE."

Ladies and Gentlemen of the Convention:

We have no means of ascertaining with any degree of accuracy the proportion of accidents to the number of people employed in industrial pursuits. The best effort made in that direction, with the data at command, would largely be a matter of conjecture. However, what information we derive from employers' reports may be made to serve to very good advantage. They show at least that accidents in factories and workshops, which inflict upon employes serious bodily injury or death, are of quite frequent occurance, that much suffering, poverty and deprivation ensue therefrom, and that in order to reduce the ratio something more than is at present being done is necessary.

By careful examination into the details given of an accident the cause becomes apparent, and thereby the preventative indicated, on the principle that when causes are removed, effects cease. Pursuing this course with accidents in general it becomes possible to some extent to classify causes, and to determine the specific means by which most of them may be averted.

The factory inspector, by nature of his duties, is best conditioned of any person to obtain and to classify such information, and while for many reasons a complete statistical inquiry into the subject would be very valuable—until such inquiry is made it must be conceded that the factory inspector is the best authority upon the subject. To him it becomes a daily study, for, relatively with the knowledge he possesses, his services become efficient and valuable. The responsibility imposed upon him naturally makes of him a close observer, and keeps his mind continually in a train of thought, from which must evolve the degree and character of his proficiency. His knowledge then should be accepted as that of an expert. In the main reliable, correct and undisputable, and in the dissemination and application of that knowledge, in my opinion, is largely involved the secret of the prevention or diminution of accidents.

Most accidents have what we may term a primary and a secondary or immediate cause. The primary cause is that which precedes for some time the actual mishap, or the condition which invites accident, and which is

generally discovered to be a case of negligence or ignorance on the part of someone. Proper attention given to the primary causes would avert many disastrous accidents, therefore it is to the primary causes that the attention of factory inspectors is mostly directed. Ignorance of impending danger is sometimes excusable, for to know how to remedy a defect, that defect must be apparent and recognizable. But dangerous conditions exist more often as the result of indifference or want of proper inquiry into the subject, and therefore are as inexcusable as wanton and willful negligence. There are too many employers who are totally uninformed as to the inside arrangements or surroundings of their factories, but such want of knowledge does not relieve them of responsibility, unless those in charge as their agents have full authority to remedy defects, and to incur costs in providing all necessary means of safety. Where insufficient precaution is taken to prevent accident it is an evidence of negligence or ignorance on the part of the employer or his agent, and if accidents occur someone is morally responsible, whether amenable to law or not. Ignorance only excuses where it can be shown that it is not the result of indifference to being better informed. No person has a right to employ others at the risk of life and limb without knowing to what extent those others are subjected to danger, and without making the utmost effort to prevent mishap and disaster. Even though it is maintained that every employe personally assumes more or less risk in engaging himself to perform any kind of manual labor, it is, nevertheless, the moral duty of employers, to make every known provision for safety, and which may ward off mishap without being compelled to do so by law, and irrespective of the desires or demands of their employes in the matter. Many accidents attributed to the carelessness of employes might justly be transferred to the shoulders of employers. Where guards and appliances of protection might be applied to much advantage, employes are often permitted, or rather expected, to depend solely upon their dexterity of hand and their continual vigilance to avoid personal injury. Danger in many forms is allowed to exist, simply because of the expense it would involve to make the required change. Posted notices can often be observed, warning of some recognized danger, when for the cost of a few dollars all risk from such a source could entirely be removed. In my judgment more accidents result from the one cause: the cost to be incurred by improvement, than from all others combined. It may be complimentary on our part to say occasionally that employers are generally disposed to do what they can to avert accidents rather than run chances, but we have no right to be complimentary at the expense of truth. While there are many manufacturers of whom such a statement might truthfully be made, yet, my experience teaches, that such a disposition is the exception to the rule, rather than the rule. Otherwise there would not be so much necessity so frequently recurring for inspection. There would not be so much left in the way of defective machinery for inspectors to discover; nor so much time required after defects are pointed out before the remedy is applied. The more general disposition is to put off as long as

possible any required change upon any pretext or excuse that can be offered for the delay. All sorts of arguments are used to show that the required protection is unnecessary, and to convince the inspector that he is in error in demanding it. Reason after reason can be advanced by the operators of factories, to prove that a guard is unnecessary or impracticable or that some recommended change would interfere with the productive capacity of a machine, but rarely is there a suggestion received from them, whereby that machine could be operated with more safety to the operative. In the majority of factories it would be worth the position of a worker to request any change or improvement, however clear it might appear to him that failure to do so foreboded accident. The fact that when such information is given to an inspector, it is invariably with the request that the informant's name be withheld, or that he be not recognized by the inspector when passing through the factory, conclusively refutes the position that employers are generally disposed to take every precaution for safety sake. On the other hand it might be truthfully said that the general disposition is to regard the inspector as an interloper, and his visits as an interference with the right of employers to do as they please with their own. But, as I have said, there are many notable exceptions to the rule, and it is fair to add that these exceptions are becoming more numerous as factory laws and their requirements become more gencrally known and understood. Whatever can be done to direct the thought and attention of employers to this subject, will tend continually to lessen the mutilation now going on in all industrial avocations. However, it must not be forgotten, that the factory and workshop is under the absolute control of the owner who operates it. Today every such place can be made comparatively free from danger. If it is permitted to go otherwise, and injury follows to some one as a consequence, it should be attributed to the indifference or negligence of the owner of that factory. A true and ever conscious sense of responsibility and duty in this respect should be impressed upon the minds of all manufacturers and employers of labor. If it cannot be done otherwise, laws should be enacted which make all such negligence criminal; and criminal to such an extent that it would be regarded as economy to attend to such matters as much so as to the details of any other part of their business affairs. But, while most causes of a primary character can be charged against the employers, there are those for which they are not responsible: causes which originate in the carlessness or recklessness of employes. Principally they are the result of a willful disposition to risk danger, rather than take the time or extra labor required to fend it off. With many this sort of negligence becomes a habit, because of the high pressure of speed in which they perform their labor. With others it is natural, and comports with their general make up. Such persons give no thought to the possibility of mishaps to others from their carelessness, but act on the theory that every man is supposed to look out for himself. Such men are sources of danger everywhere, and in the workroom should be subjected to surveillance and compelled by law to cultivate more careful

ways. Workmen often use wrong tools or improper implements, and thus place life and limb in jeopardy where the right tools or implements would best serve their purpose. Guards and protections of all kinds are removed for temporary convenience, and left for others to replace, or to risk working without. In too many instances workmen with a sort of bravado recklessly incur the risk of injury, simply to demonstrate to their fellow workmen how fearless of danger they are. Such men scoff at the suggestions of inspectors, and will often undertake to advise employers against adopting necessary precautionary measures. Some times factory workers, for the mere sake of gratifying some whimsical notion—it may be to witness some novel or passing sight—place themselves in very dangerous positions. For a moments rest or relaxation from their labors, they will seek and resort to all manners of unsuitable situations and places, absolutely unconscious or regardless of the risk incurred thereby. When at their own work they will pass over revolving shafting, through traversing belts, over hatch covers of elevators, and between densely packed operating machinery, making short cuts in all sorts of ways to save time, or a few extra steps. Many serious accidents undoubtedly are induced through the dissipated habits of employes—not so much perhaps the result of a case of drunk at the time, but more because of a weak and enervated condition following an extended spree or "a night's good time of it."

A most prolific source of accidents among factory employes is what is known as "horse play." This is especially so where minors and young children are the victims and it should never be permitted within the factory during work hours. If there is time for play and recreation it should be outside the factory, and where injury to anyone is not likely to follow. Accidents also frequently happen to minors because of their propensity to handle tools and to undertake to work at machinery, the operation of which they do not understand, yet which they are impelled to try from a laudable desire to have a knowledge of some better paid occupation than their own.

It is impossible to give in detail all the causes from which accidents to factory operatives occur, but sufficient are known to illustrate what must be counteracted to decrease to any extent the multiplicity of mishaps and casualties in workshop and factory. From what is known we may logically infer that as employer and employes become better informed and more inclined to give attention to the possibility of accident, such will become less frequent. This then is what must first be accomplished, and it devolves upon factory inspectors to do it. The knowledge they possess, born of experience and observation, will have to be brought into use and become more generally diffused. Personal visitation on the part of inspectors has done a great amount of good in obviating the possibility of accidents, but it does not meet the full requirement the subject demands. Too much at present depends upon the casual visits of the inspector and upon the vigilance he displays in discovering defects. More responsibility in this respect should rest upon the employer and employed. Statutes should be enacted in every State requiring manufacturers to provide the best means of protection ingenuity

can suggest, irrespective of inspection of their factories by anyone. It should be made an offense to leave undone what may be done to guard life and limb from danger when such a possibility from any source has been made apparent. More than this, if there are means of ascertaining what can be done in that respect it should be regarded as the duty of employers to know and to apply that knowledge. To know what would ward off danger, and not to apply it, should be regarded as criminal. It should also be made an offense for an employe to refuse, or to neglect performing his full part in carrying out the intent of the law providing for his protection. If the manufacturer has complied with what the law requires, the employe should be held responsible for any lack of attention on his part likely to cause injury to himself or to others. This being established, the necessary information must be forthcoming and the department of factory inspection in each State is the source from which it should proceed. It must be information authorative, comprehensive, final and not to be deviated from. The law should designate that whatever is considered necessary to insure safety must be regarded as indispensibly a part of a machine as that which gives to it its productive capacity. No machine or any of its parts in an incomplete condition should be permitted to be operated; and it should not be considered complete, unless made as safe to operate as the application of information furnished by the State Inspector of Factories could make it. The work of factory inspection has been so systematically performed in the past, that the inspection department of every State must be prepared to issue formal instructions for the guarding of different machinery in use in every kind of industry. Machinery of all kinds have at some time or other had applied to it the close examination of the factory inspector, and if dangerous in any of its parts, his inventive ability has been brought into exercise to devise for it proper safe-guards. This knowledge, as I have stated, can be classified and placed in such form as to be accessable to every employer and to every factory worker. This has partially been done in many of the annual reports of the different state departments of inspection. As an example, I might cite the chapter on accidents in the New York report for 1891. The information comprised in that chapter alone, if placed before the manufacturers of the United States for their instruction, and if made obligatory upon them to carry out its suggestions, is sufficient to prove beyond dispute that a very beneficial result would follow in decreasing factory accidents. However, only a limited number of these reports are issued and not one in a thousand of our manufacturers have the time or opportunity to look through them to know what they contain. This information then should be supplied in some other manner, and that manner I propose to suggest.

In the first place the department of inspection of every State must be regarded as a bureau of information upon the subject of accident prevention, and it should possess almost arbitary power to enforce compliance with all its recommendations. Then every manufacturing concern in the State having machinery in operation and under its control should be held to furnish the Chief Inspector of Factories with information relative to such machin-

ery. In return, the inspector should supply all requisite instruction for the proper guarding of such machinery. To do this the industries of the State must be classified, and the different mechanical devices in each industry plainly defined, and the means of guarding made so clear that it can be applied without further advice or instruction from any one. This information should be provided in pamphlet form, and also printed upon posters. These posters should be supplied with the pamphlet for posting in the different work-rooms of factories, and contain such instruction as would be applicable in one industry only or in one particular branch of such industry. After these provisions are made, it would not be unjust or unreasonable to make it a punishable offense for machinery to go unguarded, whether the fault could be traceable to manufacturer or employe. The results would certainly be much better than at present, for it would then be the care, and to the interest of both parties, that everything should be in proper condition when the inspector made his appearance. Nor would it deprive the inspector of sufficient work to attend to, for it would be his first duty to discover that all proper precautions had been taken according to the formal instructions of his department. To-day the law says that all changes ordered shall be complied with within so many days, ordinarily thirty days; while the majority of such changes could be made within a few hours time. Then, to make such orders at all would be in the majority of cases unnecessary, for besides the penalty which would be inflicted for operating machinery in an unsafe condition, it would be the right of the inspector to prevent its further operation until suitable guards or other protection would be provided.

Let us examine how such a law would work. Suppose we take a factory in which furniture is manufactured. There is not a machine on any of its floors but what has been examined by an inspector, some time or other, and the necessary guarding is an open question to him. This information has been supplied to the manufacturer, and by perusing the manual or the poster by which his special branch of business is covered, he knows exactly what is required of him. When the inspector visits that factory he expects to find every machine, and every connecting part of it, in safe condition to operate. If he discovers otherwise, someone is responsible for the neglect, and amenable to the law. The machine is stopped until properly guarded and the productive capacity of that factory suffers to some extent for the time being. This system would involve not only the necessity of guarding, but also that of keeping continually guarded every piece of mechanism which otherwise might be classified as dangerous. Such a system would treat all manufacturers alike, and allow no place for a complaint that inspectors were overexacting and unreasonable in their demands. For what would be expected of all, could not be objected to on the ground of impracticability, or that it would interfere with the productive capacity of one factory over another. Many valuable suggestions from an economic and utility point of view as well as from that of preventing accidents, could be furnished in the suggested manual, which would make it a welcome messenger wherever received. It must be admitted in most instances that

guards placed upon machinery serve to protect it from wear and breakage, and thus add to its durability and productivity. Besides in order to keep within the requirements of the law, frequent examination of shafting, hangers, gearing, belting, belt shifters, screws, keys, bolts and all other appurtenances of the factory would be necessary, which would serve to keep everything in repair and good order. In small factories this should be the duty of foreman or engineer to give daily attention to; but in establishments where a large number of hands are engaged, and the industry is divided up into many different occupations it would pay the concern to keep an inspector of its own continually on the alert for defects in the adjustment of machinery and to supervise general conditions prevailing inside the factory premises. Much more might be said in favor of adopting the system I have suggested, but my paper is of too great length already. I will add, however, that laws making it obligatory upon manufacturers to take all essential precaution to prevent unnecessary sacrifice of life and limb, according as they have opportunity for knowing, would work injustice to no one. The employer having a regard for the safety and health of his employes would be aided in his humane intentions thereby, while the one not so disposed would be helped to understand the full meaning of the golden rule. Accidents of every character of course could not be prevented thereby, such would be utopean to expect, but if factory inspection hitherto has proven anything, we might expect that their number would be so materially diminished that eventually the seemingly unavoidable alone would happen. That dangerous machinery should be guarded, will be admitted universally. That it comparatively can be guarded factory inspection in England and in Germany and in our own country has fairly demonstrated. This knowledge is in the possession of the State and it is the duty of the State to apply it in the most effectual and speedy way it can be done. In my opinion the solution as to how to do it, lies in the directions I have indicated.

Miss O'Reilley commended the paper, said it was suggestive, and felt that if its recommendations are carried out that the number of accidents to employes of factories would be very much diminished. She believed in placing greater responsibility upon manufacturers, but that we might go still farther, and hold the man who made the machine responsible as well Machinery coming from the maker's hands ought to be perfect in every detail, and if any of its parts require guarding, the guards should be sold with the machine. Owing to close competition, the manufacturers of machinery construct it so as to save on every part, and in this way many dangerous sections are left exposed. On the other hand the ignorance of employes regarding the dangerous parts of machinery is often responsible for accidents.

Mr. Davis agreed with Miss O'Reilley, that manufacturers of machinery ought to be compelled to send out only such as are perfect in construction, and thoroughly equipped with guards. But it was not always possible to reach such manufacturers. A machine made in one State is often used in another, and while the state, where it is operated, may require its being guarded, the State where it is made, may not. A law compelling owners of factories to operate guarded machinery only, would reach both the factory owner and the maker of the machine, for it would be to the interest of both to have supplied with the machine all necessary safety appliances. Besides, such a law would provide for the proper protection of machinery already placed in use. He was informed that factory inspectors in England could prevent the placing or operating of any machine until satisfied that it is safe to operate, and in our own country there are many machines sold with guards attached, which is directly the result of factory laws.

The discussion became general, and was participated in by Messrs. Dyson, of Massachusetts; True and Ridenour, of Ohio; Baker and O'Keefe, of Pennsylvania; Moore, of Massachusetts; Morse, of Michigan, and Bisno and Mrs. Stevens, of Illinois, and a number of ideas were advanced, favoring different ways of guarding machinery; set screws and shafting receiving considerable attention, the upshot of which was a motion by Mr. Baker, "That a committee of three be appointed to investigate the best means of guarding all kinds of machinery regarded as dangerous, and to classify the same in a suitable manner, and in such form as to be applicable to machinery used in the different industries, and to report at the next annual convention."

Committee, N. M. Baker, of Pennsylvania, James A. Armstrong, of Ohio, Jos. N Dyson, of Massachusetts.

A motion was made by Mr. Dyson, of Massachusetts, that the hour of 8 o'clock, Thursday evening, be set apart for the election of officers.

Miss O'Reilly opposed the motion on the ground that it was contrary to the constitution.

The President requested that the conflict with the constitution be pointed out.

Miss O'Reilley stated, that the rules of order required that the election of officers be the last business of the Convention.

The President stated that the order of business could be changed from day to day.

After some discussion a vote was taken, and the motion was lost.

Mr. Splaine, of Massachusetts, moved, that a Committee on Resolutions be appointed. Carried.

Meeting recessed at 1 P. M. to reassemble at 9:30 A. M.

SEPT. 27, 1894.

The meeting came to order at 10 A. M., President Franey presiding.

After roll call of officers the following delegates were appointed as the Committee on Resolutions.

Henry Splaine, of Massachusetts; Florence Kelley, of Illinois; J. W. Knaub, of Ohio; Chas. H. Morse, of Michigan; Elisha H. Rockwell, of Rhode Island; John O'Keefe, of Pennsylvania; Nelson L. Greene, of New York.

Mr. McCloud read his paper, the title of which was:

HOW TO INSPECT A BUILDING IN ALL ITS PARTS, FROM BASEMENT TO ATTIC.

Mr. President, Ladies and Gentlemen of the Convention!

The title of the paper which has been assigned me to prepare is: "How to Inspect a Building in All its Parts, from Basement to Attic."

Mr. President, I am of the opinion that this subject should have been assigned to some one representing a State whose laws for the inspection of factories and workshops are more extensive, and where more power is given the Inspector than in the State of New Jersey. While I am proud of the State which I represent, I am also conscious of the fact that her factory inspection laws are surpassed in some degree by some of her neighbors, and for this reason, I repeat, I think this subject could have been better treated and more fully dwelled upon by some Inspector from either of the States of New York or Massachusetts, as I am of the opinion that the laws of

either of them are fuller in this respect than those of New Jersey. But, notwithstanding this, Mr. President, I have prepared a few remarks on the subject, based upon what little experience I possess as a Factory Inspector.

The first place which an Inspector must visit when intending to visit an establishment almost of necessity is the office, but before this, he should do certain things, and these depend upon circumstances; if the visit is an original one, that is, if either the concern or the building is new, he has either of two things to do: If it is a new concern, beginning in a new factory, I find it very useful to find out before calling upon them, from some one in the city or town, who the responsible men of the concern are, who the Superintendent or Manager is, and something about his temperament; also as to whether the concern operated in any other State before locating in your District. Learning the names of the responsible parties I have found very useful in cases where the Superintendent or Manager seemed disinclined to comply with some request which I had made where perhaps the law was not violated, but where great good might come from the change. After feeling my ground with the class of which I speak I try to interest my responsible man with my scheme, and have found in many instances that I was able to bring about the desired changes by this moral suasion, and at the same time hold, or still better, improve my influence in this quarter, and in connection with this let me say right here that the Inspector who makes use of his or her persuasive powers when recommending changes in factories will have more success and possess at the same time considerable more influence with the managers of establishments, than he or she who threatens with law-suits, etc. The old and familiar expression that "It is easier to catch flies with molasses than with vinegar" is fully expressive of what is meant by this. The other suggestion, that of learning something of the temperament of the Superintendent you will find useful, because forewarned is always forearmed, and you are enabled to meet a gentleman as such, and a crank as best befits the occasion. Now that we have dilated at some length on what should be done before your visit to the factory we will pass that, and imagine ourselves at the entrance to the office of an establishment intended to be visited. Then, if it is necessary to send a message to the manager, use your card, stating at the same time that if he is very busy you will wait a reasonable time for him; in doing this I have this object in view, that, as I have favored him, and given him his time when perhaps he is very busy in other directions, I have kept him in good humor, and am in better position to have him grant considerations or changes which I may find advisable to recommend, and then I always have him to go through the establishment with me; this, to my mind, is very important, as any changes which I may find necessary I have the chance to point out to him, and to argue the necessity of the change, which, if properly put, is generally granted. Now, assume that the manager has come to the office, and, after some preliminary talk, is ready to accompany you. Right at this point you must be guided by circumstances as to where to begin. I find it advisable, in some factor-

ies, to begin in the attic or top floor, so to speak, and in no two that I recollect do the same circumstances exist; the Inspector must judge for himself as to that, and I think you will agree with me that his experience will adapt itself to the best requirements of the case. Let us assume that our inspection will begin on the first or ground floor. The department of which I am a member uses what is called a field book, in which are printed a number of questions which cover the most necessary information desired to be learned. I make a practice of asking those questions, as far as possible, at least, in the office, with this view: I thus have an expression of the Superintendent's personal ideas as to the condition of his factory, and I find it very valuable in determining his course in the employment of children particularly. It will readily be seen that a person making a declaration in the office that all of the children employed are subject to the requirements of the law, and that certificates are on file for all such children employed, must make the statement good. If, upon inspection, he cannot do this, you have a clear case against him, as he cannot go back on his previous statements, and you are in a better position to dictate what course shall be taken in the matter; but this is not so important now as it has been in the past as the manufacturers, in my State at least, comply with this section of the inspection laws, and it is rarely we have to order the discharge of children from factories on account of any non-compliance or evasion of the law.

We will now pass to the factory proper, that is, where the operators are engaged in their daily toil; set the pace yourself, the Superintendent will wait for you; pass in and out carefully around the different machines in use, keeping a sharp lookout for any defects in guarding the same; examine carefully the shafting, belting and gearing. If, in your judgment, it might be improved upon, speak of it at once to the Superintendent, and if it is a large place, call the foreman of the floor, and also speak to him, suggesting to them the necessary guards, how to place them, etc. You will be told in many instances that an operator cannot be injured at this or that machine unless he is careless; then it is that an Inspector must use his powers of persuasion, talk to them, show them how, without criminal carelessness, an operator may be maimed for life, with perhaps a family dependent upon him for their daily bread; try and place them in the position of the operator, and then appeal to them that for an inconsiderable expense such accidents may be avoided, and you will find that most obdurate indeed is the Superintendent who will refuse your request, but if perchance there are some of this kind to whom are committed the health and safety of operatives, use your perogative, and immediately issue an order compelling him to comply with the provisions of it, invoking the aid of the laws which your State has placed on her statute-books for this purpose, and never resting yourself until you have driven into his heart the knowledge that he shall and must have consideration and care for those whom God has placed temporarily under his charge.

