



ARSON HOTLINE

February 14, 2013

President's Message

The theme for the articles in this newsletter is the Triangle Shirtwaist fire in New York in 1911. The fire involved the eighth through tenth floors. Fire ladders could only reach the sixth floor. About 146 people lost their lives that day. Locked exit doors were a major factor.

We have come a long way since then with automatic sprinkler protection, better fire-fighting equipment, better construction, etc. **Have we really come a long way?** In the last several weeks there was a fire in a Brazil nightclub which was apparently started by fireworks. The fireworks ignited foam insulation at the ceiling. Security initially did not let the people out because they could not verify they paid their bar bill.

So history repeats itself. Be careful, safe, and use common sense in your daily and work lives.

WAIC provides scholarships for the Wisconsin Chapter IAAI seminar in June. See the information in this newsletter and/or our website (www.wiarsonhotline.org).

Our Paul Hansen has updated our website (www.wiarsonhotline.org) and we are now on facebook. Take a look at these.

As a reminder, WAIC has **FREE** posters, bar coasters, etc. with the **WISCONSIN ARSON HOTLINE (800-362-3005)** on them for you to use at arson fires. The hotline is for an anonymous arson fire tip leading to the arrest and conviction of an arsonist. Tips can also be submitted on our website.

We also have our Loss Investigation Equipment Grant Program to help offset fire investigation costs. Our grant can help cover costs such as digging out a basement with heavy equipment.

William H. Schultz,
President, Wisconsin Arson Insurance Council
President@WIArsonHotline.org

WAIC Board Meeting Minutes

March 16, 2013

IN ATTENDANCE: Bill Schultz, Paul Hansen, Greg Peterson, Barry Waddell and Gary Streicher

APPROVAL OF PREVIOUS BOARD MEETING MINUTES: November 14, 2012 Meeting: Approved as written

TREASURER'S REPORT: Rick Crouse (Info presented by Greg Peterson)

Beginning Balance	(November 14, 2012)	\$11,335.87	
Income			
Expenses			<u>\$373.77</u>
Ending Balance		\$10,962.50?	(New Balance Given)

PRESIDENT'S REPORT: Bill Schultz No Report

VICE PRESIDENT'S REPORT: Randy Dolenshek No Report

REPORTS:

Awards (Randy): Two fires pending (3 tips – 607, 608, 609) All for same fire (Racine) The trial is to be held in February. Tip 622 (Walworth County) 2 different fires set (5 defendants) Law Enforcement is recommending \$2,500.

Membership (Greg): 33 – The renewal letters will be going out soon.

Sustaining Membership (Rick): Rick will send the letters in February

Publicity:

Website update: Paul did update parts of Website, Minor changes needed – Paul will add an order section to the website for posters, magnets etc...

Place pictures of award posters with contact for signs on website

Suggestions for other improvements (if needed) to the Website

Newsletter: Theme: Triangle Shirt Waist Fire

Timetable: March 1, 2013

President's Message – Looking for ideas

IAAI Seminars Scholarships:

Status on paperwork from Cedar Grove? Unknown

Set deadlines for submittal dates (Spring and Fall Seminars) which will be provided on our website and the Grant Application – Paul will take care of this item.

OLD BUSINESS:

Business Cards update (Randy): Approved

Twitter/Facebook (Paul): The board voted down Twitter and Paul is working on a Facebook page.

WIP Funding (Rick): In progress

FM Global Grant – Rick was get bids on posters, pens etc. Timetable to submit? Bill will e-mail Rick.

NEW BUSINESS:

Next Meeting: March 20, 2013

Other: 12:35

ADJOURN:

One hundred and one years ago, the Triangle Shirtwaist Factory burned with the loss of 146 souls, most of who were young immigrant women. The disaster occurred in the midst of the American labor movement, and the aftermath of the incident had profound ramifications for legislation involving both fire / life-safety codes and workers' rights – in the case of the Triangle Shirtwaist fire, the two issues became nearly indistinguishable. The Cornell University web site on the subject tells the story from the perspective and context of the labor movement. Interestingly, the article on the U.S. Department of Labor is a more stick-to-the-facts presentation without emphasis on how everything fit into the story of the American labor movement. The Labor Department's presentation is the one I chose to include here. The Cornell site, however, did have an interesting drawing of the Triangle factory's ninth floor, which appears here after the Labor Department's piece. The governor of the State of New York appointed a commission to look into the disaster and recommend legislation – most of which was adopted and to this day remains “on the books”. The preliminary report of this commission appears after the Labor Department's synopsis of the fire. In addition to being the basis of most of the fire and life-safety laws we see today, this report also gives some interesting perspective and insight into how they arrived at these recommendations. You will probably recognize the names of some of the people on that commission from your American History class. I used the document from the Cornell site, but you can find it in several places on the internet. My editing of the preliminary report consisted of correcting a consistent grammatical error (you can see the original article with the “sic”s on the Cornell web site). The commission's conclusions skipped from point 7 to point 9, a fact I did note in the paragraphs which follow: I honestly do not know what had been in point 8 and why it was omitted. Read, and, I hope, enjoy this historical perspective on what we do. As Bill pointed out in his President's message, there is a strong resemblance to the recent fire in Brazil. The parallels to the garment factory fire in Bangladesh two months ago bear an even more uncanny resemblance to the Triangle fire 101 years ago this March. - Paul Hansen, editor

TRIANGLE SHIRTWAIST FIRE OF 1911

Edited from the U.S. Department of Labor Web Site

Introduction

At the turn of the 20th century in the United States, most workers had precious few rights. Few belonged to unions. And many endured deplorable conditions, dangerous tasks, grueling hours and oppressive wages.