As you pass through the different parts of the factory be guided by this

rule in a general way. It is impossible in this paper to particularize the guards, etc., which may be found necessary to recommend or order in protecting machinery; those an inspector will best learn by trying to be practical; there are thousands of contrivances on the market which will fit the necessities of the occasion, and it does not follow that the costliest are the best, by any manner of means; indeed, the right sort of a Superintendent will very often himself suggest or think out that which will better serve the purpose than that which you might see or suggest. I have spoken only of shafting, belting, gearing, etc., but about the same rule applies to all other cases which, as an Inspector, comes under your observation, as ventilation, elevators, hatchways and their openings, fire escapes, etc. There is not, nor can there be, any standard of inspection in those different details. You must be governed by circumstances and, as I said before, must make practicability your guide in determining what best to do, and how best to do it. I will except from this general rule the inspection of closets, and of cloak or clothes rooms. Some inspectors are through false modesty or other causes too prone to let this part of the business go, thereby neglecting in a large measure one of the most important portions of their duties. No one will deny that the necessities of nature must be promptly attended to by factory operatives of both sexes just the same as by others differently engaged, and a moment's thought will teach you that if the utensils provided are not kept clean that fact alone will deter a person from their use, thereby causing very often distress and disease; therefore, factory inspectors, do your duty. And what is easier than having these closets cleared of all occupants, and then go in and examine them? Too often you will find them pest spots, and the Superintendent, too, you will find, does not pay much attention to them, assuming that as they are for the personal use of the operatives the care of them should be upon them; or you will be told that they find it impossible to keep them clean. Your answer should be, that they must be kept clean, and if they will make an example of man or woman who will not comply with this rule by forthwith discharging them, they will soon find an improvement. You may, perhaps, also find but one closet provided where both sexes are employed. I dare say the laws of all States forbid this, and you should force immediately closets for each sex.

We will now assume that we have passed over all the ground to be inspected, and have returned to the office; if you have met any children while going through the factory about whose age you have any doubt you should have taken their names from themselves, and also such information as you may require for investigation about them. Now, at the office, ask for the certificates for these children, and if they are not obtainable, that is, they have none, order them to get them or discharge the children. After this bring up all matters which you may have found require attention, and give a list of them to the Superintendent. And also keep a copy of the list of changes requested or ordered yourself. Of course you have an understanding as to whether he will consent to have those changes made; if not, send or bring an order (we use a blank form in New Jersey) after which quietly

take your departure, without apprising him of your next intended visit, which should in my opinion never be made known.

I made reference in my paper to the superiority of the laws of New York and Massachusetts, and while I am not so familiar with the Massachusetts law, I think New York State holds the keynote to the situation for Factory Inspection from the fact that it is first necessary to have the factory intended to be operated inspected by the Factory Inspector. He must be satisfied of the fitness of things, and if he is not, the owners must conform to his ideas in those things wanting before a license or permit to open the same will be issued. This is as it should be, and I am sure that the Inspectors from New York will bear me out when I say that it has been of incalculable benefit to them in the operation of their department.

Let us, then, the Factory Inspectors of North America, by resolution and by such other means as possible, travel in the footsteps of New York and such other States as have laws which easily and with force make the subject of this paper "*How to inspect a building in all its parts, from basement to attic*," when accomplished, a lasting benefit to those for whom it was intended, viz: the operatives of those factories who look to us to protect them, as the citizens at large look to their police force, and let us so use the powers delegated to us that owner and operative alike will say: "Well done, thou good and faithful servant."

On motion of Mr. Fell it was carried that the reading of no paper hereafter should be followed by discussion, until after all papers had been submitted and read to the Convention.

The Committee on Order of Business submitted a further report as follows:

We recommend, that the invitation of the Morse, Williams Elevator Co., to visit their factory, be accepted, and the fixed to do so be time 11:30 Friday morning.

Also, that during the remainder of the session the work of reading and discussing papers shall be unbroken, except by the lecture of Prof. Shaw.

Signed, ROBERT WATCHORN.

Miss Annie Campbell of New York read a paper on the subject:

IS THE EMPLOYMENT OF MINORS IN TOBACCO FACTORIES INJURIOUS TO THEIR HEALTH.

Ladies and Gentlemen of the Convention.

The question of the injury or otherwise to women and minors from working in the different branches of trade, in which tobacco forms the chief material to be handled, was supposed to be settled forever in the State of New York by the long agitation of the Cigar Makers' Union against the Tenement House System. The mass of expert evidence collected and published then by the International Cigar Makers' Union contained much

medical testimony on this special point, which was a matter of much more detail than the general question then under consideration, which referred to men and women alike working under unhealthy conditions.

And yet, there has grown up since then a disposition to question the correctness of any special attack on the vile effects of handling tobacco and working amidst a nicotine laden atmosphere when limited especially to women and minors. It seems to be regarded as arising from narrow and selfish motives instead of the professed motives of benevolence and public welfare; and by leading advocates of womens interests and rights has been opposed both in America and England, as well as all legislation, especially referring to women and minors, and not to men, based on sanitary or other grounds, as designated in the interests of male workers only, and calculated to cripple women and minors unfairly in the struggle for work and life. This is certainly strongly manifested in the ranks of the 70,000 women organized in the "Womens' Liberal Federation" in England—which is a powerful factor in political life in that country, and the chief support of the Liberal Party.

Any special anxiety solicited for the health and morality of women and minors, or stringency of law looking to that end is apt to be sneered at or at least suspected, if not openly opposed, as some indirect attempt to drive them out of the business, and in the interest of "hoggish men" who want to keep all the "fine snaps" to themselves. In the same manner the fact that the Typographical Union discourages its women members from working at night on morning newspapers and relegates them rather to less remunerative work during the day, "distributing" etc., is denied by many to be due to a tender care for the moral sensibilities and physical health of said Women Unionists, but rather to keep the best paying branch of the trade for the men.

No doubt, like all other questions, there are two sides to this. As in the case of the most notoriously unhealthy and dangerous of occupations, there may be found many conspicuous examples of women and minors who do not show any of the predicted evil results of the trade, and a proper handling of the question would be so purely scientific and technical that it would be as much beyond my ability to treat it as it would be outside the purposes of this Convention to discuss it. And yet, it may be proper to say that there are some considerations of a purely physiological character and of such a delicate nature that a lady may be excused discussing them before a mixed audience, further than simply to say that women and girls of certain physical temperament at given periods of growth and in frequent conditions of health and surroundings may fairly be said to be injured by working in tobacco.

Whether this is necessarily so and inevitably a part of the trade so much so that it would be true ever if they worked short hours in large, splendidly ventilated workshops, with lavish use of clean water and personal bathing, with many changes of good clothing and a generous supply of tasteful and nourishing food and open air recreation and exercise, with restful, healthy

sleep in fine, large, well ventilated bed rooms, and all the other physical conditions which supply the human system with power to resist and throw off the germs of physical evil, I certainly do not think there is evidence to prove. But public law cannot be based upon ideals of what ought to be, or even what we might reasonably hope to be the case; it must meet the deadly facts as they are, and deal with men and women in their actual conditions, and with a view also as to their possibility of accomplishment and the limits of their opportunities and powers. Of no class is this more true than of working women and minors. It is this which makes their case so pitiable and seemingly helpless.

The case against women and minors working with tobacco has been greatly strengthened by recent developments in Spain and France. What is known as "Smoker's Cramp"—though rather misnamed—has recently been the subject of much discussion. It is well known that the French Government has long had a monopoly of the tobacco business, but only since they have been making their famous "Caporal" cigarettes by hand labor, has the nervous disease known so well in Spain as "Smoker's Cramp" made such havoc among the poor French girls who make these cigarettes. It is said that expert as the Spanish are in rolling their own cigarettes, this ailment has long been common among them, though little attention has been given to it. Of course, the *degree* of injury will be according to the quality of its tobacco and the delicacy of the skin on the softer parts of the hands, for there is much likeness in the process of lead poisoning and that by nicotine. The best Havana tobacco has only about 2 per cent of nicotine compared to 8 per cent in other kinds.

Von Boeck in his chapter on "Vegetable Poisons" says that dry tobacco leaves even can poison through the unbroken skin, and that the nicotine "makes its way easily into the fluids of the skin" and possesses "in a high degree poisonous properties of a narcotic order."

Boeck also quotes the authority of Gallavardin regarding ten very remarkable and standard cases of violent poisoning by the outward application of tobacco, and the same even from a swollen compress soaked in merely a *weak* infusion of tobacco, many cases having occured in trying to heal wounds in this way—as also when used as an ointment in eczema—the common but disagreeable skin disease.

There is a very striking and well-known case reported by Naurias of a smuggler, who bound the tobacco leaves round his body next his naked skin so as to cross the border in safety, but only to furnish medical science with one of its most remarkable examples of violent poisoning from nicotine.

What a powerful agent nicotine must be in its action on the human system in a normal condition, may be seen from the use made of it as an antidote to poisoning by strychnine, which is an abnormal state of the system, and I am purposely quoting from a purely scientific authority so as to remove the question from the bias of extravagance which might fairly be expected in any evidence presented to support or defeat a special agitation on this subject. The authority I quote is Ziemssen's Cyclopedia of the

Practice of Medicine, Vol. 17, and the 19th Volume deals with the subject even more fully. As I have already said the conditions which might enable women and minors to resist or escape from this scientific evidence would lead us to expect from their handling tobacco constantly from day to day and year to year, may exist in special individual cases, or special factories, or even in special parts of the country, or perhaps at a special period in the history of the trade, but the practical fact, to be considered so far as the improvement or enforcement of the law is concerned, is not special exceptions, but the general rule, and above all, whether the women and the minors actually being added to the trade, and likely to be added to it in the future, are increasingly better able to resist the tendencies of the trade as indicated by Science, or are they not more and more likely to be under-fed, badly housed, and either by ignorance, inclination or necessity destitute of all the sanitary conditions which may be calculated to modify and resist the bad effects of depleted energy, poor blood, weakened appetite and habitual lack of healthy exercise and fresh air?

Healthy, educated, well-cared for American girls working at this trade in a salubrious country town should not be compared with the destitute, half-starved aliens living in ignorance and filth and working in back tenements in a crowded city like New York. Which of these two classes of workers are going to capture this trade, or control it, and whether the remuneration of the trade is going to advance and improve, or sink lower and lower in the scaled industrial conditions, these are the most important considerations in helping us to make up our minds on the main issue, especially with a view to any treatment of women and minors through the law which is not also applied to the male and adult workers at the same kind of work.

A paper written by Mr. Ellis, of Ohio, which was intended to be read during the discussion of Miss Campbell's essay, was handed to the Secretary, and reads as follows:

DISCUSSION ON THE EMPLOYMENT OF MINORS WORKING IN TOBACCO.

Mr. President, Ladies and Gentlemen of the Convention!

The subject assigned me, "that of minors working in tobacco," is a subject upon which there is quite a difference of opinion among the scientific men especially. My opinion, however, will not amount to much when compared with eminent doctors in regard to the effect that tobacco will have on the system, and the title of the subject will have a great deal to do with the discussion, as it is very indefinite as to age. Therefore, I will have to confine my remarks to minors who are allowed to work in manufacturing establishments in Ohio, as our laws prohibit the employment of minors under 12 years to be employed in any capacity, and under 14 years, to be not employed more than eight hours per day during the time they are not required by law to attend school. I will, therefore,

confine my remarks to minors over 14 years of age, and will say, and will very likely be criticized for so saying, that I do not believe that such employment impairs the health or makes weak men and women, either physically or mentally, but before I go any further, I wish to give the opinion of a very eminent physician on the subject. The opinion was given in answer to a letter addressed to him and is as follows :—

"You inquired in your letter of March "Whether constant employment in the manufacture of tobacco and cigars is injurious to the health of children under the age of sixteen years." My answer is unhesitatingly in the affirmative, and for the following reason : The active principle of tobacco (including the odorous oil) are more or less volatile, and are capable of producing their effects upon susceptible persons, whether the leaves are dry or moist, whether separated or in bulk, at any appreciable distance and without contact. This is verified every day. When the leaves are in a state of combustion, as in smoking, the odor, because of diffusion, is not so powerful nor is the effect at a distance so great, but both are still decided. When taken into the system, no matter by what avenue, all of the active principles are poisonous, producing a combination of the effects of the narcotics and of the irritants. The drug is, in consequence, in works on Toxicology, classified among narcotic irritant poisons, and when used in large quantities or in concentrated form, it is one of the most virulent narcotic irritants. Four or five drops of nicotine, the alkaloid, will destroy life of an adult man in the course of a very few minutes, and the empyreumatic oil is but little less active.

An infusion of the leaves, made in the proportion of one ounce to a pint of water, if applied over a large portion of the surface of the body, soon produces nausea and vomiting, with great prostration. A poultice made of snuff applied to the breast of a two-year old child caused speedy collapse and death in a few hours.

All of the active principles of tobacco are absorbed with great rapidity, whether through the stomach, the lungs, the intestines or the skin. In factories they find entrance to the system for the most part through the lungs and skin, but a portion, through the dust from the broken leaves, is swallowed with the saliva and enters the body through the stomach. In an atmosphere as of factories, constantly saturated with the emanations and filled with the dust of the plant absorption through the several surfaces mentioned, is continuous, and the effect, though not so powerful as where a large amount is absorbed within a short period, is the more steadily maintained, and, in the end, is certain to produce more or less of the toxic effect already mentioned.

The deleterious effects are exerted upon the brain, the spinal cord and that portion of the nervous system also which regulates the movements of the blood vessels, and to some extent the cell changes through which the nutrition is maintained and the waste carried away.

The general and deleterious effect is depression of the functions of the brain, the spinal chord, and of the vaso motor or sympathetic system of

nerves. As observed among the operatives of factories—adults and children—it is not violent, but being steadily maintained from month to month, and through months to years, it produces "slow poisoning," or chronic toxaemia, which is displayed in languor, depression of muscular strength, disorder of functions, such as lessened or fitful appetite, weakened circulation from emfeeblement of the heart, and injury to the nervous system, palpitation or irregular action of the heart, disordered secretions, a degree of emaciation and increasing paleness of the skin from impoverishment of the blood. Hence operatives in tobacco factories, particularly very young operatives—children—are most uniformly found to be paler and weaker than persons otherwise employed; to be somewhat emaciated, to suffer from disordered action of the heart and from hemorrhages from various parts of the body. Boys suffer from nose bleeding, and young females from excessive menstruation. As frequently such suffer from retarded or suppressed menstruation and other ailments peculiar to their sex. Young persons, male or female, in such condition, are more liable than healthy persons to contract accidental or specific diseases, and have less power to resist the disorder incident to disease. Escaping disease, they are less likely to develop into useful men and women.

Respectfully, STARLING LOVING."

I will admit that a young person going to work in tobacco, must become accustomed to the odor, and in some cases it causes headache, and in other nausea, but after they have worked in it a while they become used to it, and it has no further effect upon them. One disadvantage that persons working in tobacco have to contend with which others do not, is, they cannot have the workshops as well ventilated as they should be on account of the nature of the tobacco. For instance, cigar makers and plug tobacco makers too, have to have their stock in the proper condition to work right, and very often there is a dry wind that will dry the wrappers to such an extent that it would be impossible to work them as close as they should; then again, during damp weather the stock will become so damp that they cannot work it. Therefore, the shops have to be closed so much that the ventilation is bad, but that condition of affairs cannot be remedied. Of course, I will admit from what I have heard (but not from actual experience), that the foul and filthy tenement house cigar shops are an evil that should not be tolerated by law, as they work, eat, sleep, raise children, and attend to all household duties in the same room, and you could not expect children raised in such an atmosphere to be healthy, but could they be healthy under those conditions if the material manufactured was anything else but tobacco? That is the reason I say that the workshops wherein cigars and tobacco are manufactured, cannot be as well ventilated as other shops where the atmosphere does not affect the material that is manufactured. Of course, there are some persons who cannot work in tobacco at all, but my observation is, that minors working in tobacco are as healthy as minors employed at any other business, and far more robust and healthy than those employed in dry goods establishments. I speak

from the knowledge I have gained by working in tobacco myself for perhaps twenty years of my life, and during all these years I have never known but two to die of lung trouble, and they inherited it, and you all know that cigar makers start to learn their trade at a very early age, that is, they used to. I commenced to learn my trade when I was ten years old, but since that time children have had the strong arm of law thrown around them, not allowing them to work at that age. I have also observed that during an epidemic of any kind, such as dyphtheria or small-pox, scarlet fever or even cholera, that the smallest per cent of those taking the disease were persons who worked in tobacco. In fact, I do not recall a single instance where any one has died of any of the above diseases who was constantly employed in tobacco. As for the males, I must say that any one not prejudiced will admit that all cigar makers are not dwarfs in intellect, and will cite to you gentlemen you all know, if not personally, by reputation, Samuel Gompers, President American Federation of Labor, A. Strasser, for many years President of C. M. I. U., W. G. Perkins, Pres. of C. M. I. U. of A., and many other bright and shining lights in the Labor World, who have worked in tobacco since their early childhood, and no one would have the courage to call them dwarfs in intellect.

I have also noticed that some of the very doctors who say tobacco is injurious, affects the brain, etc., are doctors who use it themselves and have used it since boyhood, yet they pose as intellectually bright, and people will risk their lives with them, to prescribe for them should they become ill. To hear some people talk about the dangerous effect of tobacco on the system, especially on the brain, is calculated to make persons hestitate in calling a doctor when they get sick, especially if that doctor uses tobacco. I tell you, Mr. President, that actual experience and observation is worth more than theory. I once knew an eminent divine, who preached about the evil effects of tobacco, not only working in it but using it. I have heard him say on many occasions that using tobacco was a very filthy habit and originated with the aborigines and other uncivilized people of early times, and you could not expect people such as they to know better, and people of to-day who used it were no better than those, intellectually, yet this same divine used it himself. He went on the same theory as did an eminent theologian when he said for the people to do as he said, and not as he did. I do not wish to prolong this discussion further, as there are others who may wish to say something on this subject, and in conclusion I wish to say, that I believe the men and women of to-day who have worked in tobacco since they were young will compare favorably, both physically and mentally, with others who have been otherwise employed.

Inspector O'Keefe, of Pennsylvania, and member of the Committee on Entertainment, announced that the steamer provided to convey the delegates to Lincoln Park, would leave

Chestnut St. wharf instead of the Walnut St. wharf, on Friday, at 2 P. M.

Mr. Knaub, of Ohio, read a paper entitled:

FIRES, THEIR CAUSES AND THE QUICKEST AND BEST MEANS OF EXTINGUISHING THEM.

Ladies and Gentlemen of the Convention:

Fire is a destroyer, and as an element of destruction is continually seeking for its victim, ready to consume anything combustible that may come within its scope. Both ancient and modern history have given us the most terrible examples of the destruction and misery caused by the demon—fire. It is an element, however, that has proven itself useful, too, and a great blessing to mankind. To subdue, put down and control this great element to the advantage of mankind, has engaged the thoughts of the wisest of men, from the fact that when this useful element bursts its shackles and is freed from restraint, it becomes a devouring fiend, and to control and keep it in subjection has made it necessary to organize and keep in the field, for active duty, an army of regular and volunteer firemen, ready at all times to fight the deadly foe.

CAUSES OF FIRE.

The causes of fire are numerous. In the Report of the Fire Marshal to the City Council of the City of Chicago, for 1893, he gives a total of 5,224 fires, 67 of which were prairie fires (rather an odd cause for city fires), 2,512 were ascribed to chimney fires, defective flues, electric wires and lights, friction, furnaces, foundries, gas-jets, gas-pipe leaks, open fire-places, grates, defective ovens, sparks from chimneys and locomotives, spontaneous combustion, stoves, ranges, etc., and 727 to carelessness. Fires from this source will continue as long as time lasts, as carelessness and thoughtlessness are inherent in the human race. Nine hundred and sixty-one fires had their origin in explosions and ignitious of alcohol, benzine, naptha, gasoline, kerosene, tar, grease, gas, rosin, chemicals, etc. I am not a scientist and cannot explain the conditions that cause these explosions and ignitions, but believe that in the near future those who are schooled in this study will, by scientific research, bring to knowledge some method in handling those explosions that will diminish accidents and fires from these causes.

An investigation by Dr. Richter, of Hamburg, Germany, shows that most of the fires that occur in laundries where benzine is used to wash clothes, are due to electric sparks caused by friction of the benzine and the clothing as the latter is withdrawn from the bath. In Hamburg alone fifteen out of twenty-one fires were due to this cause. Experiments show that woolen material becomes positively electrified and the benzine negatively and that the difference of electrical tension causes a discharge strong enough to give a painful shock, producing sparks two inches long in some instances, and lighting up the room in which the experiment was made. It is suggested that such fires may be prevented by charging the air in the

room with steam. One thousand and twenty-four fires were from unknown causes. There is always a mystery connected with a fire of this character, and the expression is generally made, "I wonder how the fire caught?" I once saw the starting point of what might have been a mysterious fire. Arriving at my own home and entering the kitchen I saw a bright shining, tiny spark on the edge of the wood box. Upon examination I found it to be a burning cotton cord, and I wondered for an instant how that string caught fire, but soon solved the problem. In putting wood into the stove one end of the cord had caught to the stick, the other end remained in the wood box, where it was fastened with a lot of loose paper and wood. The end in the stove caught fire and the cord conducted the fire the distance of about three feet to the wood box, and would undoubtedly soon have enkindled the paper and caused another mysterious fire, had it not been timely discovered.

The causes of fire are of less import, possible, to us, than the quickest and best means for extinguishment. Factories, public buildings, etc., are not complete without some efficient means for fire protection—a system that will prove reliable in case of fire. History would have been robbed of many great conflagrations and millions of dollars in property, besides many precious lives would have been saved, had there been at hand the proper means to have extinguished the fire in its incipiency.

SYSTEMS FOR GIVING ALARMS AND EXTINGUISHING FIRES.

To be ready at the opportune time, the genius of man has invented various devices to extinguish fire in its very beginning, and also systems for giving locations of fires and quick alarms. The telegraph fire alarm system, to give immediate notice of and the location of a fire, and the fire alarm system, should be made use of by all factories, workshops, public buildings, etc., and alarm boxes should be placed in different parts of the building and be so located as to be of quick and easy access. The usefulness of this system cannot be disputed, yet how many of our large factories and public buildings are without such service.

I will give an example of the usefulness of the system, which came under my own observation last fall: While the watchman at the Dayton Caromel Works was attending to his duties on the third floor of the factory, and before 9 o'clock in the evening, suddenly, as if by magic, the stairway (there being but one) was enveloped in smoke and flame, from cellar to top of building; an alarm box being located on the third floor enabled the watchman to turn in an alarm to the central station, which called out the fire department, when he was rescued by the firemen from certain death, as all egress was cut off. The material used in the business of their manufucture being of such an inflamable nature made it impossible to save the building, but by the prompt call the adjoining buildings were saved.

The telephone, while it is not a fire alarm, is very often the medium through which the location of a fire is given. A few years ago, after the adjournment of a meeting of a Board of Directors, of which I was a member, the Secretary and myself being the last to leave the room, and while the

Secretary was locking the door of the office, I heard a cracking sound in the area overhead, and upon looking up, I discovered the window frame of one of the windows on fire. I called the attention of the Secretary to the fact who immediately unlocked the door, went into the office and telephoned the fire department, which responded promptly, came to the building before the people on the street in front of the building knew there was a fire in the building, and the flames were extinguished with very little damage, possibly not to exceed ten dollars.

Chief Leshure, in his essay on fire prevention, read before the National Association of Fire Engineers, in speaking of the great loss of life and property in the burning of hotels, etc., says: "As practical men, what remedy do you propose to reduce this loss? It would seem that the greatest measure of safety will be found in appliances that give the earliest warnings of a fire and indicates where it is located.

"Electricity is now being employed as a sentinel and has proved very faithful so far; has repeatedly given notice of a fire in a building in the daytime before those employed in the building knew it; gave notice when the fire was small, locating it instantly, making it possible to extinguish the flames without serious loss. This agent should be employed in every room in hotels, theatres and in every public place where a number of people are entertained or employed. Gongs large enough to be heard a block away should be placed on the outside of the building to give the alarm for fire, so that if the system is out of order by accident, neglect, or malicious interference, by this method the fire department receives notice, and very valuable time is saved."

In the appendix of his essay, the writer sets forth the advantages of the heat-actuated alarms, which systems are of two kinds, those employing open circuits that are closed by the heat of a fire to transmit an alarm signal, and those which employ a constantly closed electric circuit, which is opened by the heat of a fire and releases alarm mechanisms that transmit a signal.

The writer of the article prefers the closed system, and says: "The advantages claimed for the close circuit system are that the circuits are known to be at all times in order unless an alarm has been sounded, as an alarm or notifying signal will be given if the apparatus becomes out of order from any cause, whether by neglect, accident, or malicious interference, or by heat, for a fire simply puts it out of order by rupturing the circuit.

"The closed circuit system is the cheapest to construct, and is every way more reliable, while the cost of replenishing material which is consumed by the battery is not of practical consequence, and all the advantages of frequent inspection are afforded."

He says: "The Buell system is the representation of the closed circuit systems, as regards the arrangements of batteries and circuits, while the Buell thermostat is distinct and superior to any form, consisting of and depending upon a drop of easily fused solder for its operation; it is at once cheap and efficient. It is not adjustable and cannot become out of adjust-

ment, the equivalent of adjustment being reached in the melting point of a solder which is not changed by time, and can be graduated to meet all requirements. The heat necessary to melt the solder is just above the natural temperature, but so low that the melted solder can be held in the hand without blistering, and it will melt in tea which a person can drink, the melting point being 57 degrees below the boiling point of water. In actual fires the joints in an entire room have been melted, and yet the fires were extinguished so quickly that the damage was so slight as to cause no claim to be made for insurance. The above described closed circuit system is extended for factories, stores, and warehouses, and comprises an arrangement of batteries, circuits, alarm apparatus for isolated buildings, or for city systems with a central station, with all the batteries located at the central station, and signal boxes at each floor of every building that will, by the action of heat transmit a definite number signal to the central station and ring a gong on the building where the fire is in progress, or either.

"The Buell system comprises a distinct arrangement for hotels with a thermostat in each room, closet and under stairways, which, when acted on by heat, will throw down a target on the annunciator in the hotel office, and ring an alarm over the wires in constant use for call bells, which serves as a guard against the wires being out of order.

"A bell in each room, or gong in each hallway, serves to give an alarm from the hotel office to guests, and to the fire department by a signal box actuated by or from the office, giving the greatest security against destructive hotel fires. The Buell system comprises a combined system of automatic sprinklers and alarms."

It is as necessary to have implements in buildings to extinguish fire as it is to have the proper apparatus to give quick notice of a fire. Wherever there is a water works system, stand-pipes and hose should be placed in every manufacturing plant, and also public buildings where people come together for entertainment, treatment, betterment or for any other purpose. The stand-pipes should be so located that fire can be reached in any part of the building with hose, which should be attached at all times and uncoiled every evening so that in case of fire, it would be ready for service at a moment's notice.

AUTOMATIC SPRINKLERS.

The man whose mind conceived the idea of and originated the automatic sprinkler system, certainly conferred a great benefit on property holders and insurance companies. The system is the most useful stationary apparatus that has yet been invented for the extinguishment of fire, and is used very extensively and should be placed in every building requiring fire protection. Automatic sprinklers are of two kinds, the wet and dry systems. In the wet system, the pipes are constantly filled with water, ready for use as soon as the sprinkler is opened, while in the dry system the water is kept out of the system of sprinkling pipes by different methods. A valve intervenes between the outside water supply, beyond the reach of frost, and the sprinkling pipes within the building. The construction of the valve of

some systems is such that air, under a moderate pressure within the sprinkler pipes, keeps this valve closed, and when a sprinkler is opened the air is released, the outside water pressure opens the valve and fills the pipes, the water being discharged through the opened sprinkler. Other systems have a normally closed valve, which is constructed to be opened automatically by an arrangement of some contrivance attached thereto.

Recently, I examined the system in a number of factories and inquired as to the efficiency of the apparatus, and was informed in each instance that it gives entire satisfaction. I made inquiry at the Stoddard Mfg. Co.'s plant in Dayton, Ohio, whether they ever had a test case that proved satisfactory, caused by fire originating from an unknown cause. I was answered in the affirmative, and was shown a room where paints, oils, etc., were kept and was informed that when the men quit work in the evening, they hung their working clothes on nails driven into the rafters, and from some unknown cause the clothes ignited, the fire burned to such an extent as to char the sheeting and rafters, the heat opened the sprinklers and distinguished the fire before those who heard the alarm reached the fourth story room where the fire originated. They praise the system very highly. I found upon inquiry at the Peirce & Coleman planing mill, which is a sash and door factory, located in the same city, that they also had a convincing test of the efficiency of this system. On the night of the occurrence the watchman discovered a fire in the shaving room ; he sent an alarm to the central station, but when the firemen arrived, their services were not needed, as the heat had set the sprinklers to work and the fire was extinguished. In both cases the loss was so small that it was not taken into consideration, which certainly speaks well for automatic sprinklers. Both these plants have the Grinnell.

The following is taken from a paper read before the National Association of Fire Engineers, at one of their annual conventions, and gives a good description of the automatic sprinkler apparatus :

"All mechanical devices, however perfect in themselves, are at best liable to become out of order and to be of no practical use, especially when called into service in time of need. Automatic sprinklers, however, when properly constructed on scientific principles and attached by good mechanics, well acquainted with the requirements of this special system of extinguishing fires, and when applied to a building and approved by competent experts, may at that moment be considered, to all practical purposes, a perfect system for the automatic extinguishment of fire ; but like all constructed mechanisms, the system should receive constant attention. The sprinkler heads themselves are not liable to get out of order. Accidents may occur that would start one or two working, such as knocking one of them off through accident or carelessness, or perhaps several operating through the accidental escape of steam at a very high temperature, but in either case this would not effect the working of the system or make it less liable to successfully perform its duty in case of fire.

"The automatic sprinklers in themselves need no inspection. The

only inspection needed in this system is to see that there is a constant and ample supply of water back of the sprinklers. This system, as applied to our mills and large buildings under the present method of construction, has proved itself to be invaluable. The sprinklers in their latest application to our mills are connected with the water-works from the street main, generally through a six to an eight inch pipe, which branches off to the ceiling in each room, the size of the branch pipes depending upon the number of spinkler heads to be supplied. It has been shown by practical tests that there should be an automatic sprinkler head for every one hundred square feet of space to be protected. To make this system complete there should be no space in the entire building, from basement to attic, not covered by sprinklers in the proportion of one head to every ten feet square.

"The adoption of the sprinklers in some of the more important rooms and leaving other rooms without them, is a very imperfect construction of the system. The great value in sprinklers lies in their extinguishing the fire in its incipient stage before it has gained much headway. If a mill is only partially covered with sprinklers, or if there are some floors without them, a fire might occur in the very room which was not protected, and before the heat was sufficient to start the automatics on the floors above or below, the fire would be so fierce that the waters of Niagara itself would scarcely prove sufficient to subdue such a fiery furnace. Hence, to protect a building properly with automatic sprinklers, they should be placed on the ceiling of each room in the building, from basement to attic. Each sprinkler is a silent sentinel, remaining at its post day and night, only waiting for the call at 175 degrees of temperature to bring itself into actual service. As stated before, the sprinkler heads themselves need no inspection. The question then arises, where is the inspection required?

"The successful operation of this system depends upon the supply of water back of the sprinklers, and that being the case, the inspection should be at the point where the water enters the building. At this point, within the walls of the building, is the main valve that connects the water-works to the sprinkler system. These valves should be sealed open, and if so found, it will insure that there is an open connection and a full flow of water between the water-works and the building. Just beyond the valve within the building there should be connected to the main pipe a water-guage and also a pet-cock. We now have a main valve, a water guage and a pet-cock. Let us now inspect for oursèlves the condition of the automatic sprinkler system in a building. First, we look at the main valve and find it sealed open, we turn and view the water-guage and naturally find it indicates the requisite water pressure; we open the pet-cock, and if the water-guage remains the same, we have every assurance possible that the supply of water at the building is all right. Again, we look at the main valve and we find the seal broken; we know that some one has been tampering with it, but we are in doubt whether it is closed or open; we look at the water-guage, find the requisite pressure indicated, still we are in doubt;

the main valve might be closed and in closing it may hold the water pressure with it. We now open the pet-cock and let the water flow. If the water-guage runs down, we know the main valve is closed. We now turn the main valve until it is open and the water-guage indicates at once its required pressure. We close the pet-cock, seal the main valve and leave the building with its connections in full working order. We believe, that there is no certain or reliable value to automatic sprinklers, unless the water supply thereto is under careful attention, but with constant watchfulness on this essential point, we unhesitatingly pronounce the use of automatic sprinklers of inestimable value."

CHEMICAL FIRE EXTINGUISHERS.

Chemical fire extinguishers should be in every mill, factory, public hall, school house, hotel, and, in fact, in every building that is in danger from the ravages of fire. Such extinguishers have been in use for a number of years and have demonstrated their great value to many that have used them. Machines carried by hand can be brought into service in a very short time, as the apparatus is always ready for service. For incipient fires or those that have not attained undue proportions, the chemical extinguisher will do excellent service. They must be used with discretion, keeping in mind this fact, that their capacity is limited and the contents should not be wasted, but every particle of material the machine contains should be made to do some good, and if so used, satisfactory results will be obtained. These machines should be placed on every floor in the building and out of the way of meddlers, yet in plain view and so they can be reached easily in case of need. Stinginess or false economy should be discarded, and a sufficient number should be placed so that they can be reached quickly in any part of the building. There are different makes of these machines, and the manufacturers of each will produce arguments setting forth the advantage and superiority of their machine over all others. The builder of the air pressure machines will attempt to argue a person into the belief that his method in producing force is the best. Again, you are informed by the soda and acid pressure people that their principle is the correct one, but, in order to be useful at all times, the chemical must be kept in bottles, unsealed, the vessel to be upturned when necessary to be used, while others inform you that the chemicals must be kept in bottles sealed, and the bottles to be broken and the chemicals dropped into the water when the machine is to be operated, otherwise the chemicals will cake and become useless in producing force. This strife has caused distrust in the minds of many as to the usefulness of this method of extinguishing fire, and no doubt has worked injury to all concerned. From my own observation, I believe in the efficiency of chemical extinguishers and recommend them to all property owners, yet I believe that there are some upon the market that are not what they are represented to be, and persons, before purchasing, should make careful inquiry as to the efficiency of the different machines. For the protection of the people against imposition, the law makers of the different States should enact laws making it

obligatory upon the manufacturers or agents to present their machine for inspection, either to the Department of Insurance or Department of Workshops and Factories; and in order to avoid charges of collusion between the officers of these departments and the manufacturers or agents, such examinations should be made at stated periods, annually or semi-annually, by a committee of three disinterested persons, who are well versed in chemicals and metals, said committee to be appointed by the Governor. The law should be made stringent and exclude all machines whose makers or agents will not submit them to a test. Such a law would weed out inferior productions, and persons purchasing machines would have the assurance that when they put in such apparatus, they could be relied upon in time of need.

CASKS AND PAILS.

Do not despise small things, for after the building has been supplied with the improved appliances, it will not come amiss to place casks and pails in different locations so as to be on hand in case of need. Many fires have been extinguished by this old-fashioned method.

WATCHMEN.

One more appliance that is very essential is a wide-awake, alert watchman—one who is willing to give his ceaseless vigils in return for the salary he receives. Too many persons, when about to employ a watchman, look about for some old or infirm man for the reason that he can be hired for small wages, and that any person will make an efficient watchman. This theory is wrong and very often the money paid such men is thrown away. Some firms often weight the old man down with a large watch, which he is to wind at stated times and at stations, so as to force him to do his duty. While he is doing this, his whole time and thought is occupied with the idea of being punctual at his stations. I saw this demonstrated some years ago. An old gentleman was engaged as watchman at the plant where I was employed, and one evening I had occasion to go to the shop to get something that I had forgotten. I found the doors sercurely locked; pounding at the doors availed me nothing. I then thought of a window at my floor and found it unfastened. I hoisted it and was getting into the shop through the open window just as the watchman came into the shop, not more than forty feet away, but he did not see me. He had his eyes set on the key station ahead. I jumped down into the shop while he was within sight, and secured what I desired and closed the window and departed. He was ignorant of my presence, because he was so wrapped up in the duty of winding the tell-tale watch.

In another factory there was an old, infirm and peevish watchman, who had no watch to wind, and he appeared to give satisfaction to the firm because he was willing to stay around the plant cheap; he came early, regularly, and as soon as the whistle blew he would want the boys to get out, when he would lock up, and that would end a good part of the watching, as was evinced by two fires occurring in the foundry that he never saw

or knew of. One night a pile of flasks burned up, and on another night there was a fire on the cupola scaffold, caused by hot coke or iron being thrown out of the charge hole on to the scaffold floor during melting in the evening. The fire was burning the next morning when the men came to work. If either of those fires had burned up the plant, my opinion is there would have been no living watchman to tell the world how the fire caught.

Some firms exact from their watchman, in addition to the duty of watching, the performance of some other labor. This ought not to be the case; if a man faithfully performs the duties as watchman that is all that should be required of him. A firm ought to select a man for watchman who is active, has a keen scent, self-possessed, free from cowardice and industrious; one who, in case of fire, is quick to take in the situation, cool and deliberate in his action. Firms employing a man of such character, giving him proper compensation for his services, it is reasonable to presume that the plant under his watchful care will be safe, and the amount of money paid for his services wisely and well expended.

Mr. Watchorn moved that we remain in session until 12:30 P. M., then call on the mayor, and carry out the rest of the program of entertainment for the day. The motion prevailed.

On the motion of Mr. Campfield, of Ohio, a recess of ten minutes was taken in order to inspect a fire escape device.

After resumption of business Mr. White, of Massachusetts, was requested to address the convention and spoke, until the time of recess, on the subject "Fifteen Years as an Inspector."

At 12:30 P. M. the convention recessed until 7:30 P. M.

EVENING SESSION, SEPT. 27, 1894.

Mr. Franey, at 7:45 P. M., called the meeting to order and stated that Inspector White would continue his address.

When Mr. White had ceased speaking, Mrs. Stevens moved that the delegate prepare a paper fully embodying his remarks, and to furnish the Secretary with a copy for insertion in the proceedings.

The following is Mr. White's paper:

FIFTEEN YEARS' WORK AS AN INSPECTOR OF FACTORIES AND PUBLIC BUILDINGS IN MASSACHUSETTS.

Mr. President and Members of the Convention:

In selecting a subject for a paper to be read before this convention, I have thought that, perhaps, a brief review of the work of the factory and

building inspectors in Massachusetts, for the last fifteen years, and of the growth of the laws and the changes made therein for their better enforcement, might be as interesting as anything I could bring before you.

I do not know how I can give you, in brief, a better idea of this growth of the laws and the work of the inspectors than is shown in the two papers which I hold in my hand.

This singly folded letter sheet, which you see, is not wholly covered with printed matter, but contains the laws which were committed to the inspectors of factories and public buildings to enforce, when I became a member of the department, in 1879.

This pamphlet, copies of which you have seen distributed over the hall, contains the inspection laws as codified by the legislature of 1894 and, as you see, it had fifty-nine closely printed pages.

For some time after the law of 1879, providing for the appointment, by the Governor, of two or more inspectors of factories and public buildings there were only two such inspectors, Capt. Jos. M. Dyson, who is here with us to-day, and myself; my appointment antedating his by only a few weeks.

So far as I am aware we were the first inspectors of factories ever appointed by any Governor in this country.

To-day the department has twenty-six inspectors in its different classes of work, two of whom are women.

The first law, printed on this small folded sheet, is the one commonly known as the "ten-hour law" of 1874.

As this law was enacted it provided that any person, firm or corporation which *willfully* employed any minor or woman contrary to the provisions of the act, should be punished by a fine of not less than fifty nor more than one hundred dollars.

Of course, no manufacturers ever willfully employed a woman in violation of law, or if he did, it was impossible to prove it, and although many manufacturers reduced the hours of their operatives out of respect to the law, it was practically not in operation until 1879 when the word 'willfully' was stricken out by chapter 207 of the acts of that year.

In the fall of 1879 a determined effort was made by Chief Wade to enforce the law, and prosecutions were initiated in Fall River, where many of the mills were running in excess of the legal number of hours.

It was now found that the law was generally construed by lawyers to restrict the hours of labor to sixty hours a week, instead of any number of hours in any one day, and the inspectors were instructed to procure evidence that some woman or minor had worked more than sixty hours in some one week.

Of course it was impossible for any inspector to watch any woman for the whole time of one week, and unless his evidence of what he saw of her work was supported by her own testimony in court he lost his case. In some cases, however, the women proved good witnesses, and convictions followed.

Great trouble was also experienced in drafting the complaints so that

they would stand the fire of the able lawyers retained by the corporations. They generally found a number of reasons why the complaints should be quashed for informalities, and this was frequently done when we had the best evidence of a violation of the law by excessive employment.

In the year 1880 the legislature passed an act providing that printed notices should be posted in all rooms where women and minors were employed, which notices should state the number of hours work required of such persons on each day of the week, and the employment of any such person on any day for a longer time than stated in said notice should be deemed a violation of law, unless such overtime was to make up for time lost on some previous day of the same week. If this last qualification had been left out, the law would have been easy of enforcement, provided the indictments would hold in the courts. I remember one case in the superior courts where a smart lawyer for the defense moved to quash for twenty-seven reasons, which he fully set forth at great length, and this in a case where the indictments had been drawn by the district attorney of the county.

I suppose the lawyer might easily have found more reasons, but some of those he did find proved to be sufficient in the view of the court.

The provision requiring notices to be posted has been amended, and the law strengthened several times since 1880. By chapter 357, acts of 1892, the hours of labor of women have been reduced to 58 per week, and the last legislature prescribed a form of complaint to be used in cases of violation.

As the law now stands it is comparatively easy to enforce its provisions, and it is generally obeyed.

Taking up the laws as we find them printed on this sheet we next come to the laws regulating the employment of children. By chapter 52, of the acts of 1876, the employment of any child under 10 years of age in any manufacturing, mechanical or mercantile establishment was forbidden; and no child under 14 years could be so employed, unless during the year next preceding such employment it had attended school at least twenty weeks; and it was further provided that such child should attend school twenty weeks in each and every year, and that each child should, before employment, present a certificate from the school committee of its compliance with the requirements of this act.

An addition to this act, chapter 257, acts of 1878, made it obligatory upon the employer to require the certificate and keep it on file, and also required a certificate of the age and birth-place of every child employed under sixteen years of age.

The peculiar phraseology of these laws led to no end of misunderstanding on the part of all parties concerned, and of trouble for the inspectors.

No form of certificate was prescribed, and all sorts of so-called certificates were issued by the school committees and placed on file by the employers in good faith that they were complying with the law.

The words "during the year next preceding employment" were almost everywhere misunderstood, some taking the ground that the year referred to was the school year and others that it was the calendar year.

It seemed clear enough to the inspectors that it was intended that a child should have had twenty weeks schooling in the twelve months next preceding any day on which it might be found employed, but it was some time before they could get this rendering of law accepted by the school authorities.

During my first year of work as an inspector it was a rare thing for me to find a certificate properly made out, so as to give the information required by the law. I have now in my possession copies of curious certificates found on file in factories, and will give you two or three to show you how a new law may be misunderstood by intelligent and educated men.

..... 1879

This certifies that ..... has complied with the law in regard to school attendance as I understand it.

.....

Chairman School Committee.

The person who signed this certificate evidently did not understand the law and probably ment to say it. Another certificate reads as follows :

..... 1879.

This certifies that the following named children have attended school the time required by law. .....

Chairman School Committee.

Then followed the names of thirteen children employed in the mill, some of whom proved to be under ten years of age.

Another certificate says that ..... has been to school to me one year and a half and has been a good boy.

From his Teacher.

This teacher evidently did not know any more about the law than the school committee.

These certificates, of which I have given you exact copies, only omitting names, were not exceptional. Hundreds of similar ones were found on file all over the State.

In 1880 the legislature amended the school law by providing that the form of certificate should be furnished by the State Board of Education, and approved by the Attorney General.

In accordance with this law the following form was approved, and copies were sent by Chief Wade to all the school committees in the State.

..... 18.....

This certifies that ..... born in ..... is ..... years and ..... months old, and has attended school ..... weeks during the year next preceding this date and has attended school twenty weeks since.

..... 18.....

....., Teacher.

Approved by ....

Duly authorized by School Committee.

Here is one of the certificates issued under this amended law, which is a sample of hundreds of others :

May 31, 1880.

This certifies that ..... born in ..... is thirteen years ..... months old, and has attended school 18 weeks preceding this date, and has attended school 20 weeks since Nov. 1, 1879.

Signed, ...

This certificate was filled out and signed by the master of a large grammar school.

I am tempted to give you one more, which, omitting names as before, reads as follows :

..... 188.....

This certifies that ...., born in Canada, is 13 years 1 month old, and has attended school in Canada four years during the year next preceding this date, and has attended school twenty weeks since ..... 187..... ....., Teacher.

Si'l bons plait signe ici.

Approved by .....

Duly authorized by School Committee.

This certificate was made out by a teacher in a parochial school, but had been duly signed by a member of the school committee as she requested.

It will be noticed that the information most important to the employer and inspector, namely, the time when the child was due at school and when his employment in the mill should therefore cease, is given in only one of these certificates, although it was clearly required by the statute.

The reason why the form of these last certificates is the same, is because they were filled out on a private blank.

The inspectors also had a great deal of trouble with attempts on the part of the parents to evade the law. One very successful way in which this was done, especially among the French families, was as follows : The mother would take Marie, who was 14 years old, up to the proper authority and procure a certificate for her. This certificate would be given to Rosa, who was only twelve years old, and she would present it to the overseer, who would give her work. A few days after Marie was again taken to the school superintendent, or whoever should sign the certificate, and her name given as Rosa and another certificate procured for her, and both would sometimes be found in the same mill. Sometimes they looked so much alike and were so near of a size that the deception was easy.

To avoid this kind of work in one city, where there were a great many French people, I persuaded the school authorities to have some employment tickets printed with a description of the child in blank to be filled out by the overseer before the certificate was issued. A similar ticket is now required by the law.

I have given you the instances of our difficulties in enforcing a law in Massachusetts, to show you that the inspectors of that period had no easy time, and the admirable manner in which the law now operate n our

State is the result of hard work, not only on the part of the inspectors, but on the part of the school authorities, most of whom soon came to cordially second our efforts. Under the law of 1888, and other statutes codified in sections 13 to 25, of chapter 508 of the acts of 1894, the age limit has been raised to 13 years and the amount of school attendance to 30 weeks in a year, and the law regulating the employment of children is now one of the best enforced laws on the statute book.

We now come to chapter 214, of the acts of 1877, which is entitled: "An act relating to the inspection of factories and public buildings."

The first section of this law provided that the gearing, shafting, belting and drums in all manufacturing establishments, when so located as to be in the opinion of the inspectors dangerous to employes, shall be, as far as practicable, securely guarded, and that no machinery other than steam engines shall be cleaned while running, if objected to in writing by an inspector. It also provides that all such establishments should be ventilated and kept clean.

The first clause relating to the guarding of the machinery is one of the few inspection laws that are so well drawn that it has never been necessary to have them enforced.

Under this law an immense amount of valuable work has been done by the inspectors, and at first it was done against great opposition on the part of the owners of the machinery.

In one case, where I had ordered all the gears on certain machinery in a large manufacturing establishment to be guarded, the Superintendent wrote to Chief Wade substantially that if the inspector had known anything about his business he would not have required these gears to be guarded, as he would know that it was wholly impracticable to do it, and yet the gears on those machines were guarded, and exactly in the way that I directed, and that factory has now as well protected machinery as any mill of the kind in the State.

In this work, as in most other work an inspector has to do, new information imposes new duties, and, as the inspector is here given full power, he can exact better work as he finds that it can be done.

The next section of the act we have now under consideration, required that all elevators should have safety catchers, and all elevator and hoistway openings be properly protected.

This law was amended in 1882 by providing that all elevator cabs or cars should be provided with some suitable mechanical device, to be approved by the inspectors, whereby the cab or car would be securely held in the event of accident to the shipping rope, hoisting machinery, or any other similar cause.

At the time that this law was enacted there was probably no device known that would fill the bill, and it may be doubted whether there are many now in use that could at all times be depended upon.

The inspectors did the best they could in the matter by approving only

such devices as would hold the car under reasonable tests, and were found to be in perfect order at the time of inspection.

Of the first seventy-five elevators that I inspected after the law went into effect, forty-five were found to have safety devices out of order and wholly worthless in case of accident, besides which a considerable number had no safety device whatever. Devices were ordered where none were found, and all those in use were put in better order or replaced by better ones.

It is doubtful if any law for protecting human life ever worked such immediate good results as the statute relating to elevators. It was estimated that the number of accidents connected with the use of elevators was reduced fifty per cent the first year of the operation of the new laws. This reduction, however, was not the result of improved methods of protection, for these came slowly, but of the work of the inspectors in requiring better care of the devices in use.

At first it was hard work. Owners of elevators did not like to spend money for new safeguards, and were apt to relapse into their old habits of carelessness as to those in use as soon as the inspector was out of sight. It was especially difficult to get them to guard the openings of the elevators and hoistways by any device that would be effectual, although many devices were soon invented that would do this work, if kept in good order.

Finally a law was passed that made it the duty of the inspector to placard and prohibit the use of any elevator that was not made safe to his satisfaction. Since that time there has been but little trouble in enforcing the law.

By section 3 of this act, of 1877, it was provided that all manufacturing establishments, three or more stories in height, and having 40 or more persons employed, unless supplied with tower stairways should have properly constructed fire escapes built upon the outside thereof.

It was, however, expressly provided that no existing fire escape should be changed unless such change was necessary for the protection of human life.

Of course the question at once arose as to what constituted a properly constructed fire escape, and as most of those in use were simply vertical iron ladders, often without balconies, it was difficult to make the owners of factories believe that anything better was needed.

In his annual report for 1879, Chief Wade strongly recommended an amendment to this law which should provide for better means of escape in case of fire, and the legislature of 1880 enacted a law, which, under a fair constitution, practically provided for stairway fire escapes on the outside of factories and workshops, wherever the inside ways of egress were not sufficient.

This law also reduced the limit of employes to be provided for, from 40 in the building, to 5 or more above the second story.

Under this law the improvement in fire escapes was rapid.

The department had printed and sent to parties interested specifica-

tions for iron balconies and railed stairs of easy descent, with wide steps and with the steps and balcony floors constructed of iron slats set edgewise so that but little ice or snow would lodge or remain thereon.

All the laws relating to means of egress and escape from fire in factories, workshops and public buildings were consolidated in chapters 316 and 426 of the acts of 1888.

Chapter 316 of that year provides that the plans of all buildings coming under the supervision of the inspectors of factories and public buildings, shall be deposited with the inspector of the district in which such building is situated before the building is constructed, and that the inspector may require proper ways of egress and escape from fire and also that proper fire steps shall be placed in the walls, floors, and partitions of such buildings.

This law has worked admirably well. Architects are far more careful than formerly to plan such buildings with good ways of egress as they know that the inspector will order changes if any are necessary.

Chapter 426 of 1888 makes provision for proper egress from all buildings enumerated in the act, and also makes various other provisions for the safety of the occupants and further provides that the inspector shall issue a certificate stating the number of persons for whom the ways of egress and escape from fire are deemed sufficient in such building.

There is another law which imposes a great deal of responsibility as well as work upon a state inspector of buildings. There is a law which provides that any such inspector, when called upon by the mayor and alderman of a city, or by the selectmen of a town, shall inspect any building in such town or city which is represented to be in a dangerous condition.

I have had a great deal of this work to do and there is no part of my inspection work that gives me greater concern for the results of my action than the work I am called upon to do under this law.

A single error in judgment may place scores of lives in peril, and yet if an inspector is over-cautious he may put owners of buildings to wholly unnecessary expense and impair his own usefulness by destroying confidence in his ability.

VENTILATION OF PUBLIC BUILDINGS.

I now come to some of the most recently enacted laws which are committed to the inspectors to enforce.

One of the most important of these, to the enforcement of which I have devoted a large portion of my time for the last six years, is the law requiring proper sanitary provisions and means of ventilation in school houses and other public buildings. This law provides that every public building and every school house shall be so ventilated "that the air shall not become so exhausted as to be injurious to the persons present therein."

The law also provides that, when it appears to an inspector that further and different means of ventilation are required in any such building, he may issue a written order directing such means of ventilation and that they shall thereupon be provided, in accordance with such order, by the proper person or authority having charge of the building.

On the face of this law it would seem that the inspector was clothed with absolute power to provide such ventilation as might seem to him to be necessary ; but another law gives any person aggrieved by such order a right of appeal to the local board of health of the town or city where such building is situated.

At a hearing before such board, of course, the whole question may be opened as to what constitutes good ventilation, and also whether the air in the particular room in question was injurious to the pupils.

Notwithstanding all this, the law in the few years it has been in force has resulted in an immense improvement in the methods of ventilation in school buildings. This improvement has not, however, been made by new inventions for ventilation, or heating, but mainly in increasing the efficiency of the old methods by largely increasing the amount of air supplied to and removed from the rooms, and by so arranging the supply and exhaust pipes that the circulation of the air in the room will be such that each occupant will get his share of it.

Furnaces and steam pipes are still used to heat the air, but instead of a supply of 400 to 500 feet of air per minute for an ordinary school room of 50 pupils, the air entering the room at a temperature of 250° to 300° F., we now furnish from four to five times that amount at a correspondingly lower temperature.

Such has been the success of the inspectors in enforcing this law so far as school buildings are concerned that I believe that very few new school houses have been erected in the state within the last four years without the provision of a system of ventilation which the authorities believed at the time would prove effectual and comply with the law. The work in old buildings has progressed more slowly, but even in these a great deal of work has been done and in most cases with satisfactory results.

I should take up too much of your time if I went into details in regard to all the laws relating to the inspection of factories and public buildings in Massachusetts.

There are laws requiring accident to be reported to the chief of the district police, who is also chief inspector of buildings, providing for rope fire escapes in certain buildings ; that seats should be provided for women employed, and many other provisions for the safety and comfort of operatives and occupants of buildings.

Two other important laws have also been enacted which are enforced by inspectors specially detailed for the work, namely the laws relating to the inspection of tenement house workshops and the inspection of steam boilers.

It would take volumes to give a complete history of the inspection laws and the work done in enforcing them in Massachusetts.

The brief review of 15 years work is necessarily very incomplete and imperfect. If what I have shown you of the great progress made in that brief time shall afford you encouragement to press on in your good work I shall consider myself amply repaid for effort.

The Committee on Synopsis of Laws stated that they were prepared to continue their report. The following is the completed report as submitted by the committee:

REPORT OF COMMITTEE ON SYNOPSIS OF LAWS (Concluded.)

SAFEGUARDS, SANITARY AND BOILER INSPECTION, REPORTING OF ACCIDENTS, WEEKLY PAY-BILLS, FINES.

Illinois.

No power to regulate any of these things is vested in the Factory and Work-shop Inspectors.

Ohio.

Safeguards. Inspectors can order safeguards upon belting, shafting, gearing, elevators, drums, and all machinery where it is deemed necessary; also safeguarding of pans, vats, and other structures filled with hot liquid or molten metal.

Sanitation. Heating, lighting, ventilation, and other sanitary arrangements are under the inspector's supervision, but what may be required of them is not especially defined by law.

Fire Escapes. Inspectors have power to order fire escapes, safe stairways, and proper construction of all public buildings, as well as the inspection of those devoted to manufacture.

Accidents Employers must report death by accident within seven days, and injury by accident within 30 day.

Boiler Inspection. Boiler inspection does not come under the factory law.

Fines. The best law relating to fines upon statute book is probably that of Ohio, prohibiting the retention of the wages of minors by their employers, either by fines, or upon other pretext.

Massachusetts.

Safeguards. Belting, shafting, gearing, drums, in all factories securely guarded, elevator open-ways and well holes protected as ordered by inspectors, and safety devices to be provided as approved by the inspectors. No child under 17 years is allowed to clean machinery in motion.

Sanitation. Inspectors can require all factories to be kept clean and well ventilated, with proper sanitary conveniences. They may order, and the proprietors must secure it, any means of ventilation which can be provided without unreasonable expense. Public buildings and school rooms come under factory law provisions concerning sanitation and ventilation.

Boiler Inspection. One inspector is detailed to examine all uninsured steam boilers and their appurtenances, but has no power to enforce changes.

Fire Escapes. Inspectors can demand fire escapes and safe stairways for all floors above the second, and regulate the construction of doors and windows in all buildings which come under their jurisdiction.

Accidents. All accidents which result in the death of an employe or prevent his or her return to work within four days after their occurence must be reported to the chief inspector "forthwith" from both mercantile and manufacturing establishments.

Weekly pay bills. There is a weekly pay bill operating upon corporations but with a provision by which railroad corporations may be exempted.

Weaver's fines. The system of grading their work now or at any time hereafter used by manufacturers shall in no way affect or lessen the wages of a weaver, except for imperfections in his own work; and in no case shall the wages of those engaged in weaving be affected by fines or otherwise, unless the imperfections complained of are first exhibited and pointed out to the person or persons whose wages are to be affected; and no fine or fines shall be imposed upon any person for his imperfect weaving unless the provisions of this section are first complied with and the amount of the fines are agreed upon by both parties.

New York.

Safeguards. Elevators, hoisting shafts or well holes must be enclosed or secured with properly adjusted trap or automatic doors provided; cables, gearing, shafting and other apparatus kept in safe condition, exhaust fans provided to carry the dust from the emery wheels, grindstones and dust-creating machinery; hand rails provided upon stairways and stairs screened and where necessary stair steps provided with rubber covers, doors must be properly hung and not fastened during working hours, buildings of more than three stories with employes on or above the third story must have suitable fire escapes, easy of access, free from draft of hoisting or stairway. No minor under 18 years is allowed to clean machinery in motion, or to remove the guards at any time unless for immediate repairs.

Sanitation. 250 feet of air space is required for every employe between 6 A. M. and 6 P. M. After 6 P. M. 400 cubic feet for each. Inspectors can grant permits for less space provided a room is lighted by electricity and such lights burn during all the hours of labor. Other sanitary regulations, as to cleanliness, washrooms and separate closets for the sexes, etc., are enforced by the inspectors and they can require the walls and ceilings of any washroom white-washed or painted.

Boiler inspections do not come under the New York Factory Laws.

Every manufacturer is required to report within 48 hours any case of accident resulting in death or injury, giving full details.

New York has a weekly payment law applicable to every corporation except the steam railways, and its enforcement rests with the factory inspector.

Rhode Island and *Michigan*.

Michigan and Rhode Island factory laws contain the same regulations as the New York law regarding safeguards, sanitation and report of accidents, except that in Rhode Island the age under which minors are not allowed to clean machinery in motion is 16 years; and that neither the Rhode Island or Michigan law specifies the amount of fresh air necessary to good sanitation. In neither State does the factory law cover boiler inspection and time of payment of wages.

New Jersey.

Safeguards. Openings of hatchways, hoistways, elevators and well holes protected by automatic or trap doors, or by strong railing 3 feet high; no explosives or inflamable compound can be used in such place or manner as to endanger life of operatives; the same protection of belting, shafting, gearing and machinery as in New York; no minors and no women can clean machinery in motion.

Sanitation. The inspectors have power to regulate heating, lighting and other sanitary conditions, with no specific instruction; separate closets for the sexes, with screened stairs for female operatives. In factories where women and children are employed at dusty work, white washing or painting can be demanded every twelve months.

Fire Escapes. Fire escapes can be ordered on factories; other buildings are under municipal authority. No boiler inspection law in New Jersey. Accidents resulting in the death of employe must be reported within 24 hours; those where injury results must be reported within 24 hours after 2 weeks have elapsed. No law concerning payment of employes, or regulating or prohibiting the fining of employes.

Pennsylvania.

Safeguards. Safeguards to hoisting shafts, well holes, elevator ways, automatic shifters, gearing and beltings, vats, pans, etc.

Fire Escapes. External fire escapes, with the addition of chain and rope on the inside of windows.

No child under 16 years allowed to clean machinery in motion.

There is a special bureau for boiler inspection.

Heating, lighting and ventilation, separate closets, wash rooms and dressing rooms for women.

Accidents. Accidents must be reported within 24 hours by the firm.

Semi-monthly Pay. Semi-monthly pays when demanded; applies to all employers, whether individual, firms or corporation, the same to be in lawful money of the U. S.

Truck System. No corporation not chartered for truck purposes allowed to engage in it. The penalty is revocation of charter.

Mr. Franey, after commenting favorably on the Report of the Committee as a whole, stated, that New York had a law which effectually laid out the truck system in that State.

Mr. D'Arcy followed with a similar claim for the State of New Jersey.

Mr. Dyson, referring to that part of the report relative to the weekly pay law of Massachusetts, stated, that the act only applies to corporations, and that the law does not exempt railroad corporations only upon application of employes, and that in consequence all the railroads in Massachusetts pay weekly.

Mrs. Stevens, to explain the position taken by the committee, read the exempting clause in the Massachusetts law, which was as follows: "The Railroad Commissioners after a hearing, may exempt any railroad corporation from paying weekly any of its employes who, in the opinion of the Commissioners, prefer less frequent payments, and when the interests of the public and such employes will not suffer thereby."

Mrs. Stevens maintained that the clause just read gives the Commissioners almost arbitrary authority, inasmuch as it permits them to decide whether employes prefer less frequent payments, or not. She could see no reason why railroad corporations should be exempted for any cause any more than other corporations.

Mrs. Kelley said that she did not find any authority over boiler inspection in the Massachusetts laws other than to recommend repairs, as there is no way provided by which owners of boilers could be compelled to make necessary repairs.

Mr. Dyson explained that the construction put upon the law by the Committee was correct, but that its inefficiency is largely due, if not wholly so, to the wishes of the stationary engineers.

Mrs. Stevens desired to explain that the committee regarded the synopsis as being very imperfect; the time in which the work had to be done being so very short, and the

delegates upon the committee not being prepared to give the necessary attention to the subject, she hoped that the report would be accepted as a forerunner of better work in that direction in the future.

On motion the report of the committee was accepted and the Secretary instructed to send to the Chief Inspector of each State a slip containing that portion of the committee's report as relates to the laws of his or her respective State, which, when approved or corrected, shall be returned to the Secretary to be included in the report of the proceedings of this Convention.

President Franey announced that all papers had been read excepting one upon sewer gas, which probably should come before the Convention when an exhibit would be made of Shaw's machine for testing gas.

On motion of Mr. Watchorn the order of business was changed, and the Convention proceeded to elect officers for the ensuing years.

With a few commendatory remarks Mr. Watchorn placed Mr. John Franey, of New York, in nomination for President.

Mr. Armstrong moved that the election of Mr. Franey be made unanimous, the Secretary to cast the ballot for the Convention.

The motion prevailed, and Mr. Franey was elected President.

President Franey thanked the Convention for the honor conferred upon him, hoping that whatever mistakes or errors could be attributed to him in the past or the future, would be regarded as faults of the head and not of the heart.

Mr. John O'Keefe, of Pennsylvania; Chas. H. Morse, of Michigan; Jos. N. Dyson, of Massachusetts, and Robert Watchorn, of Pennsylvania, were nominated for First Vice-President. The latter two declined the nomination.

Mr. Callan, of New Jersey, and Mr. Moore, of Massachusetts, were appointed tellers. The vote, when counted, showed that John O'Keefe received a majority of 8 votes, and he was declared elected First Vice-President.

For Second Vice President Mrs. Margaret Finn was elected unanimously.

John D'Arcy, of New Jersey, was unanimously elected Third Vice-President, and M. N. Baker, of Pennsylvania, in the same manner, Fourth Vice-President.

Mr. McCloud, of New Jersey, placed in nomination Evan H. Davis, of Ohio, for Secretary and Treasurer.

Mr. Dyson, of Massachusetts, moved that the election be made unanimous, the President to cast the ballot for the Convention.

The vote was taken, and Mr. Davis was declared elected Secretary-Treasurer.

Mrs. Palmer, of Rhode Island, and Miss Campbell, of New York, having declined nomination for Assistant Treasurer, a motion was carried to dispense with all further nominations and election.

Mrs. Kelley moved that tenement house manufacture be discussed, and that the remaining part of the meeting be devoted to that subject. Carried.

Mr. McCloud desired Mrs. Kelley to commence the discussion, as he was anxious to learn what success had been obtained in Illinois under the laws of that State in dealing with the system.

Mrs. Kelley replied that she regarded the sweating system law in her State a failure. It has not proved adequate to what is required, and for that reason she desired to know how laws on the system in other States had succeeded. She said that inspectors of Illinois have the power to confiscate and destroy all infected garments found in sweat shops, and had done so in many cases, but the sweating system was operated too extensively to hope to eradicate it by such a process. In her opinion all laws having in view the regulation of the system would prove ineffective, and she urged inspectors to seek for legislation for its total suppression.

Mr. Davis inquired if there had not been a large number of prosecutions in Chicago under the present law, and what effect they had had upon the system? He had hitherto re-

garded the law of the State of Illinois, which limited the work day for women and children to eight hours, as the very best that could be applied to regulate the tenement workshop, if enforced, and was disappointed to learn of such poor results from its operation. The sweating system had crowded itself into the larger cities of Ohio. There is considerable of it in Cleveland, and he was informed that it is engaged in much more extensively in Cincinnati, with the same injurious conditions proceeding from it in these cities as is apparent in New York and Chicago. It will be necessary for the State of Ohio to devote some attention to its restriction before it attains such proportions as it has in other States. Legislation upon this matter must probably originate with the State department of inspection, and it would be well for the Inspectors of Ohio to become informed as to the results of laws in operation in other States before they make any effort in that direction themselves. He hoped something practical would be the outcome of the discussion of this subject.

Mrs. Kelley replied that prosecutions had been made, but prosecutions are expensive, and at times doubtful as to results. Employes in the sweating system are in most part subservant to their employer and will connive with them to subvert the law. Besides, the system of sweating is largely the fault of the operatives themselves. In many cases they prefer to work long hours, and do not understand that their pecuniary interests will be advanced as a result of shorter work days. She was confident that the evil required more stringent legislation to suppress it than has yet been obtained in the State of Illinois. The eight-hour law is a good law, and some benefit has been derived from its enforcement, but it is insufficient to cope with the evils of the sweating system.

Mr. Franey spoke at considerable length upon the results following the enforcement of the Tenement Factory Act in New York, and among other things said that his State has made a great effort to regulate the "Sweating System," but not with the results expected. He said that he would favor the passage of a law to abolish it directly by prohibiting the owners

of the raw materials from placing the goods to be made into garments in tenement houses. He thought this could be done on the tenable ground that the health and welfare of the people demanded it. In a case brought before the courts of his State it had been decided that the present law cannot interfere with people doing work in their own homes and with their own families, but its enforcement had the effect of dispersing this class of workers from the tenement factory to their own houses, so that the worse features of the system have been practically wiped out. The strikes connected with the clothing trades of New York have had more to do with the suppression of the system in these trades than any law in operation. The factory inspectors are so persistent in their efforts to regulate the evil that it stirs up the operatives to a sense of their rights, and has brought them together in defense of their interests. He sometimes doubted if any State law can be enacted that will totally eradicate the system. In any attempt to regulate it, he felt sure that no law can be made general enough to apply to its every objectionable features, because it will require more inspectors to enforce the law than any State will ever undertake to appoint. The only influence competent to handle the system is that of public sentiment, thoroughly aroused and combined to oppose the sale of all goods produced under its operation. The Tag law simply provides that all infected goods shall be disinfected. It is useless, as it would require an army of inspectors to prevent tags being removed after being placed on such goods. He recognized the necessity of endeavoring to control such an abomination by law; probably some effectual method of doing so will be arrived at eventually, and it is the duty of factory inspectors, to whom the worst evils of the system is most apparent, to work continually in behalf of such a measure.

Mrs. Palmer requested Mr. Franey to inform her what constituted the work of "The Consumer's League," and what has been accomplished by that organization.

Mr. Franey replied that nothing had been done by that organization against sweaters, its work being rather in the direc-

tion of ameliorating the abuses under which it was alleged the clerks in mercantile establishments labored.

Mrs. Stevens asked what effect the law limiting air space has had upon removing tenement workers in New York.

Mrs. Kelley added that in Chicago some of the tenement shops did not contain 250 feet of air space entirely.

Mr. Franey in reply to Mrs. Stevens said that the law has been of much benefit, and has removed about 1700 operatives out of closely confined factories.

Mrs. Stevens wished to know if any one prosecution has had any effect in breaking up other law violating establishments.

Mr. Franey said that it had, but while it has a very good moral effect, in many cases, workers driven out of one tenement will resort to another equally as bad. They are a class of people that do not want to be disturbed in their way of obtaining a livelihood, and to whom, it seems, a moderate amount of filth is necessary to comfort. He knew of well arranged factories, well built and provided with good sanitary conditions, which in sixty days after occupancy were in a filthy condition. They cannot appreciate such arrangements. They have very little if any moral perception, and cannot even understand why separate toilet rooms should be provided for the sexes. He added that the tenement manufacture of cigars in New York is almost obliterated, owing principally to the efforts of the Cigar Makers' Association of New York.

Meeting recessed at 10 P. M.

SEPTEMBER 28, 1894.

President Franey called the meeting to order at 10 A. M.

When the roll of officers had been called, Mr. Watchorn introduced to the convention Prof. Thos. Shaw, the inventor of Shaw's Gas Tester, who proceeded to illustrate, by experiment, how to detect with his apparatus foul air, or the presence of dangerous gases in factories and other buildings. In his address Mr. Shaw stated:

The narrow limit of time granted by the convention would permit only a brief outline of the apparatus and the operation of the same. In the

course of inspection by the Factory Inspector, the presence of the dangerous gases (or foul air) is encountered in both large and small buildings, affecting the health and at times endangering the lives of the occupants.

These gases originate in or have access to the buildings from various sources. Sulphurated hydrogen gas is, perhaps, one of the most dangerous and deadly gases encountered, the presence of ½ of 1 per cent being fatal. It escapes from defective furnaces and sewers, and originates at times in the chemical process of manufacturing. This gas is quickly discovered and the per cents determined by those not skilled in chemistry, by the use of this instrument, known as the Shaw Gas Tester.

Carbon monoxide is a most dangerous gas that escapes from leaky gas pipes and from furnaces, and is quickly determined by this same instrument.

Carburetted hydrogen or illuminating gas, dangerous to health, the presence of which in small per centages has heretofore been determined by the slow and difficult process of chemical analysis by a skilled chemist, is tested upon this instrument by the unskilled inside of five minutes, with an accuracy measuring unto the 1-1000 part.

Carbonic acid gas originates from defective furnaces, open fires, gas burners, etc., which gas is exhaled from the lungs, and ultimately befouls the air of crowded rooms. This gas is quickly tested upon this instrument and is competent to detect to the smallest possible fraction.

Any person that will devote 10 to 20 hours in learning the use of this instrument can make all the afore-mentioned tests.

I will not attempt to go into the details of the operation, as the time allotted is not sufficient for that purpose. In point of fact, if this instrument was operated daily for a period of 30 days, new uses and new tests could be continually made of the various gases and various compounds of gases, which this instrument is competent to detect.

It also serves as a superior mixer of gases, or compounds of air and gas in any and all per centages desired for the purpose of experiments upon animal life. Or for proving the accuracy of the instrument by adding predetermined per cent of gas in the air, and afterwards discovering the per cent present in one, on this same instrument.

[NOTE.]—The Gas Tester was here operated by Mr. Shaw, showing the mode of operation upon two gases from the street main, and gas exhaled from the lungs of one of the Inspectors.

The highest degree of accuracy is required in the construction of this instrument much of the work being done with no greater variation than the 1-20,000 part of an inch.

Mr. Shaw showed how the percentages are read off from the engraved scale on both bar and beam of the Gas Tester, and stated that this instrument has already been made the official standard of test for mine uses in the States of Pennsylvania and Ohio, and that it was in use in the Factory Inspection Department at the headquarters in Harrisburg, also that it formed part of the instruction at two of our large colleges.

After thanking the audience for their earnest attention, Mr. Shaw in turn was tendered a vote of thanks by the Factory Inspectors.

Mr. Shaw's address is 915 Ridge Ave., Philadelphia, Pa, He will be pleased to give any further information desired by mailing request, or calling upon him in person.

At the conclusion of Mr. Shaw's exhibit, Inspector Splaine was requested by the President to read the paper prepared by Chief Wade, of Massachusetts, upon the subject.

THE PREVENTION OF SEWER GAS IN DWELLING HOUSES AND FACTORIES AND HOW TO DETECT IT.

Mr. President, Ladies and Gentlemen of the Convention!

The practical application of scientific knowledge in its relation to public safety is always an interesting subject.

Whatever affects the health and comfort of the people is of immediate concern to all.

No home can be prosperous and happy, if the habitation harbors the germs of disease.

No factory or workshop is in suitable condition for its purposes unless it is constructed and maintained according to the requisitions of sanitary science. There is no longer any excuse in ignorance. By means of discussion and reports published in newspapers, and of legislation whose provisions have become as familiar as current news, every person of ordinary intelligence knows something of the dangers that lurk in bad drainage, and the proper means of prevention.

Whatever menaces public health is a peril to every person in the community.

A plague spot in one section cannot always be so managed as to prevent the spread everywhere.

The defective drainage of a single tenement may set in operation causes beyond human control. A garbage heap in a back yard contains germs of an epidemic that may depopulate a town or a city.

Now the most serious mistake which is so commonly made in this matter is to attach supreme importance to causes of public sickness that are displayed and palpable, and entirely overlook those that are hidden. A pile of filth in a public thoroughfare arrests attention, and is promptly removed. Yet it may be far less perilous to public health than the leakage of sewer gas, which, if inodorous, as it often is, does its deadly work in secret.

The subject of sewer gas, or "sewer air," as some engineers assert it is rightly termed, is one of considerable importance to every householder, as well as to those who are interested as inspectors in keeping factories free from every influence that generates and spreads disease. The subject has long had the attention of scientific men who, however, have not all agreed in their views. It is not definitely settled in what way sewer gas acts in the spread of disease. Men who work about sewers are not specially susceptible to malarial and similar disabilities. At the same time epidemics occur

in families that can be accounted for in no other way than by defective systems of sewerage. It is a fact, proven by statistics both in this and other countries, that certain filth diseases prevalent in many communities have been lessened materially, if not wholly eradicated, by the introduction of proper methods of sewage disposal. It may be assumed as indisputably true that the effects of sewer gas are highly dangerous, and certainly the health authorities of all progressive communities so regard it. The exact methods by means of which sewer gas spreads its poison are not so well understood. The principal sewerage gases arising from deposits are sulphurated hydrogen, carburated hydrogen, carbonic acid and carbonic oxide, ammonia, and some others. If these gases are considered separately as to their effects upon the human system they cannot be accounted fatal except in excessive quantities, and after having been breathed for a considerable period. Their effect is usually to produce nausea, headache or slight debility, but recovery therefrom is quite immediate when the victim has access to pure air. It is sometimes asserted that as these gases are not fatal when taken in small quantities, they cannot be when absorbed as sewer gas. Yet this argument loses force when it is seen that sewer gas is, under some conditions, present at all times in houses which are in direct connection with a sewer, and that its inhalation at frequent intervals must contribute to the quick development of disease germs. If the results be only a feeling of lassitude and slight debility the causes are preventable and should be effectually guarded against both in the home and the factory. Conceding that the existence and prevalence of sewer gases are the only reasonable explanation for certain types of sickness, it has been claimed that the germs of disease are conveyed by the gas and that it is these germs, not the gas itself, that cause the trouble. It certainly seems to be a reasonable supposition, that in houses which are directly connected with sewers and drains the germs of disease may lodge and be conveyed thence from one house to another, or throughout the entire neighborhood. Such germs, as we are informed by competent authority, are so minute that the microscope is necessary to detect them, and they are disseminated by the vapor that arises from sewage deposits.

As a point of practical importance any theory as to the nature and origin of the causes involved is of less practical importance than the selection of the proper means of annihilating the evils complained of. It is also a fact that those who are already debilitated, as well as children, are among the earliest sufferers from the poisonous effects of sewer gas. Men in vigorous health and engaged in active pursuits may for a time with comparative impunity breathe deleterious air, and the system will withstand such shocks within certain limitations. But in view of the little exercise women and children in the home and operatives in our large factories enjoy, they are easy prey for any disease germs, and it is necessary that the atmosphere that they breathe should be kept as free from them as possible. Pure air is recognized, of course, as essential in school houses, and it is as necessary to be supplied to the factories in which men and women work for hours in a

debilitating atmosphere, putting the system in a condition that makes it very ready to absorb and nurture any disease that may arise from the causes stated. The matter that most interests us, however, is how to detect the presence and prevent the escape of sewer gas, and so check and remove one of the causes of disease.

The detection of sewer gas in an apartment is not an easy task. An analysis of the air in the room may disclose much that is of scientific interest, but this method is not open to every one. If the amount of sewer gas flowing into an apartment is very large it would be possible to detect its presence by the sense of smell. Carbonic acid gas has a very musty odor, but carbonic oxide is odorless. The sulphurated hydrogen has a distinct odor not easily forgotten, but sewer gases may be escaping in quantities sufficient to carry contagion, and not escape in sufficient quantity to be readily detected after a person has been a moment in the room. The only practical way for the householder to guard himself against this gas, is to see that all connections with his sewer are perfectly gas tight, and that there are no openings or connections in any way that will allow the gas to escape into the house. The absence of a water leak in a system is not always evidence of perfect tightness, for the upper portion of both lead and iron pipes have been found eaten away by the gas and the water has run along the bottom of the pipe and the gas escaped from the upper portion. The test for the exposed portions of a house drain is a tight water pressure with the pipes full of water, a method easily understood, and either a smoke test or a test with oil of peppermint. In the smoke test, smoke from powder or sulphur may be made at the bottom of the system inside the pipes, and the rooms examined for traces of the smoke. The smoke will penetrate all portions of the system and escape where the gas would. Another method is to introduce oil of peppermint into the piping, making sure that none of the odor enters the room at the point where it has been introduced. The odor will be carried through the pipes, and if any gas is escaping it can readily be detected by the odor of peppermint, though the leak may not be so readily located as by the smoke or water test. In making these tests the results may not be satisfactory at first, but with proper care the places may be disclosed where sewer gas escapes in the system of piping, and the proper repairs can then be made.

But this is not all. It is quite possible for a system to withstand a most rigid test of this character at one time, and immediately afterward allow the free escape of gas into the room. This is due to defective design or arrangement of the system, causing the syphoning of traps, and the loss of their water seal in this manner, or by evaporation. This is where the householder himself should understand something of the matter, and makes it necessary that after a system is placed in a house it should have regular attention. Too frequently plumbers will put up a job, carefully test it for tightness, but arranged in such a way that the traps soon become useless, or even with anti-syphoning traps, have such a poor arrangement of the piping that the gas will back up and escape from some small connection put into the most

convenient place but without proper sealing. In reality, tight piping, a properly designed system, and some knowledge and care on the part of the user together with efficient traps are the only ways to guard against the effects of sewer gas, and that this may be more readily understood something about the construction of a system of house sewerage and its care will be given.

The problem in itself is a simple one. The sewage is to be delivered from the house, usually through one pipe, to the sewer maintained by the municipality, or to a cesspool in the ground. The street system is called a sewerage system and that leading from the house the house drains, though the house system is in reality a small sewerage system. Plumbers give the different pipes in a house different names. The pipe that receives and delivers the refuse from the house to the sewer is termed the drain pipe, and the main pipe that collects the sewage in the house and delivers it to this drain pipe, is termed the soil pipe while the smaller pipes that carry the sewage from the closets, tubs, basins, etc., are called waste pipes. All the waste pipes in a certain portion of the house deliver to one soil pipe and the soil pipe to the drain pipe, and thence the deposits go to the sewer or cesspool. There may be, however, several soil pipes extending up through the house. In this manner there is established a direct connection from the room through these pipes to the sewer, and to prevent the return of sewer gas through the pipe that thus conveys the sewage, what is termed a trap is placed in the pipe, which allows the sewage to pass, but prevents the gas returning. Frequently this trap is put in the soil pipe or house drain, and it ought always to be so placed where the connection is with a cesspool, but is not so necessary when the connection is with a well maintained sewerage system. This trap is supposed to prevent any gases from backing up into the house, but as a further safeguard the soil pipe is carried to the roof of the house and allows the free escape to the atmosphere of any gases which might pass the main trap, and in addition each of the waste pipes leading from the several fixtures to the soil pipe should be provided with a trap. From this it will be seen that there are three guards against the gas entering the house ; first, tight pipes ; secondly, the main trap and carrying of the soil pipe clear above the roof, and thirdly, the provision of individual traps at each fixture. If these are perfect and all perform their office, then no sewer gas can enter the house ; but anything that will cause a pipe to leak or a trap to fail, is to be at once noted and corrected.

The most common form of trap, and when properly cared for and set up, the best of traps, is what is known as the S trap, made by bending a piece of pipe of the same diameter as the waste pipe, into the form of a letter S, laid upon its side. This trap is supposed to retain a portion of water sufficient to close the pipe and so prevent the passage of any gas. This trap has some defects, and I am aware it has been unsparingly condemned by many plumbers, yet it is the most universally used and, under proper conditions, it answers every purpose. Its principal defect is, that when it is placed near another pipe and in direct connection with it, the rush of water

past its open end is apt to suck the water from the trap, and, what is called syphoning, occurs. Then, in cases where a bath-tub, closet and basin are close together, as is so commonly seen in houses, the pipes and traps can be so arranged that there is air pocketed between two of the traps or "double trapped" as it is sometimes called. The flushing of one pipe with water, by emptying a basin or otherwise, compresses the air between the two traps and forces the water back out of the trap and allows some sewer gas to escape into the room. In this case, the water does not leave the trap unsealed but returns to the trap again, but may not always fill it again. With the syphoning, however, the trap is unsealed and its value as a trap is entirely gone, because it allows the free escape of gas into the room. There is no necessity of arranging a trap so that it can be unsealed by double trapping, and syphoning can be overcome. The syphoning is something that occurs more frequently than many suppose. The principle of the syphoning is, that the rush of water creates a partial vacuum on the soil pipe end of the trap, and the greater pressure of the air on the room end of the trap forces the water before it out of the trap, in an endeavor to destroy the partial vacuum. To obviate this, what is called a vent pipe is placed upon the end of the trap nearest the soil pipe, and is run up to the roof or connected into the soil pipe. With this larger body of air at hand sufficient vacuum cannot be formed in front of the trap to displace its water, and if it should be, the air from the vent would destroy it instead of taking air from the room. It has been argued that where these vent pipes are very long, extending above three stories, that the movement of the body of air in them is so sluggish that the trap is unsealed, and, to prevent this, automatic vents have been devised, and many of them have been used. The object of the vent pipe, however, is not alone to prevent syphoning but it performs an exceedingly useful office in ventilating the system, and in preventing the formation of sewer gas in the house drains by admitting fresh air to them. The well-known method of connecting the S trap with the soil pipe is by inclining the outlet of the waste pipe from the trap in the same direction as the flow down the soil pipe. Such a connection is the most favorable to the exhausting of the trap by suction. It has been stated by expert authority that if the inclination of this waste pipe was upward, the tendency of the flow of water past its opening would be to fill the trap with water instead of exhausting it, and asks, between these two ways is there not a neutral line, where the flow of sewage past the inlet from the waste pipe would neither exhaust the trap by suction or fill it. Is it not possible that if a trap and waste pipe were connected to the soil inclined in the direction of this neutral line that much of the danger of syphonage would be overcome? Such a connection would not interfere with the flow of sewage, for such an inclination of the waste pipe need only be at the connection with the soil pipe, and not necessarily for the whole distance between the trap and the soil pipe.

This syphonage is the principal objection to the S trap, but it has another, that of evaporation. In about a month of disuse or possibly six weeks under some conditions of weather, the water will escape from the trap by

evaporation, and in the case of a vented trap it has been known to escape inside of two weeks. If a house is shut up, or a basin or closet is unused for such a length of time, the water seal in the trap is gone, and a free passage is thus made for the sewer gas that may have passed the main trap or formed in the house system, into the room. Such is certainly the case with many city houses that are unoccupied during the summer; the traps are unsealed, and the place is filled with sewer gas; it is deposited everywhere, and, on the return of the family, the dust, and any disease germs it may contain, is stirred up and breathed by the servants and women and children about the house. To overcome this defect also, traps are made with a large chamber to hold considerable seal of water, but they have the defect that they soon foul, and need frequent cleaning, and unless so cleaned will produce sewer gas within the house system, and the passage of the water through the filth practically converts it into an S trap. If the S trap is used it must be taken care of to see that it has not been syphoned, and this can be done by venting it, and also to provide against evaporation, which in empty houses requires filling of every trap at certain intervals, or by the use of some patented automatic anti-syphoning device. These, however, will not take care of themselves and need care and proper cleaning. It is not uncommon to find the soil pipe trap in the cellar and indeed many S traps, made with a cleaning out top. These frequently leak, notably the iron one on the soil pipe, as they are often screwed down on putty and this putty joint, though tight at first, rapidly gives way. An inspection will disclose whether it is so arranged that the traps will lose their seal either by syphoning or double trapping. This is an important matter, for some fixtures are but seldom used and may go many days after syphoning without refilling, and apart from leaky pipes, this is a danger often met with in houses and factories. In spare rooms, the fixtures should be regularly flushed, and if in disuse for any length of time and it is not convenient to flush all the traps at certain intervals, they may be made tight by stopping the waste pipe with the rubber stopper, and the overflow holes with corks, and filling the basin with water. In the case of closets, the water may be removed and glycerine used in its place, as this will not evaporate. Families going away for the summer need to observe these precautions.

The next consideration is to see that all pipes are run in such a manner that there are no pockets, or depressions in the horizontal runs of pipe, or sharp elbow turns, that will allow the accumulation of filth. Long horizontal or partially horizontal pipes should be avoided, and all pipes should be pitched sharply downward from the time they leave the fixture. The waste pipes should join the soil pipe by a Y fitting or easy bend, and should not reduce in size at any point. The soil pipe should extend clear above the roof, and should be enlarged above the roof, as it is found that in cold climates the openings frequently become clogged with ice accumulations. The soil pipe should have no offset, and if such must be used, it should not be horizontal, but sloping. No soil pipe should be capped or covered, and

it should not discharge near any window or place where the fresh air supply pipe is located.

The matter of tight joints and pipes, and traps always sealed, clean pipes and open ventilated soil pipes, covers all that can be done inside the house. The gas, as noted, is traped at the main drain outside the house, or in the cellar, but it should always be vented to the top of the house and the outlet sufficiently removed beyond any place where people are likely to be affected. It has been proposed and it is very frequently arranged, not to run the vent pipe to the top of the building but only a few feet above the ground. I have in mind several cases where considerable sickness among children has been traced to their playing about these alleged ventilators, and they should therefore be carried where they will not deliver their foul gases into human nostrils. In another case that came under my observation, such a vent pipe discharged near the fresh air inlet to the furnace of a house, and this furnace, instead of being supplied with pure air drew in a considerable portion of contaminated air, which, when heated, was distributed throughout the dwelling.

It frequently happens that the drain pipes are not laid with sufficient care, that being concealed under ground they cannot give trouble. Sometimes these pipes run under the cellar in this way. No greater mistake could be made. Sewer gas will inevitably penetrate the soil. I have in mind a case where a smoke test of the plumbing in a house was being made and a large amount of the smoke made its way into an adjoining house, just as the sewer gas undoubtedly did. In this case the drain pipes passed under the cellar floor and were not tight. Both cellars were bricked and the smoke penetrated the soil and came up between the lose bricks. The sewer gas may therefore enter the building from an unexpected source, and it is as necessary that drain pipes out of sight be tight as those above ground. Decidedly the better practice is not to put them beneath the cellar floor but to keep them readily accessible or in sight ; and the same should be done with all the house pipes within reasonable limits. The fixtures and traps ought to be in sight and easily accessible, and where the light may reach them.

Another place where trouble often originates is in the setting up of additional fixtures in a building without considering their relation to the rest of the system. Refrigerator overflows are frequently connected to the most convenient point in the general system without care. A severe case of diphtheria in the family of a prominent and wealthy citizen of Boston was traced to the connection of a refrigerator pipe to the soil pipe in such a way that it was practically untrapped. Every single connection should have its trap.

The adequate protection of a house against sewer gas can only be secured by preventing its entrance in the first instance, and to do this the system should be intelligently planned, its traps constantly sealed, and the pipes as well as all fixtures, fittings and clean outs, kept absolutely tight. The pipes must be kept clean end well flushed, and on leaving any fixture,

or the house for any length of time, provisions such as I have already described, should be made against any loss of water seal in the traps.

The following paper was prepared by Mr. Campfield, to be read in discussion of the subject of Mr. Wade's paper. It was upon motion ordered to be printed in the proceedings.

Ladies and Gentlemen of the Convention:

The subject is one of deep importance to the Association, and to every State, for it means no less than the proper care of the public health. Sanitation is one of the important questions for Government consideration. Next to the moral welfare of a community lies its physical well being, which constitutes in a large measure the basis of its prosperity. In the health of every subject every State is interested, and in the relationship existing between individuals it has the right to guard the interests of the community. Every State should look to the preservation of the lives of its people from preventable causes of disease and death, and since the welfare of one State depends upon that of every other State, in its health as well as in its political and commercial relations, it is imperative that there should be uniform laws, especially in relation to plumbing, ventilation and trapping. There is no question connected with plumbing and sewage more important than is the question of ventilation and trapping. It is an unquestionable fact that sewer gas and the offensive odor generated from decomposition of vegetable and animal matter is dangerous to the health of our people. Impure air and impure water are the two great roadways of disease. Impure air, or odor of decaying matter is nothing less than a poisonous gas, and renders a workshop, or a dwelling house, or a community wherever it exists, unsanitary and dangerous to the human being. What are the causes of all the contagious diseases, that have and still exist, notwithstanding the fact that the medical profession has done all in its power to master them. Physicians deserve credit for all they have done. They have learned how to cure patients afflicted with those diseases, but in many cases fail, not so much on account of their prescription, or lack of skill, but because around the bedside of the patient is still hovering the cause of that disease. Remove the cause, or remove the patient. That is the first thing that should be prescribed. Do those diseases come without cause? No, the people themselves are the cause. Go into the tenement blocks where people are allowed to build without restrictions. Huddled together in filth and dirt, without ventilation or even daylight, you will find them often in rooms where rays of sunlight never enter. Sinks connected directly with the sewer without even a trap; or it may be a closet vault inside the kitchen door, or under the house, an old abandoned cistern receiving the discharge of three or four sinks, such as restaurant keepers often use in order to economize when their sewer becomes stopped, and who allow it to run into their basement until half the inmates and patrons are poisoned with disease.

Those causes exist not only in tenement blocks and places just mentioned, but also on our fine streets and avenues, where people would rather pay a thousand dollars for an ornament to set on the front lawn for the people to gaze at, than a hundred dollars toward improving the sanitary conditions of their home. They will have nice frescoed rooms, fine mantles and fire places, which, in a majority of cases are only a blind. The exterior of the residence may be nicely painted, the lawn trimmed two or three times a week, in fact, everything is done that can be done to please the eye, regardless of cost, but when it comes to the sanitary condition of the building, what do we find: an open sewer, an old pan or plunger closet, which should be condemned out of use entirely, because of being a filth catcher; probably a wooden wash tray, rotten from use, and first made out of wood because of cheapness. A wooden sink, to which every sort of offensive matter clings, and which no sort of disinfectant is competent to cleanse. All such things are air befouling and incubators of disease. There is no ventilation; the bath tub, wash stand and water closet all run into one trap. They don't believe in piercing through the roof with a vent pipe, because it looks so horrid. In fact, the conditions of the buildings in its construction were not thought of, the whole thing was done to make it look nicer than their neighbors, and after all they will wonder why it is that there is always some one sick.

Every fixture should be separately trapped and ventilated. The soil pipe should always be cast iron, full size, straight through, and extend above the highest point of the roof. Galvanized iron soil pipe should never be used under any circumstances, as it will soon become full of holes and pollute the entire building with sewer gas. Sewer air is continually causing deaths by escaping through cause of poor plumbing, not being properly ventilated. Therefore strict laws should be passed, setting forth how work should be done. There should be a sufficient number of practicable plumbing inspectors appointed, to inspect every house at least once a year. All defects found should be remedied. The same natural laws exist all over the world; filth will breed the same germs of disease with the same general effect.

Why those laws should be passed for some cities and not for others, or for some city and not for a State, is something I cannot understand. If it be necessary to pass hygienic laws at all, they should apply to all parts of the State alike. The records of the health departments in cities where they have adopted rules and restrictions, show that deaths from these sources have decreased in cities one half while the population has doubled. These laws should be more sweeping, and take in the disposal of sewerage and the filteration of water. It is our duty as a National Association to assist all within our power to bring about that which is necessary for the health of the human race. I hope that the factory inspectors throughout every State will impress upon their representatives the necessity of such laws.

The following letters were read by the Secretary:

POWER LOOM INGRAIN CARPET
WEAVERS PROTECTIVE ASSOCIATION.

Philadelphia, Sept. 27, 1894.

To the Officers and Members of the Int. Ass. of Factory Inspectors:

GREETING.—The ingrain carpet weavers of Philadelphia, through their organization, welcome you to our city, believing the work you have in hand is a noble one, and calls for the hearty approval of all those, who in times past have felt the necessity of the establishment of a factory inspectors' department in all States where labor is performed.

We take pleasure in saying that your work has so far been productive of good results, and as a word of encouragement we unite in saying: "God speed you in your noble work."

While the factory laws are not just what we would like them to be, still we believe that the time is not far distant when labor will cease to be treated as a commodity, and when factory workers will be regarded as human beings.

We believe there should be a uniformity in the factory laws, not only in this country, but wherever productive labor is performed, as would guarantee equal privileges to all alike without any distinction. Hoping your stay in this city will prove of advantage to you all

We remain, yours fraternally,

EDWARD M. NULTY, Pres.,
JOS. SETTLE,
JOHN WILLSON.

P. S. It is our intention to call upon all branches of the textile industry to offer such amendments to the present laws, as we think would be of advantage to the factory workers of our State.

The communication was referred to the Secretary to be placed in the minutes of the Convention.

WHARTON SCHOOL OF FINANCE AND ECONOMY.
UNIVERSITY OF PENNSYLVANIA.

Philadelphia, Sept. 27, 1894.

Miss Mary O'Reilly, Deputy Factory Inspector, Pennsylvania:

DEAR MADAM:—In the course of yesterday's debate on Secretary Davis' able paper before the convention of Factory Inspectors, much was said about the difficulty of securing adequate safe-guards for factory machinery, and of having the same put in use. The difficulty that the factory inspector has to meet here is by no means an imaginary one. It arises, it seems to me, from two causes,—first, the fact that the manufacturer who purchases the machinery often does not *know* what inventions have been made in the line of safe-guards, and therefore does not know what he ought to demand from the maker of the machinery; if he is fully cognizant of the

productive powers of the machine, that is as far as his personal interests go. The second cause of such deficiency in the average machinery is, that such appliances add to the cost, and the *manufacturer of machines* is loth to put on anything that lessens his competitive bidding capacity for orders. Both of these causes in reality, in the final analysis, resolve themselves into *one*—there is no one to look after the interests of the laborer who is left in constant danger of being a victim of an accident that may deprive him and his family of all the capital that he has in the world—*his power to work.* Is it not the intention of our factory legislation that the factory inspector shall find just here one of his chief duties. It seems to me that the remedy must be a two-fold one. Greater strictness in the detection and enforcement of financial liability of the employers in cases of accident must bring them to feel a *personal and pecuniary* interest in all that tends to guard against the possibility of accident, and secondly the individual knowledge of the various factory inspectors on the subject of what actually exists in the way of patents to guard against accident from machinery, must be supplemented by some kind of interchange of ideas and suggestions on this point, whereby the combined knowledge and experience of all factory inspectors and other interested parties will be placed at the disposal of each. I was glad, therefore, when a committee was appointed yesterday to consider this matter, and it is in hopes of aiding this committee that I take the liberty of making the suggestions, and especially of calling your attention to an organization in France that has done noble pioneer work in this line.

The "*Association des Industriels de France contre les accidents du travail*" (Association of French manufacturers against accidents to laborers), whose headquarters is 3, rue de Lutèce, Palais de Justice, Paris, France, is a voluntary private association of manufacturers and philanthropic persons for the purpose of superintending the invention of accident saving apparatus to meet any *special need*, and of seeing that such apparatus is put in use. This association has already introduced a great number of patents for all sorts of machinery, and its work has been welcomed throughout France, where the measure of employer's liability is very great. I am sure that your committee will find it worth while to communicate with this association before making its report to the next convention. There is no reason why a similar association should not be formed in America. Can't the initiative come from a Convention of Factory Inspectors?

Yours very truly,

SAMUEL W. LINDSAY.

After making some remarks as to the importance of enlisting the co-operation of our educational institutions in the work of factory inspection, Mrs. Stevens moved, that the paper addressed to Miss O'Reilly by Prof. Lindsay be included in the proceedings of the Convention. It was so ordered.

THE UNION LEAGUE.

Philadelphia, Sept. 27, 1894.

Dear Mr. Bradley:

The Union League, appreciating the important work done by your honorable convention, respectfully invite the members to visit our club house and accept our hospitalities while they remain in Philadelphia.

Yours very truly, JOHN RUSSELL, Sec.

On motion the letter was ordered to be filed, and the invitation was accepted.

The following paper, prepared by Mr. Armstrong. of Ohio, was given to the Secretary to be inserted in the proceedings:

THE SWEATING SYSTEM, AND HOW BEST TO LEGISLATE FOR ITS ERADICATION.

Mr. President and Members of the Convention:

At these annual gatherings of representative men of our cloth and circumstances and condition, it sometimes happens, that assignments of duty are made, which are difficult to discharge.

Many of us—most of us—find more agreeable work in the inspection of a factory, or workshop, in keen vision of the situation and condition, and in application of our best talent to make that condition and situation safe, for life, limbs and health of the operatives, and if need be, we throw off the coat, put on the *blouse*, bare the arm, and reharden the muscular fibers thereof, by exercising not only brain but the bone and muscle, in helping the Factory Owner, or Superintendent to immediately remedy the defects, strengthen the weak points, and so avoid all possibilities of danger, and reduce to a minimum, the probabilities of accident to employer and employes; and the increase to the maximum that feeling of safety and security which has so much to do for man, woman and child to realize that *all* has been done which can be done, to make the life of the laborer cheerful and happy.

Now I find that I am chosen to make a speech or read a paper upon a subject I know less about practically, than almost any other coming within the scope of our investigations as inspectors of workshops, and factories, and the buildings in which they are situated, and the machinery and appliances used therein, and the approaches thereto, entrances and exits.

At best I am an indifferent talker, if called on to make a set speech, or prepare a paper. My speciality is in a far different line, it is not *talk but work.*

If I should observe a weakness in the walls of this building, or an improper or insufficient piece of material placed in its construction, I am free to say, it would furnish me a *text* on which I could deliver you a sermon, the language of which might not be the most elegant, but it would not lack

in force. If I should see in some portions of this great city, factories using a burnt out boiler, or a patched up engine, or broken shafting, or rotton belting, or pulleys geared on wrong shafts, I might on the moment grow eloquent, especially if the lives and limbs and health of women and children were endangered thereby, but the very contemplation of what is expected of me here and now is a "sweater" indeed, and reminds me of a fact that *mental worry* is really more harmful to men and women, than extreme hard manual labor and physical toil, and it also reminds me that where work is prolonged continuously for many hours, and repeated day after day, in close, illy ventilated filthy rooms with insufficient quantity of God's free pure air, so as to purify and keep the blood in vital current, and then add to all that *worry* as to safety any security, as to insufficiency of wages, so as to obtain food, shelter and raiment for self and dependent ones, then the work and worry combined is the *culmination* of *misery*.

In the beautiful and bountiful State whence I come, we may have conditions here and there in some of our manufacturing centers where such misery is approximated, in some measure, but I have been a resident and workman for mamy years, in Cincinnati, the largest city of the state of Ohio, and if such things be, they have not come under my observation.

I have read of such things existing in New York, and other cities of the East. I have been told that in some trades and employments women and little children labor many hours for a mere pittance. I have heard that there are shops where shirts are made, in the great cities, and the sentiment of the "song of the shirt," sentiment on story of suffering, *stitch, stitch, stitch*, stitching health and life itself into the garment, till the weary woman falls faint and famished. I have been told of some factories, great tailor shops, where the laborers, men and women are required to work long hours, prolonged until the shades of night observe the light of day, even till the wee small hours of the morning, and then toppling over on their work, catch a troubled sleep, only to resume the everlasting grind with the sun.

I have heard of factories where young and tender children are loaded down with a measure of work, a certain work for *a day*—that only ought to be done in *two*, and for a wage that is practically so small in amount as to afford little help to themselves or parents, with the fear added to the burden, that if the "work" is not performed the whole wage is forfeited.

These are the *sweating* methods, these and similar as I understand it. How shall they be regulated? how eradicated? That is a very grave question, and which wise men in Europe, on the isle of England, in our own America, have long considered, and in some measure solved, but the grind goes on and the misery still exists. Much can be done, and has been done by private persons, by associated efforts of charitable and correctional organizations, but if men, women and children are relieved fully, the power of the State must be invoked, and legislation had by and in all our commonwealths limiting the greed of the capitalists, and also limiting the powers of Superintendents and Foremen. In many States measures of

relief have been enacted into laws, by which children of tender age cannot be employed at all, and others, older, only for a reasonable number of hours each day.

If every State would enact laws of that or similar purport, laws providing for close inspection, for the punishment by fine and imprisonment both, or either, of every Factory Owner and Foreman for violation thereof, the question would be half solved. These laws should require boys and girls to go to school; free books as well as free schools should be furnished by the State.

Truant officers should be provided, so that every child is surely sent to school. Then laws should define the hours of employment in shops for all operators. Severe penalties should be attached as against Owners, Superintendents and Foremen, and the weak and weary ones on earth would find relief and protection. Profit sharing of earnings by the capitalists, and the workmen on equitable lines of division is a great help. I know of a great factory in the Queen City of the West, where thousands are employed, and where the wheels of industry never stop, but where all is prosperity and peace, plenty of comfort, where the children of the families are educated, where no one is burdened with overwork, where profits are made, and owners and workmen once a year count up accounts, and division of dividends are made and paid to both classes.

Men of such methods will solve the grave questions we are discussing. My brothers and friends, we must not underestimate our responsibilities; we are the servants of the State, but we should be the guardians of the weak and the helpless. Clothed in the authority, if our hearts are in the work, the Inspectors of Factories and Workshops are a power for good in all our communities.

We can supplement even poor and insufficient laws by the mighty potency of a warm heart, willing to relieve want and distress wherever humanity suffers.

Mrs. Stevens expressed a desired that the convention again take up the discussion of the Sweating System, and for that purpose offered the following resolution:

"Whereas, The laws of Massachusetts, New York and Illinois, enacted for the purpose of regulating tenement house manufacture, have not been successful in regulating it in those States, as is shown by the recent strikes of the garment workers in New York and Massachusetts, and by the small-pox epidemic in the tenement house 'sweat shops' of Chicago; and

"Whereas, The enforcement of these inadequate regulative laws in these States spreads the 'sweating' system in other States for want of uniformity of legislation, therefore

"Resolved, That in the opinion of this Convention it is not wise to attempt to obtain further regulative measures, but that all our efforts should be made in the direction of total prohibition of tenement house manufacture in all the States uniformly."

While no action was taken upon the resolution, Mrs. Stevens, still having the floor, remarked that in view of the varied and extensive experience of the State of New York in its effort to regulate tenement house manufacturing, she would move that President Franey prepare a paper embodying his ideas as to the most practical way of dealing with the system, with a view to its total suppression, the paper to be inserted in the printed proceedings. The motion prevailed.

Mr. Watchorn said he favored delegating Mr. Franey to the work assigned him by the motion just carried, but he felt certain that the gentleman was competent to give some practical advice on the subject at the present time, and he for one wanted to know now what could and should be done to abolish the institution, therefore he would request Mr. Franey to express his views of the matter.

Mr. Franey, after some preliminary remarks, said that to his mind the speediest and surest way of overcoming the evil would be through a system of government tax. The Government has the power, he said, to place a tax upon articles manufactured in any part of the country, and cited the fact that at one time matches and other articles were subject to a national tax.

He urged that the tax question be agitated in every State, and a sentiment created to secure the passage of an act by Congress to place a heavy tax upon all garments and other articles of use, when manufactured outside of a well regulated shop or factory.

After some comment upon the proposition it was resolved that every effort should be made by the delegates to have the suggestions of Mr. Franey embodied into law.

The following is the paper prepared by Mr. Franey in response to the request of the convention :

A PLAN TO ABOLISH THE SWEATING SYSTEM.

Ladies and Gentlemen of the Convention :

There has been a great deal of talk, more or less to the purpose, in our annual conventions upon the sweating evil and how best to regulate or abolish it. The laws passed as a result of these discussions and of an aroused public sentiment in a few of our states have been in the direction of regu-

lating the evil, and no doubt considerable good has been accomplished in the line of obtaining better sanitary regulations, relieving the overcrowded workshops, preventing the use of domestic premises for the purpose of manufacturing clothing, and reducing the over-long stretch of hours which the victims of the sweating evil are at times compelled to labor. In the State of New York, since the first anti-sweating clause was inserted in the factory law in 1892, we have carried on a vigorous war against the evil, and while we congratulate ourselves upon the amount of success we have achieved and can point to great improvements in the condition of clothing operatives and the premises they occupy, we must still acknowledge that there is a depth and breadth to the horrors which lie at the root of the sweating system which no law yet enacted, either in New York or elsewhere, has or can eradicate. As an evidence of what has been accomplished in New York, since the passage of the so-called anti-sweating or tenement house law, permit me to quote some figures which were presented to the legislature last year in the eighth annual report of the factory inspector. In explanation it is well to state that the law regulating the use of tenements and dwellings for the manufacture of certain articles, principally clothing, went into effect in July 1892, and was amended and made more sweeping in 1893. The law as it now stands requires "manufacturers," by which term is meant the owners of the clothing, and their contractors who sub-let the work of making clothing, to furnish the factory inspector with a list of persons, and their addresses, to whom clothing and a number of other articles of merchandise is given out to be made. All persons who occupy rear buildings as workshops must first obtain a permit from the factory inspector before they can manufacture clothing and certain other specified articles therein, and there must be at least 250 cubic feet of air space for each person employed and proper sanitary and hygienic conditions before a permit can be issued. The employment of persons other than the members of the immediate family to work in a tenement or dwelling house is absolutely prohibited. There are various other regulations not necessary for the purpose of this paper to specify. The statistics given relate exclusively to the clothing trade. Since the enactment of the law there have been erected in the City of New York alone, up to January 1st, 1894, or in a year and a half since the passage of the law, 59 factory buildings on sites formerly occupied by tenements swarming with people engaged in the manufacture of clothing. These new factory buildings were built expressly to accommodate the clothing trade under the new conditions. They contain 483 separate shops, and have legal space for 15,477 workpeople. Besides this, 371 tenements, formerly used for both working and living purposes, were cleared entirely of workers not members of the families living therein, and these tenements are now used for domestic purposes only. There were also 85 tenement buildings, which were cleared of residents and remodeled into shop buildings. These changes improved the condition of 17,147 people who manufacture clothing in New York City. This was during the "hard times," when the trade was at a standstill, and the number of people given as having had their conditions

improved is very low, and the figures were obtained by actual count. But this relates only to their sanitary welfare, and has nothing to do with the serious question of their ill-paid labor. It however shows in a measure what the State law may do.

Another way of striking at the sweating system is by means of trade labels or printed devices which show that the goods so marked have been made under union conditions. These labels have their uses, but in the clothing trade their value as a check to the sweating system has a limit. I do not discourage their use, but I contend that they only appeal to a portion of the community and can never abolish the sweating system. Perhaps the time may come when combinations of labor can accomplish more than at present by means of labels indicating that the goods to which they are attached are made under proper sanitary conditions and paid for at union rates. But, so far, the labeling of goods has only been effective in spots as a check to the sweating system, and I do not think the plan will ever be much more than a strong rallying point upon which organizations of the trades affected may maintain their integrity in troublous times and aid them in making war upon a recalcitrant employer now and then, when a strike or lockout is an issue. I know that a label, representing the best skill and highest-priced labor of a particular trade, is a potent means of keeping up wages and keeping down the competition of non-union made goods, whether inferior or superior in quality to the union-made article, but these labels to be successful require an amount of agitation and advertisement not possible where the union spirit is weak or undeveloped, or where unionism or unions do not exist at all.

The sweating evil would survive if every union man in the country bought only union made goods. There are bargain hunters and non-union people enough to purchase non-labeled goods and keep alive the degrading features of the sweating system, and make fat the boss-sweater and his employer. Labels may be counterfeited, and the innocent though well-meaning purchaser deceived. Rival unions may get up labels, and in the confusion resulting, the articles produced in the hovel of poverty will take the places of union-made goods and find ready purchasers from people who cry a "plague on both your unions." A union label is a medium of labor protection which may be aided or opposed by the purchaser, according as his lights or his pocket-book may lead him. It is for a class and against a class and can only be partially successful unless the whole country be unionized. Therefore the label cannot effectually abolish the sweating evil, or even palliate it where the evil is the greatest.

Legislation by States has been tried and so far the results do not warrant the claim that the bad phases of the sweating system can be abolished by State law. In Massachusetts, where the law has empowered the abolition of the home sweat shop, the sweating system goes on modified, only so far as the character of the place in which the work is done is changed. The sweater still thrives, in cleaner and better shops, it is true, but he is still alive and able to squeeze a very comfortable existence as middleman out of

the earnings of his impoverished employes. The undue competition which arises from the conditions that keep alive the sweating system cannot be checked by laws which simply eliminate the outsider from working in some compatriot's living rooms. The worst abuses of the system cannot be rectified by compelling shops to be clean, well-ventilated and properly lighted. The hours of labor cannot be kept within humane and legal limits in the larger cities, unless an army of inspectors is kept constantly on the alert, peeping into shops located in out-of-the-way places and upon the upper floors or rear rooms of shop buildings, both in the early morning hours and late at night. But if all these most desirable reforms could be consummated by State legislation there is one other and the worst feature of the sweating system which cannot be reached by the state. I refer to the almost compulsory low wages which the farming out of the raw materials, as it were, to contractors, forces upon the operative. The contractors who are paid a minimum price upon the return of the goods in a manufactured condition, must first compete with and bid against each other in order to obtain the work, and experience has shown that as time goes on these contractors are ground one against the other by the wholesalers until the average prices of one year will exceed by ten or twenty per cent the average prices of the year following, for the same work. The contractors, naturally, in order to keep up, if possible, to the figure of profit they have set as the least amount which they must clear up as the result of a week's work, turn to the workman and cut the price paid to him, or if the contractor, as is often the custom, sublets the work to another less favored individual, he extracts in advance the amount which as a broker he claims to be his due. It needs no elaboration to show what would be the result of this system of cut and slash.

In every city we have seen its victims striving with pitiable energy to perform their tasks as they labor, it may well be said unceasingly, in stifling rooms, with every principle of proper hygiene and health set at defiance, with ill-fed and poorly clad bodies, unclean in person and degraded in mind. We may see the low level of civilization to which they have been forced by the decayed vegetables and fruit and the stinking meat and fish which are the staples on sale at the markets they patronize. Their animal disregard of the ordinary decencies of life is of itself a sermon upon the appalling demoralization prevailing among these white slaves of the cities, and this alone should incite a general demand for a governmental policy which will relieve the body politic of a blot upon its fame as a progressive and intelligent nation. The question of the adoption of such a policy is now most pertinent. We are State officers and some of us have as a duty the enforcement of laws designed to check or wipe out the growing evils of the sweating system.

As I have said, we know we have accomplished some good, and we can point to thousands of specific instances where the law has abated the sanitary evils which seemed appropriately to form a part of the sweating evil. But our experience has shown—and I speak after consulting the inspectors of other states besides New York—that as long as the system of farming out

the making of clothing exists, as long as there are contractors to take it, the sweating evil will continue, and it will grow. As long as there are sweaters, there will be the sweated. It is at the contract feature of clothing making which we must strike, and if this is wiped out, the sweating evil will be a thing of the past.

How is this to be done? is asked. It is pointed out that the constitu tions of the various States ensure freedom of contract to all citizens, and the courts are largely occupied in demonstrating that contract, between whomsoever made, must be carried out in good faith. This may almost be said to be the era of contracts. It is the accepted plan of individuals, cities and great corporations to have their werk done, with economy, simplicity and dispatch. The State and National governments utilize the contract system whenever and wherever possible, and even the fraud practiced upon the government by the builders of our naval armament, which would be treason in an individual not a contractor, are lightly passed over and the contractor is chided and advised not to do it again. So when I say that the war on the sweating system to be made effective must strike at the contract system of giving out goods in quantities, I fully appreciate that we must for a while go counter to an engrafted and popular feature of mercantile and governmental methods, and that the task of uprooting the evil is thus made doubly difficult. And yet that task must be accomplished or the evil will go on forever.

No one State can abolish the contract system in the clothing trade. Take the State of New York, for instance, wherein 80 per cent of all the clothing in the country is manufactured and handled by jobbers. Since the passage of our anti-sweating laws the astute promoters of and profiters by the sweating system have sent some of their victims across the North River over to the State of New Jersey, and there the evil goes merily on, as can be testified to by the New Jersey Inspectors. More of them have moved into the State of Connecticut, about an hours ride from the City of New York, where the business centralizes, and still others have settled in Pennsylvania in small towns and also in the City of Philadelphia, in order to escape the supervision of the New York inspectors. My Massachusetts friends will bear me out in saying that a feature of the sweater's trade is the parcelling out of bundles of goods in the farming districts of Maine, Vermont and New Hampshire, and also in the interior of the Old Bay State, to be made up by farmers' wives and daughters, sometimes for "pin money," but always so cheaply that even the inmate of the sweaters' den in New York City would blush through his grime to work at such pitiful prices. These goods are distributed regularly by wagons, which follow certain routes and leave the unsewed materials at the farmers' houses, returning at stated intervals to gather up the finished articles and pay for the work done, perhaps in tin pots or other household utensils. The wages of the mechanic and machine hands in the cities, with families to support and rent to pay, are thus kept down by the women of the country districts of the east, and the poverty of

the people increased as the sweaters' interests prosper. The evil is thus seen to be general and consequently one State cannot successfully fight it.

Notwithstanding all the laws which have been passed in recent years to aid the victims of the sweater, the greatest strike in the ready-made clothing trade has just terminated in the City of New York, and by organization the operatives have won a victory, but the contractor was the party who was struck against, and I predict that it will be a shortlived success, although my whole sympathy is with the men who have been ground down by the sweating system. Any victory of the unions must be temporary over the sweating system.

It is not at all likely that all the States, or a majority of them, can be induced to pass laws prohibiting the making of clothing by contract, and unless the law is made universal it would not be effective. The sweating system would exist and sweaters would thrive on it until the last convenient State had stamped it out of existence. The general government must be called upon to grapple with the situation. I know that it has been claimed that the Congress at Washington cannot interfere; that a committee of the House of Representatives about a year ago, (after a not very thorough investigation of the Sweating System in a few of our cities,) reported in effect that it then had no plan of congressional legislation to suggest; that some say that no general law can be passed without interfering with the States' rights; and that there will be great opposition to any plan of restriction, regulation or abolition whatever from the powerful manufacturers who are engaged in the clothing trade. I am aware of all these things; and yet I say that Congress can, should and must interfere if the sweating evil is to be wiped out.

I take it for granted that it is the opinion of all factory inspectors and experts that the evil cannot be regulated—it must be abolished. I have shown that the State cannot do this. Congress alone has the power to do it. Congress can do it only in one way, quickly, effectively, and radically, without interfering with precedents, constitutions, or the traditions of parties—and that is by *taxing it out of existence*. Put a tax on the contractor and make the wholesale "manufacturer" pay it. Put a tax on the sub-contractor, and make the original contractor pay it. Put a tax on the most impoverished of all the victims of the sweating system—the "home worker," and make the sub-contractor pay it. This plan, if the tax is made high enough, will wipe out the sweating system, root, bark and branch.

Special taxes, almost analagous to the one proposed, have been levied by the government time and again. We have had income taxes, taxes on medicines, matches and other articles, a special tax on whiskey and tobacco, and the government has found them all readily collectable. These taxes have been for revenue purposes. The tax I propose, if adopted for the purpose for which it is proposed, may not produce much revenue, and I do not intend that it shall produce any, but it will promote the health and welfare of the people, it will advance the mental, moral and material well-being of hundreds of thousands of citizens, who only need to be relieved

from the oppression which bears them down, to be thriving, happy, prosperous citizens. It will revive the American workshop in the clothing trade, and wipe out the pauper den and squalid quarters where half the clothing worn in America to-day is made and sent out with attendant disease germs to breed contagion and destroy the lives of our citizens.

The machinery for the enforcement of this plan is already in existence. It will involve no new expense to the people, and will require the creation of no new offices. In a few days after it becomes a law it can be enforced throughout the length and breadth of the land, and leave not a hole or a corner for a sweater to hide his head. The plan is only an extension of the principle which governs the taxing of the tobacco manufacturing and oleomargarine industries at present, and which taxes the Internal Revenue bureau enforce and collect. I have made a rough draft of a bill covering the idea herein suggested, and submit it for the consideration of those interested.

ROUGH DRAFT OF A BILL TO TAX THE SWEATING SYSTEM, TO BE PRESENTED WHEN REDRAWN IN THE CONGRESS OF THE UNITED STATES.

SECTION 1. Every person, firm, company or corporation, engaged in the manufacture or sale of shirts, neckwear, cloaks, coats, over-coats, vests, boys' or mens' trousers, underwear, cigarettes, cigars, furs or fur trimmings, who shall give out the goods or materials of which such articles are made, for the purpose of having the same made up or manufactured in rooms or buildings occupied for eating, sleeping or domestic purposes, (excepting by the watchman or janitor thereof, exclusive of his family,) shall pay a tax of ..... dollars, annually, for each person with whom a contract or agreement to wholly or partially manufacture or make up such article is made, or to whom such articles are given to be made on premises other than those occupied for manufacturing purposes by the person, company or corporation owning or giving out such goods.]

SEC. 2. Every person, firm or corporation engaged in the manufacture or sale of the articles mentioned in section one of this act, who shall give out the goods or materials of which the aforesaid articles are made, for the purpose of having the same wholly or partially made up on premises other than those occupied by the said person, firm or corporation exclusively for manufacturing purposes, shall, before giving out the goods or materials as aforesaid, pay at the office of the Internal Revenue Collector for the district in which it is proposed to manufacture or make up the said goods or materials, the amount of the tax provided for in section one of this act, and the Internal Revenue Collector to whom the tax is paid shall issue two vouchers therefor, appropriately worded, one of which vouchers shall be given to the person to whom the goods or materials of said person, firm, company or corporation are issued, and said vouchers shall be framed and at all times kept conspicuously posted in the workroom or in one of the workrooms occupied by said person for the purpose of manufacturing or

making up such goods, and the other voucher shall be kept on file in the office of the person, firm, company or corporation which gave out said goods or materials, and shall be produced for inspection on demand of any officer of the Internal Revenue Bureau.

SEC. 3. The provisions of this act shall not be construed to affect any person or persons in the direct employ of any person, firm, company or corporation occupying premises not used for eating, sleeping or domestic purposes, and which are leased, rented or owned by the person, firm, company or corporation which owns or gives out, to be wholly or partially made, the goods or materials mentioned in section one of this act, and wherein all the persons engaged at labor therein are paid directly by such person, firm, company or corporation, and not through the medium of a middleman or contractor.

SEC. 4. The provisions of this act shall be enforced by the various officers of the Internal Revenue Bureau of the Treasury Department, and the Collectors in the various districts shall keep a register of all manufacturers of the articles mentioned in section one of this act in their respective districts, and on the first day of May of each year, and as often as necessary, shall obtain and require a written report from all such manufacturers, stating the names and addresses of all persons (if any) to whom their materials are given out to be wholly or partially made up, and the said reports shall be kept on file and open to public inspection at all reasonable hours.

SEC. 5. This act shall take effect on the first day of May, 1895.

In conclusion I wish to suggest, that, in order to put this measure through Congress, every person who is interested as a humanitarian, a member of a labor organization, or as an official, must do every thing in his power to combat the efforts of the powerful combination which will undoubtedly be on the ground disputing every inch of its progress. It is a cause, however, which merits the best efforts of all, and I hope that when we meet another year, such a law will be on the national statute books.

The Committee on Finance made the following report:

We, your Committee on Finance, submit the following as our report:

1. Having examined the financial statement as given by the Treasurer, we recommend that it be adopted by the Convention.

2. We recommend that the same amount as formerly be assessed upon each State as annual dues to the Association.

W. J. MCCLOUD,
MRS. M. B. MCENERY,
JAS. A. ARMSTRONG. } Committee.

The Secretary presented a report as follows:

Ladies and Gentlemen of the Convention:

In submitting a report of the clerical work of the Association for the past year it would be simply impossible to give in detail or to convey in writing its importance and extent. Your Secretary has much to attend to

which becomes clearly his duty to perform, and yet which is not apparent to anyone but himself. Without any rules laid down defining what is expected of him, he is left to discover what course to pursue to best advance the purposes and objects of the Association. In this respect he may do little or much, but where a true interest in the work prevails it can readily be seen that the office is such as to exact considerable time and thought, and to impose upon him much labor which may not be thoroughly understood or recognized by others. But, nevertheless, it is time and thought well spent, and labor which brings with it largely its own reward ; for any one having his heart in the work of factory inspection, and who can perceive the good results which have emanated therefrom in the past, must derive much pleasure and gratification in knowing that he is so situated as to be able to help along a cause of so much importance to humanity. This has been my experience in the past year.

In compiling the proceedings of the Seventh Annual Convention I found somewhat of a task, for not having kept any notes of the minutes myself, it required considerable correspondence with different members of the Association to obtain correct information upon different subjects. The issue was delayed very much on that account, and is not as correct in detail of proceedings as could be desired. In my opinion it is very necessary that at least the gist of all discussion should be included in the printed report, for while it shows the trend and progress of sentiment in the various States and sections represented here upon the topics discussed, it also serves to preserve much valuable information and very many useful and applicable suggestions relative to factory inspection, and as to what is required in the way of additional factory legislation. I should have been pleased to have been able to make the report more extensive in that respect.

The issue comprised twenty-five hundred copies, the bulk of which were distributed to the different States and provinces represented in the Association as per their orders. A large number were also mailed to other States, to the Governors and other prominent officials of such States ; besides more than one hundred were sent to colleges and other educational institutions, and to individuals whom I presumed would be interested in the work and results of factory inspection. In order that they might be in better form for preservation a large number of copies were bound in cloth. These were mostly distributed to libraries and educational institutions. Here I wish to make special reference to the order of the Chief Inspector of Illinois for 1000 copies, and the use and purpose to which they were applied. In order to produce a more general interest in factory inspection in that State, and in favor of legislation more comprehensive than are its present laws, these copies were very generously distributed among its public men of every character. Unquestionably good results will follow this move, and in my judgment such a procedure might be well to adopt in other States, for we must all concede that the work of factory inspection is not as well understood and appreciated by people of position and influence as it ought to be, and likely we suffer as a result in the way of inefficient laws.

The correspondence of the Association is more extensive than at first sight would appear. During the year more than 300 letters of various kinds have been mailed to members of the Inspection Departments of the different States. Information has been solicited from various sources relative to factory legislation, the general results of factory inspection, and as to the formation, scope and objects of the International Association. Letters on important subjects have been received from several foreign countries, and from members of foreign legations in Washington, all of which have been responded to, some at considerable length, giving as best I could the desired information.

In my opinion a future of much usefulness and of great benefit to society is within the prospect of this organization. Factory inspection of the most comprehensive and highest idealistic development must result from these gatherings. What has been accomplished hitherto, fairly indicates what is within the range of possibility hereafter. The advanced legislation that has been effected in a number of States during the past four or five years is due, unquestionably, to some extent, to the suggestions of this body, and to the efforts of its members personally, as prompted by our annual deliberations. Supported by experience and a true knowledge of prevailing conditions, this Association is in position to bring about a standard and a uniformity of legislation in all the States which will best contribute to improve the social condition of our working people. With this end in view we should faithfully and fearlessly shape and direct our course towards its consummation.

For aid and advice during the past year I am much indebted to our worthy President; also to other members of the Association for kindly and promptly furnishing me with needed information, and I take this opportunity to tender each my most sincere thanks.

The Committee on Resolutions presented a majority and minority report, the members having divided on the following clause:

Resolved, That the rapid development of our productive forces warrant a further reduction in the hours of labor, we recommend that legislation to that end be urged.

The foregoing clause was supported by the following members: Henry Splaine, Chas. Morse, John O'Keefe, Elislia H. Rockwell, Nelson A. Greene.

The minority portion of the committee offered the following as a substitute for the clause:

Resolved, That we recommend the adoption by the several states, of laws regulating the hours of labor for women and children to 48 hours per week.

Signed, MRS. FLORENCE KELLEY,
J. W. KNAUB,
W. J. MCCLOUD.

Mr. McCloud, in support of the recommended substitute, said that it was offered because it was in harmony with the recommendations of former conventions. The Association was on record as being in favor of reducing the hours of labor for women and minors to 48 hours per week, and he regarded it good policy never to deviate from any reform demand, unless to favor something still better. He believed it wisest to state definitely what was wanted, therefore he would move that the recommendation of the minority portion of the committee be adopted and become a part of the resolutions to be approved by this convention.

Mr. Dyson said that he favored reducing the hours of labor, but did not consider it wisdom to ask for anything beyond what we might expect to obtain. Some of the states are working women and young people 12 hours per day and others 10 hours per day, and if any reduction at all in the hours of labor could be made in those states it would be a desirable achievement, but while there is such a wide difference in this matter in the different states, he thought it would be best not to specify any number of hours but simply recommend reduced hours all around, and to agitate in favor of what seems the most possible to obtain.

Mrs. Kelley rose in defense of the 48 hour recommendation, saying that to do otherwise than adopt the substitute would be to take a retrogade step. That eight hours for women and children meant the reduction of hours for all labor alike. It would be impossible to work many factories for two hours a day without female and child labor, and the uniform enactment of such a law will bring about that long agitated measure of reform.

Mr. O'Keefe said that he favored legislation reducing the hours of labor for minors and women, but did not favor resolving for any specific number of hours. He preferred leaving that to the several states, and the adoption of the majority report would not prevent any state from enacting an eight-hour law. Some states may desire to legislate in favor of nine hours,

whereas now they work 10 hours and he did not know but what that was the best way to proceed in the matter.

Mr. Bisno remarked that we ought to place ourselves squarely upon record as in favor of the lowest number of hours yet demanded in any state by the working people.

Mr. Greene remarked, that he would support the minority report, providing it could be shown that we have the right to say that women over the age of maturity should be restricted to any number of hours per day. But it cannot be done; women of mature age have the same individual rights in this respect as men.

Mrs. Stevens stated, among other things, that we should remember that we are not committing ourselves to any particular legislation by adopting the minority report. The principle to work on for reform is to take all we can get and then ask for more. This convention advocates uniformity of legis lation, and in her opinion an eight-hour law in all states for women and minors would be a good basis to operate upon. The Illinois law already declares in favor of eight hours as a day's work, and she approved of inspectors agitating for a similar law everywhere and of upholding the working masses in their appeal for such a measure.

Mr. Davis said he approved of the minority report because opposed to taking any backward step. The convention of a year ago resolved in favor of an uniformity law of 48 hours for all women and minors, that resolution has worked no injury in any direction, nor has it prevented any state from accepting anything less than was asked for, it is simply a matter of consistency to live up to our former demands.

The motion to adopt the minority report was put by the President, a standing vote was taken and the count was as follows:

For the substitute	24
Against	11
Total number of votes cast	35

The resolutions, as amended, were adopted unaminously, which are as follows :

INDEPENDENCE HALL, PHILADELPHIA, PA.,
Sept. 28, 1894.

The Committee on Resolutions appointed by the Eighth Annual Convention of the International Association of Factory Inspectors have considered the resolutions referred to it by the convention and by members of the committee, and beg leave to submit the following report :

Presented by Mrs. Stevens, of Illinois :

Whereas, It is necessary in order to secure uniformity of labor legislation in the various states, that in each state the legislators, factory inspectors and all others interested shall be fully acquainted with the laws in force in all other states, and

Whereas, The first duty of the International Association of Factory Inspectors is to promote uniform laws, therefore be it

Resolved, That the Secretary of this Association be and is hereby instructed to compile, previous to the Annual meeting of the Association, a careful synopsis, by states, of all those laws, the enforcement of which constitutes the duty of the inspectors, and

Resolved, That such compilation shall be a part of the written report submitted by the President of the Association at the opening of each Annual Convention, and that it is recommended that not less than one session of each Convention shall be devoted to its discussion.

Presented by Mr. O'Keefe, of Pennsylvania.

Resolved, That a committee, to consist of the President and Secretary of the Association and one other member, be authorized to submit as early as possible a list of subjects upon which papers are to be prepared for the next convention. That the same be properly apportioned to the different states and provinces represented in this body and to be distributed, in printed form at least three months prior to date of next meeting of the Association.

Presented by Mr. McCloud, of New Jersey.

Resolved, That the chiefs of the different states represented in the convention be requested to prepare an address to be submitted to the Governor of the different states in the United States, showing the necessity for uniform factory legislation in all the manufacturing states of the Union, and further requesting the Governors to transmit to their respective legislative bodies, by message, recommendations which may result in legislation conforming with the foregoing requirements.

Presented by Mr. O'Keefe, of Pennsylvania.

Resolved, That the rapid development of our productive forces warrant a further reduction of the hours of labor, and we recommend that legislation to that end be urged.

The foregoing resolutions are approved by the committee and recommended to the convention for adoption.

We also recommend for adoption the following :

Whereas, Recognizing the inequality of existing laws regulating the employment of women and minors in the different states and provinces, and with a view of bringing into effect more uniformity in the same, which would be just and profitable to all engaged in industrial pursuits ; first, by placing the employers in the different states upon an equal basis of compe-

tition so far as hours of labor are concerned, and by affording to the employed the same fair protection from the evils which follow the overworking of women and children wherever practiced, therefore

We recommend, that all children under fourteen years of age be prohibited from being employed in any manufacturing, industrial or mercantile establishment.

We further recommend, the enactment of laws of the most stringent character establishing a thorough system of inspection of all buildings where people are employed or otherwise congregated, in which shall be required perfect hygienic conditions, separate and distinct toilet and dressing rooms where women are employed, the proper guarding of machinery in all factories, making it compulsory upon employers to provide such guards when deemed necessary by an inspector and to keep the same applied and in good order, making it a misdemeanor to remove such guards without promptly replacing the same.

We also recommend, that laws be enacted governing the construction of elevators and hoistways, to the extent of securing perfect construction and their safe operation and providing that inspectors shall have power to condemn their use when on inspection they have been found to be defective or dangerous, also requiring that all well holes or elevator shafts shall be surrounded by a brick wall or fire proof material, from the basement to the roof of all manufacturing, industrial or mercantile establishments hereafter erected where elevators may be maintained and operated.

We also recommend, as a means of protection to life in factories and public buildings, that laws be enacted for the inspection of boilers, and a system of examination and registration of engineers engaged in operating the same.

Recognizing the great nervous strain upon the operators of cable and electric surface road cars and the consequent additional danger to pedestrians, we earnestly recommend the adoption of law governing same.

That we recommend, the adoption by the several states of laws regulating the hours of labor for women and children to 48 hours per week.

Realizing the great danger to public health by the manufacture of wearing apparel in tenement house sweat shops, we earnestly recommend the enactment of laws prohibiting the same in tenements or dwellings where others than the immediate family are employed, and also regulating the same in private families to the end that disease may not be spread through this system.

We also recommend, that state and national legislation be enacted compelling inventors to place suitable guards on all machines before patents be granted for the same.

We further recommend, that the thanks of the International Association of Factory Inspectors be and are hereby extended to his honor, Mayor Stewart, and to the President and members of the Common Couucil for courtesies extended in granting the use of the Council Chamber for holding the Eighth Annual Session of this Association, and also to the press for the complete and accurate reports of our proceedings from day to day.

HENRY SPLAINE, ELISHA H. ROCKWELL,
JOHN O'KEEFE, MRS. FLORENCE KELLEY,
N. U. GREENE, J. W. KNAUB,
CHAS. MORSE, W. J. MCCLOUD.

The question, "Where shall the next convention be held ?" was raised by the President.

After several cities had been suggested Providence, R. I. was selected as the place of holding the next session of the Association.

By unanimous consent the time of holding the next convention was left with the President to determine.

The following resolutions were read and adopted:

Presented by Mrs. Finn, of New York.

Resolved, That the International Association of Factory Inspectors use every effort to have laws enacted which will place mercantile establishments under the supervision of the factory inspectors in the various states where such is not the law at present.

Presented by Jos. N. Dyson.

Resolved, That we tender to Rudolph Blankenburgh, Chairman of the Committee on Arrangements and the various members of said committee, to the Board of Trade and to the President of the Union League our sincere thanks for their kind and generous treatment of the delegates of the convention, and we desire to assure them that their hospitable and courteous attentions will long be remembered and form a subject of pleasant retrospect for many years to come.

Presented by Mr. McCloud.

Resolved, That the visiting representatives of the various states here present join in the most hearty expressions of appreciation of the hospitable manner in which they have been entertained while in Philadephia by Chief Inspector Watchorn, of Pennsylvania, and be it further

Resolved, That we congratulate the State of Pennsylvania upon having secured the services of such a competent, conscientious and painstaking official as Chief Watchorn in the enforcement of her factory laws.

The President stated that it would be necessary for each state to inform the Secretary of the number of copies of Proceedings that would be subscribed for. The following is the result:

New York, 100; Pennsylvania, 200; Illinois, 1,000; New Jersey, 50; Ohio, 100; Rhode Island, 50.

The other states were not prepared to state what number would be required.

There being no further business the convention adjourned at 1:30 P. M., *sine die*.

JOHN FRANEY,
President.

EVAN H. DAVIS,
Secretary-Treasurer.

SYNOPSIS OF LAWS

Governing Factory Inspection in States represented in the International Association of Factory Inspectors of North America.

Massachusetts.

Limitation of Child Labor. Children under 13 years of age cannot be employed in any factory, workshop or mercantile establishment. A sworn statement of the age of all minors under 16 years of age must be obtained and kept by employers. Children under 14 years of age, applying for employment, must produce a certificate of school attendance of 30 weeks during the year preceding employment. In cities where manual training is conducted, school attendance is required to the age of 15 years. No child under 14 years of age shall clean machinery operated by mechanical power, and the chief of the department of inspection, with the approval of the Governor, may designate what employments are injurious to the health of children under 14 years of age, and prevent their employment thereat. No child under 15 years of age shall operate or have charge over any elevator, nor any minor under 18 years of age shall operate or have charge over any elevator running over 200 feet per minute. Children under 15 years are prohibited from appearing in any circus or theatrical exhibition.

Hours of labor for Women and Children. Minors under 18 years of age and all women employed in manufacturing establishments are prohibited from working more than 58 hours in one week, and more than ten hours in one day. No minor under 18 years of age can be employed more than 60 hours in one week. Legal day's work for both sexes employed by the State is 9 hours, whether employed by the State directly or by contract for the State. No child under 14 years of age can be employed in any establishment before 6 A. M. or later than 7 P. M., nor any minor or woman in any manufacturing establishment between the hours of 10 P. M. and 6 A. M.

Sanitary Inspection. All factories must be kept clean and well ventilated; and in factories employing five or more persons, and in workshops employing five or more children, young persons or women, inspectors may make such changes, and compel the application and use of any mechanical means, without incurring unreasonable cost, which in their judgment is necessary to secure proper ventilation. Public buildings and school rooms come under the factory laws providing for sanitation and ventilation. Sweat-

shops are regulated by license laws requiring cleanliness in and about the tenement house so used, and a tag upon all clothing made under the system, guaranteeing that it is free from vermin and all infectious or contagious matter.

Safe-guards. Belting, shafting, gearing and drums in factories must be securely guarded. Wherever manufacturing machinery is propelled by steam, suitable communication must be provided between each room where such machinery is placed and the engine room, in order to control the motive power in case of accident. Machinery other than steam engines must not be cleaned while running if objected to by an inspector. The openings for hoistways, hatchways, well-holes and elevators in all buildings must be protected in such manner as inspectors may direct, and any elevator deemed dangerous or unsafe by an inspector shall be placarded as such, and its use prohibited until made safe.

Protection from fire and other disaster. Inspectors may order fire escapes, safe stairways inside or outside of buildings and the altering of doors and windows suitable for speedy egress in all public buildings, and in all factories, workshops, mercantile establishments, hotels, tenements, etc., having at any time more than ten persons, or any floor above the second, and all such floors shall require suitable means for extinguishing fire.

Inspection of Steam Boilers One inspector is detailed to examine all uninsured steam boilers and their appurtenances, and to inquire as to the competency of engineers in charge thereof, and to report to the chief of the department of inspection.

Accidents. Manufacturing and mercantile establishments must report "forthwith" all accidents resulting in the death of an employe, or which prevents his return to work within four days after the occurrence.

Weekly pay law The Chief Inspector can compel all corporations to pay the wages of employes weekly, excepting when the railroad commissioners shall exempt any railroad corporation from the provisions of this act, if, in their opinion, any of the employes of said corporation prefer less frequent payment.

Fines. The system of grading work now or at any time hereafter used by manufacturers shall in no way affect the wages of a weaver except for imperfections in his own work, and in no case shall the wages of those engaged in weaving be affected by fines or otherwise, unless the imperfections complained of are first exhibited and pointed out by the person or persons whose wages are to be affected, and no fine shall be imposed

upon any person for imperfect weaving, unless the provisions of this act are first complied with and the amount of the fines agreed upon by both parties.

New York.

Limitation of Child Labor.

No child under 14 years of age can be employed in any factory or workshop, and all minors under 16 years of age are required to produce a sworn statement as to age before obtaining employment, and the names of such minors must be posted in the work-room where they are employed, and a record of the same kept in the office. Children between the age of 14 and 16 years are required to be able to read and write simple sentences in the English language, otherwise they can be employed only during vacation time of the public schools. Health certificate may be demanded by an inspector from any minor, which shall certify that he or she is physically able to perform the work at which he may be engaged. No minor under 15 years of age shall have charge over or operate an elevator, and no minor under 18 years shall have charge over or operate an elevator running at a speed of more than 200 feet per minute, nor shall he be allowed to clean machinery while in motion, nor to remove guards from machinery unless for immediate repairs.

Hours of labor.

No person of either sex can be allowed to work more than ten hours in any one day, unless for the purpose of making a shorter work-day on Saturday, and minors shall not work more than 60 hours in one week, and no minor under 18 years of age and no woman under 21 years of age can commence working any day before 6 A. M.

Sanitary Inspection.

In all factories and workshops between the hours of 6 A. M. and 6 P. M. 250 cubic feet of air space is required for each employe, and 400 cubic feet from 6 P. M. to 6 A. M., but inspectors may grant less air space where rooms are lighted at night time by electricity. All work-rooms are required to be kept in clean condition, and exhaust fans and other means of ventilation may be required in work-rooms in order to carry away dust or other impurities. In all establishments separate closets must be provided for the sexes—with suitable wash and dress rooms for females—and seats must be provided for the use of women when not actively engaged at their duties. Rooms, ceilings and walls must be whitewashed or painted by direction of the inspectors. Sweat shops are controled by license laws requiring cleanliness and thorough disinfection of premises, and restricting the work done in each tenement workshop to the members of the family dwelling therein. A

tag upon all sweater made clothing is required in proof of its being made in accordance with the requirements of the law and free of infectious matter.

Safe-guards. Elevator openings, hoisting shafts and well holes must be enclosed with railing or casing, and be provided with properly adjusted trap or automatic doors or gates. Cables, gearing, shafting and other machinery or apparatus must be guarded and kept in safe condition. Handrails must be provided on all stairways, and stairs screened where females are employed, and when deemed necessary stairs must be covered with rubber covers.

Protection from fire and other disaster. Buildings of more than three stories, with employes on o above the third story, must be provided with suitable fire escapes, easy of access, and free from draft from any hoistway, stairs or other floor openings. Doors must open outwardly and kept unfastened during work hours.

Accidents. Every case of accident resulting in death or serious injury to any employe must be reported with full details within 48 hours after its occurrence.

Weekly pay law Every corporation, excepting steam surface railway corporations, is required to make weekly payment of wages to employes.

New Jersey.

Limitation of Child Labor. Boys under 12 years of age, and girls under 14 years of age are prohibited from working in any manufacturing establishment. Children between the age of 12 and 15 years must produce school certificate of school attendance for twelve weeks during the year immediately preceding date of employment. No minor under the age of 16 years shall be employed at work dangerous to health without certificate from physician, and no minor shall clean machinery in motion or be employed between its traversing parts.

Hours of Labor The hours of labor for minors of both sexes is limited to fifty-five per week.

Sanitary Inspection. Inspectors have power to regulate heating, lighting and other sanitary conditions. They can prohibit the over-crowding of factories and workshops, and to produce proper ventilation in factories where dust is created they can have suitable mechanical means applied, and in all establishments where women are employed, suitable and separate closets for the sexes must be provided, with wash and dress rooms for females. Factories where dusty work is performed, and wherein women and children are employed, shall be whitewashed or painted once in twelve months.

Safe-guards. Belting, shafting, gearing, drums and other machinery of a dangerous character, and all vats, pans and other structures containing molten metal or hot liquid must be suitably protected. All floor openings for hatchways, hoistways, well-holes and elevators must be provided with automatic or trap doors, and otherwise be guarded with a railing three feet high. Stairs in use by females must be screened, and no female must be allowed to clean machinery in operation or to work between its traversing parts.

Protection from fires, etc. Explosives or inflammable matter must not be placed or used in such manner as to obstruct egress or to endanger life in case of fire. Upon all buildings for manufacturing purposes two or three stories in height, where 30 or more persons are employed above the first floor, one or more fire escapes may be ordered by inspectors, and suitable means for extinguishing fire provided for each floor.

Accidents. Accidents resulting in death must be reported within 24 hours after, and those which prevent the return to work of the injured person within two weeks, must be reported to an inspector within 24 hours after expiration of said two weeks.

Pennsylvania.

Limitation of Child Labor. Children under 13 years of age cannot be employed in any manufacturing or mercantile establishments. Sworn statement from parents or guardians of child's age is required, and wall record in each room where children are employed, and office register must be kept of all minors under 16 years of age. No boy under 14 years is allowed to run an elevator, and no minor under 16 years to clean machinery while in motion.

Hours of labor. Minors must not be employed in any one day longer than 12 hours, nor in any one week more than 60 hours.

Sanitary Inspection. Heating, lighting, ventilation and other sanitary conditions come under the regulation of inspectors. Suitable and separate water closets and wash and dress rooms must be provided for females; they must not adjoin closets for males, and shall be kept clean, properly screened and ventilated.

Safe-guards. All floor openings for elevators must be properly guarded and provided with automatic traps or doors. Belting, shafting, gearing, drums and other dangerous machinery must be sufficiently guarded, and all vats, pans and structures containing molten metal or hot liquid must be surrounded with proper safe-guards. Shifting belts and pulleys must be provided with shifters.

Protection from fire etc. Inspectors can provide all buildings more than two stories high with one or more fire escapes, after a certain model designated by statute, and with life ropes and chains as any such building may require.

Accidents. All accidents causing death or serious injury to any person must be reported 24 hours after their occurrence.

Semi-monthly pay law. The statute provides that wages to all employes shall be paid twice each month,—upon demand of employes—and failure to comply herewith may, upon complaint of any citizen, be prosecuted by the factory inspector.

NOTE--While the factory laws of Pennsylvania embrace manufacturing, mercantile, laundrying and renovating establishments, any such place employing less than five persons does not come within the meaning of the act.

Ohio.

Limitation of Child Labor. The age at which children may be employed in manufacturing establishments is 14 years, with the provision that children more than 12 years of age may be employed at non-dangerous employment during the time they are not required by law to attend school. The school laws requires that all children under 14 years of age and over 8 years must attend school during the school term, but this law is not enforced by factory inspectors, but by truant officers, one or more in all school districts. Office record must be kept by employers of all minors under 18 years of age, giving name, date and place of birth with residence of parents or guardians. No minor under 16 years of age shall be employed at employment whereby his life or limb is endangered, or his health is likely to be impaired, or his morals may be depraved.

Hours of labor for minors. No minor under the age of 18 years shall be employed in any manufacturing establishment more than ten hours in one day, nor more than 60 hours in one week. Notices containing the law must be posted by manufacturers in a conspicuous place in every room where minors are employed, the chief inspector of factories to furnish such notices.

Sanitary Inspection. Heating, lighting, ventilation and other sanitary requirements in factories, workshops and mercantile establishments are under the inspector's supervision, and to secure such he may cut through walls, floors, roofs and ceilings, or make changes in sewerages and plumbing, and require proper closet arrangements, and may demand separate closets for the sexes, with toilet and dressing rooms for females on the floors on which they work, and seats for females to be used by them when not actively engaged.

Safe-guards. Inspectors must order guards for belting, shafting, gearing, elevators and other machinery, also for vats, pans and other structures filled with molten metal or hot liquid; also efficient safety gates for elevator openings, guarding of hatchways and hoisting apparatus in floors or outside of buildings; the repair of all elevators and all gearing, and of defective walls, roofs, ceilings, stairways and doors, and all other improvements necessary to secure the safety of employes.

Protection from fire, etc. Inspectors have power to examine all buildings as to their safety, and to order all necessary alterations to obtain the same; also to provide for stairways and fire escapes and other efficient means of egress, and handrails on all stairways, and may require in all halls and other buildings for public assemblage means for extinguishing fire on all floors above the first, and that all doors in such buildings shall open outwardly.

Accidents. Employers must report all accidents upon blanks furnished by inspectors; those resulting in death within 7 days after, and those in bodily injury, necessitating six days consecutive loss of time, within 30 days after.

Fines. Stated wages, beforehand agreed upon between employer and employe, must be paid to all minors, and the retention of such by fines, or upon any other pretext is absolutely prohibited. No change of wages must occur without written notice being given to each minor affected 24 hours before such change shall take place.

Illinois.

Limitation of Child Labor. Children under 14 years of age cannot be employed in any factory or workshop, and minors must produce sworn statements as to age. Office register of minors must be kept by employers and a record of ages of minors posted in rooms where such minors are employed. Physicians certificate as to the physical ability of any minor to perform certain labor may be demanded by inspectors.

Hours of labor. Female employes are not allowed to work more than 8 hours in any one day, or 48 hours in any one week.

Sanitary Inspection. Inspectors have access to every place where articles of clothing are manufactured for sale, with power to condemn and order destroyed garments found infectious or infested with vermin, and to prohibit the employment in any dwelling rooms of any person not members of the family living therein.

Michigan.

Limitation of Child Labor. Children under 14 years of age cannot be employed in any factory or workshop. Statement as to age of minors under

16 years must be furnished to employers, who must keep office register of such and post a record thereof on the walls of work rooms. Female minors under 21, and male minors under 18 years of age, must not be allowed to clean machinery while in motion.

Hours of labor. Males under 18 years, and females under 21 years of age, cannot work more than 10 hours in one day, unless to make a shorter work-day on Saturday, and no more than 60 hours in one week. Notices as to work-hours for such minors must be posted in their work rooms.

Sanitary Inspection. Means must be provided to carry dust from all dust creating machinery; separate closets must be provided for each sex, and wash and dress rooms for all females, and such closets and dress rooms must be kept in clean condition continually.

Safe-guards. Elevators, hoisting shafts or well-holes must be secured and equipped with trap or automatic doors, and all gearing, shafting and other apparatus kept in safe condition. Hand-rails must be provided on stairways, and stairs screened, and, when necessary, stairs steps must be provided with rubber covers.

Protection from fires, etc. Factory buildings of three or more stories must be provided with fire escapes—easy of access and free from draught of hoistway or stairway. Doors must be properly hung and open outwardly, and not fastened during working hours.

NOTE--All places where goods, wares or products are manufactured, repaired, cleaned or sorted in cities and all such places outside of cities employing five or more persons, come within the provisions of the factory law.

Missouri.

Limitation of Child Labor. No minor shall be required to clean machinery, or to work between its traversing parts, while it is in motion.

Sanitary Inspection. Inspectors have power to prevent overcrowding in all establishments where labor is employed, and can regulate heating, lighting, ventilating and other sanitary arrangements, and may order suitable mechanical means for carrying away dust and other impurities generated by manufacturing. And where females are employed at unclean work, wash and dress rooms must be provided, and stairs used by females must be properly screened, seats must be provided and conveniently located so that females can use them when not required to be on their feet, and where both sexes are employed separate and distinct water closets must be provided for each sex.

Safe-guards. Belting, shafting, gearing, and drums in all establishments must be safely and securely guarded, and all vats, pans, ladles, or structures filled with molten or hot liquid, or any furnace

must be surrounded with safe-guards, and all platforms, passage ways and other arrangements about railroad yards must be made comparatively safe. The openings of hatchways, elevators, and well-holes must be protected by trap doors, self closing hatches or safety catches, or railing three feet high. Where guards are not practicable notice of danger must be posted.

Protection against fire. Establishments two or more stories high, in which twenty or more persons are employed above first floor, must be provided with fire escapes, and in addition for every twenty persons employed above the second floor, one rope or other portable fire escape; and each floor must be supplied with means for extinguishing fire. All doors must open outwardly, and must not be locked or bolted during labor hours. Any building or any part thereof supposed to be unsafe, or means of egress insufficient, the inspector may order necessary changes.

Accidents. All accidents resulting in death, or which prevents an employe's return to work within two weeks must be reported.

NOTE.—All factories employing five or more persons, and all workshops where children, young persons or women are employed, come under the inspector's authority so far as sanitary provisions are required, while the factory or inspection laws as a whole apply to establishments in general employing ten or more persons.

Minnesota.

Limitation of Child Labor. The law forbids any parent or guardian to let or hire any minor under twenty-one years of age, nor must any person willfully permit any child under fourteen years being employed at any employment injurious to health, dangerous to life or limb, or likely to deprave its morals.

Hours of Labor. Children under sixteen years must not be permitted, nor must any woman be compelled to work more than ten hours in one day, or to work earlier than 7 A. M., nor later than 6 P. M. of any one day.

Sanitary Inspection. All workrooms must be well lighted, heated, and ventilated, and kept in a clean condition. Separate closets must be provided for the sexes, and wash and dress rooms where females are employed, and seats must be provided for females in mercantile establishments.

Safe-guards. All machinery of a dangerous character, and all elevators must be thoroughly guarded; and all proper precautions must be taken, and means provided to prevent accidents upon all railroads. The act is very explicite and specific as to what machinery must be provided with proper safe-guards.

Protection against fire. Fire escapes must be placed upon buildings two or more stories high, and employing above the first story twenty-five or

more persons, and such buildings must have ample means for extinguishing fire.

Inspection of Steam Boilers. Steam boilers are inspected by a seperate State Department constituted of five inspectors.

Rhode Island.

Limitation of Child Labor. No child under twelve years of age can be employed in any manufacturing or mercantile establishment. Employers must keep office register of all minors under sixteen years of age. Minors under sixteen are not allowed to clean machinery while in motion.

Hours of Labor. Hours of labor for women and minors are limited by law to sixty hours per week, but this is not included in factory act.

Sanitary Inspection. Separate closets for sexes are required, and wash and dressing rooms for females ; to be located to meet the demands of health and propriety.

Safe-guards. Belting, shafting, gearing, drums, and other dangerous machinery, and all vats, pans, and other structures filled with molten metal or hot liquid must be properly and securely guarded, and all hoisting shafts and well-holes be properly secured, and elevators be provided with traps, automatic doors or railings.

Protection from fire. Inspectors are empowered to provide and direct improvements in means of egress in case of fire.

Accidents. Fatal accidents must be reported within forty-eight hours, and all serious accidents within three weeks from time of occurrence.

NOTE.—The factory act applies to all establishments where five or more persons are employed.

Ontario.

Limitation of Child Labor. Boys under 12 years, and girls under 14 years of age cannot be employed in any factory. Boys under 14 years cannot be employed unless a certificate of age and birth place, signed by parents or guardians, is furnished the employer. Boys under 14 years are not permitted to clean machinery, nor to work about the traversing parts of machinery.

Hours of labor. No minor or woman can be employed more than 10 hours in one day, unless to provide for shorter workday on Saturday, or more than 60 hours in one week. No woman, nor any boy under 14 years is allowed to work earlier than 6 A. M., nor later than 9 P. M. of any day. Under extraordinary circumstances inspectors may privilege a factory to run 12½ hours in one day and 72½ hours in one week.

Sanitary Inspection. Every factory must be kept clean and not overcrowded, and must be ventilated so as to render harmless, as far as practicable, all unwholesome effluvia, and to take away dust and other injurious impurities generated by manufacturing machinery. Separate closets must be provided for the sexes, each set to have separate approaches, and to be kept clean and well ventilated at all times.

Safe-guards. Belting, shafting, gearing, fly wheels, drums and other moving parts of machinery, vats, pans, cauldrons, reservoirs, wheel-races, flumes, water channels, doors, openings in floors or walls, bridges and all dangerous structures must be as far as practicable securely guarded. Hoistways, hatchways, elevators and well-holes must be protected by such automatic appliances as the inspector may desire, and all elevator cabs and cars must be provided to the satisfaction of the inspector with suitable safety attachments. No machinery other than steam engines must be cleaned while in motion, if inspector so orders, and no woman must be allowed to clean mill gearing while in motion nor to work between the traversing parts of machinery.

Protection from fire, etc. Factories three or more stories high must be provided with fire escapes, unless supplied with sufficient tower stairways protected with iron doors. All inside and outside doors must open outwardly, and all doors entering stairway towers or leading to fire escapes must be kept unlocked and unbolted during working hours. In every factory there must be provided such means for extinguishing fire as the inspector may direct.

NOTE—The word "factory" includes manufacturing establishments and workshops where six or more persons are employed. The section limiting age and hours of labor does not apply to canning factories in summer months.

PREAMBLE.

In view of the fact that there exists in the several States and Canada, Departments of Inspection of Factories, Workshops and Public Buildings, and as an Association has been organized under the name of "International Association of Factory Inspectors," the following Constitution and By-Laws are for the government of the Association :

CONSTITUTION.

SECTION 1. This Association shall be known by the name of the "International Association of Factory Inspectors."

SEC. 2. The officers shall consist of a President four Vice-Presidents, a Secretary-Treasurer and an Assistant Secretary.

SEC. 3. The officers shall be elected by ballot at the annual meeting of the Association, and shall hold office until their successors are elected, which shall be for a period of one year.

SEC. 4. The President shall preside at all meetings of the Association ; when absent, a Vice-President shall act in his place.

SEC. 5. The Secretary shall keep a correct account of the proceedings of the Association, and such transactions as may be deemed necessary, and shall also act as Treasurer of the organization.

SEC. 6. Each Department shall be assessed such amount annually as may be determined upon at the annual meetings of the Association.

SEC. 7. The membership of the Association shall consist of the Inspectors of the various departments, and such persons of other departments whose duties are the inspection of factories, public buildings and workshops.

SEC. 8. Any member of the Association shall be eligible to office, provided such person shall be present at the annual meeting.

SEC. 9. There shall be a committee of one from each State, to be appointed by the President previous to the annual meeting of the Association, to whom shall be presented such papers that are to be read, and the committee shall draw up a programme and submit the same to the Convention at its first session.

SEC. 10. At the commencement of each Annual Convention the Chief Inspector of each delegation present shall furnish the Committee of Resolutions with a copy of all factory laws enacted by the different States during the preceding year, and of all bills of similar import pending legislation, the same to be arranged by the Committee in such order as their provisions shall designate and thus be reported to the Convention with such remarks and suggestions as the Committee may regard necessary.

SEC. 11. Order of Business shall be : Roll-call of Officers and Delegates; Reading of Minutes ; Reports of Committees ; Unfinished Business ; New Business ; Election of Officers.

SEC. 12. This Constitution shall not be altered or amended unless by a majority vote of the Convention. The deliberations of the Convention shall be governed by Cushing's Manual.

Roster of Inspectors by States.

Massachusetts.

Chief Inspector—Rufus R. Wade.....65 Bowdoin St., Boston
Inspector—Edwin Y. Brown..... " "
" John T. White..... " "
" Joseph A. Moore..... " "
" Isaac S. Mullen..... " "
" Jos. Halstrick..... " "
" Henry J. Bardwell..... " "
" Henry Splaine..... " "
" John E. Griffin..... " "
" John H. Plunkett..... " "
" Thos. H. Hawley..... " "
" Samuel C. Hunt.....P. O. 20, Chelinsford, Mass.
" Joseph M. Dyson.....Worcester, "
" Warren S. Buxton.....Springfield, "
" Ansel J. Cheney.....12 Kingman Blk., Salem, "
" John J. Sheehan..... " " "
" Henry A. Dexter.....Fall River, "
" John F. Tierney..... " "
" Fred. W. Merriam.....North Adams, "
" James R. Howes..... " "
" John L. Knight.....Springfield, "
" John F. Murphy.....Central Blk., Lowell, "
" James C. Murray..... " " "
" Paul Hannagan..... " " "
" Mary E. Halley..... " " "
" Lewis F. F. Abbott.....Worcester, "
" Fanny B. Ames.....12 Chesnut St., Boston, "

New York.

Chief Inspector—James Connelly.....306 W. 47th St., New York City
Ass't Chief Inspector—John Franey.....101 Woodlawn Ave., Buffalo, N. Y.
Inspector—John Jordan.....163 High Str., Brooklyn, "
" Hiram Blanchard.....927 Second Str., Peekskill, "
" Jas. F. Devine.....94 Fifteenth St., Troy, "
" Leonard Drake..... 507 Bleecker St., Utica, "
" Johnson Beers.....100 Lake St., Elmira, "
" Dennis C. Sullivan.....50 Myrtle St., Rochester, "
" Francis U. Coe.....92 Nineteenth St., Buffalo, "
" Guy H. Fuller.....Jamestown, "
" Bernard J. McCarthy.....13 Burchard St., Watertown, "
" Thomas Gunn.....232 N. Seventh St., Brooklyn, "
" Fred. C. Mulkin.....Friendship, "
" Thomas Troy.....165 Union St., Olean, "
" James Cunningham.....539 W. 50th St., New York City
" John J. White.....6 Spring St., New York City
" Nelson L. Greene.....Edmeston, Otsego Co.
" Mrs. E. A. Carroll.....11 S. Portland Ave., Brooklyn, N. Y.
" Miss M. Finn.....40 Marion St., New York City
" Mrs. Kate Hall.....163 E. 124th St., "
" Mrs. Sophie Rauch.....9 Third Ave., "

Inspector—Mrs. Louise Cuthell.....77 E. 124th St., New York City
" Miss Mary Donnelly.....58 Prospect Place, "
" Mrs. Ella Nagle.....234 W. 37th St., "
" Miss Annie Campbell.....26 Clark St., Binghamton, N. Y.
" Miss Johanna A. Reilly.....105 First St., Albany, "

New Jersey.

Chief Inspector—L. T. Fell.....Orange, N. J.
Inspector—P. Callan.....Newark, "
" J. S. Weinthal .....Hoboken, "
" James Keys.....Patterson, "
" John D'Arcy.....Trenton, "
" W. J. McCloud.....Elizabeth, "
" W. W. Johnson.....Elmer, "

Pennsylvania.

Chief Inspector—Robert Watchorn.....1313 Somerset St., Philadelphia, Pa.
Inspector—B. T. Castles.....504 Quincy Ave., Scranton, "
" Thomas F. Owens.....14 Kenley St., Pittston, "
" George J. McCrane....2120 E. Huntingdon St., Philadelphia, "
" Daniel J. Donohue.....520 W. Cambria St., Philadelphia, "
" David McAvoy.....Chester, "
" John O'Keefe.....2728 Lehigh Ave., Philadelphia, "
" M. N. Baker.....195 Arch St., Allegheny City, "
" Miss Mary O'Reilly.....2723 N. 11th St., Philadelphia, "
" Mrs. I. G. Coombs.....Wilkinsburg, "
" Mrs. A. E. Leisenring.....432 Chew St., Allentown, "
Clerk—Mary Wagner.....409 N. 2nd St., Harrisburg, "

Ohio.

Chief Inspector—J. W. Knaub.....Capitol Bldg., Columbus, Ohio
Inspector—Evan H. Davis.....177 Aetna St., Cleveland, "
" John W. Bath.....Elyria, "
" Charles Burns.....Warren, "
" A. M. True.....57 Franklin St., Canton, "
" W. R. Mathews.....92 Center St., Zanesville, "
" F. M. Campfield.....2258 Kent St., Toledo, "
" Willard Ducomb.....Findlay, "
" Thos. T. Yeager.....Portsmouth, "
" John H. Ellis.....Columbus, "
" E. T. Ridenour.....Springfield, "
" James Armstrong.....46 Wesley Ave., Cincinnati, "
Chief Clerk—E. M. Slack.....P. O. Box 633, Columbus, "

Illinois.

Chief Inspector—Florence Kelley.....247 Polk St., Chicago, Ill.
Ass't Chief Inspector—Alzina P. Stevens..... " "
Inspector—Abraham Bisno..... " "
" Sarah Cunningham..... " "
" Joseph Farris..... " "
" James Hickey..... " "
" Emma Jamison..... " "
" P. Ewald Jensen..... " "
" Frances Jones..... " "
" John Merz..... " "
" Mary Moran..... " "
" B. M. Powell..... " "

Michigan.

Chief Inspector—Chas. H. Morse..... Lansing, Mich.
Ass't Chief Inspector—H. R. Dewey..... "
Inspector—Wm. F. Tripp.....504 Hammond Bldg., Detroit, Mich.
" Geo. E. Gunn.....Charlotte, "
" L. C. F. Hintz.....5 Willicomb Block, Grand Rapids, "
" O. O. Krapf.....623 Harrison St., Saginaw, "
" L. S. Russell.....Lansing, "

Rhode Island.

Inspector—Elisha H. Rockwell.....Providence, R. I.
" Fanny Purdy Palmer..... "

Minnesota.

Chief Inspector—L. G. Powers.....Capitol Bldg., St. Paul, Minn.
Ass't Chief Inspector—E. J. Casserly..... " "
Inspector—E. B. Mayo.....Minneapolis, "
" Antoine Paul.....Duluth, "

Maine.

Inspector—R. F. Chalk.....Augusta, Maine

Connecticut.

Inspector—E. Burrows Brown.....Hartford, Conn.

Missouri.

Chief Inspector—Henry Blackmore.....Jefferson, Mo.

Province of Ontario.

Inspector—Robert Barber.....Toronto
" James R. Brown..... "
" O. A. Rocque.....Ottawa