But events on the Saturday afternoon of March 25, 1911 at the Triangle Shirtwaist Factory in New York City, stirred America to move to protect workers. In less than 20 minutes, 146 people were dead – some burned to death; others leaped to their deaths from 100 feet up – victims of one of the worst factory fires in America's history.

After a successful strike two years earlier by the International Ladies' Garment Workers' Union (ILGWU) Local 25 helped deliver better wages and working conditions to 15,000 garment workers in New York City, the owners of the Triangle factory, Isaac Harris and Max Blanck, continued to refuse to recognize unions, update any of their safety measures and continued to operate what was described as a sweatshop, producing the highly popular women's shirtwaist, a tailored blouse. Coincidentally, the strike was called when the owners of the Triangle factory fired 150 suspected union sympathizers. While Harris and Blanck grew rich tapping into the trendy clothing's popularity, workers languished in deplorable and unsafe conditions.



About the Fire

At 4:45 in the afternoon of March 25, 1911, the four-month anniversary of a fire in a Newark, N.J., which killed 25 people, fire broke out in a cutting area on the eighth floor of the Triangle Shirtwaist factory in Greenwich Village, in New York city. Within minutes, the top three floors of the Asch Building at 23-29 Washington Street were engulfed in flames. Many of the staff, mostly recently immigrated Jewish and Italian women, some as young as 14, were trapped in a building that claimed to be fireproof. Some began to fall and jump from the windows. Police and firefighters from nearby stations were impeded by the bodies on the sidewalk.

The harrowing accounts ring as unnerving and as unsettling today as they were 100 years ago - groups of young women leaping to their deaths, a man dropping women out the windows, falling bodies ripping through the fire departments' nets and gruesome accounts of bodies piling up on the sidewalk and blocking the fire engines, and inside, skeletal remains slouched over sewing machines and charred bodies piled up by locked and blocked doorways. A combination of callous management, overcrowding and hazardous work conditions, and ill-conceived architecture conspired to cut short so many lives.

The architect was given special permission to make only two staircases, instead of three. A flimsy iron fire escape that stopped at the second floor was passed off as a third staircase. Exit doors opened inward to the space, making it nearly impossible to open the doors amid the crush of panic-stricken workers. Managers often locked the exits to prevent workers from sneaking out for a break and to prevent theft. Those locked doors prevented workers from escaping the flames. Other exits were blocked with boxes of scrap fabric which had been accumulating for nearly six months.

A steady stream of workers filed out onto the fire escape which before long, collapsed under the weight of the people and the heat of the fire sending several people to their deaths from a six-story fall. Elevator operators worked feverishly to bring groups of workers to safety, 10 at a time. Still, some workers flung themselves down the elevator shaft to escape the flames, their bodies crashing onto the car filled with terrified escapees. Estimates peg the number of workers on those top three floors at 500 or more.

The fire fighters from local Ladder Company 20 arrived minutes after the flames erupted. Because the hoses were too weak and the ladders too short to reach above the sixth floor, the men simply sprayed the building in the hopes the mist from the water would cool the victims trapped above.

At a local police station, a makeshift morgue was quickly overwhelmed. Bodies of the fall victims lay where they fell, some covered with tarps, others exposed to the elements. Within 25 minutes, burned and broken bodies alike lined Green Street awaiting a friend or family member to recognize and claim them. Some would never be identified. Others were found by a mark on their stockings or a ring.

The Bellevue morgue became overrun and a nearby pier was employed as a makeshift morgue. Family and friends filed by the bodies in an effort to find and claim a loved one.

The Victims

Eventually, most of the victims were identified and buried in cemeteries throughout the city's five boroughs. The victims' identities and histories reflected the face of Manhattan in 1911. Many people probably knew someone like 15-year-old Ida Brodsky, a Russian Jew who came to the United States only nine months earlier. She was interred at Mt. Richmond Cemetery. People knew Jacob Klein, a 23-year-old Jewish man from Russia. He was a member of a labor union and had been in the United States for five years. He was buried in Montefiore Cemetery. Many people would feel familiar with 43-year-old Providenza Panno, a married Catholic woman from Italy. She lived six years in America and was buried in Calvary Cemetery. People would have known a little girl like 15-year-old Bessie Viviano. She came to the United States from Italy when she was a year old and was probably as "American" as any turn-of-the-century teen. She is buried in Calvary Cemetery.

It took nearly 100 years for all of the victims of the fire to be positively identified, with the final six identifications completed just recently.

Aftermath

While the firefighters got the blaze under control in about 30 minutes, the destruction and devastation burned into the American public's mind. Factory owners Harris and Blanck remained resistant to change and apparently impervious to the outcries of the public and the anguish of the survivors, the victims and their families. Harris and Blanck opened another factory a few days later and it was deemed to have no fire escape and inadequate exits. Defense attorney Max Steuer successfully defended the men during their trial in New York City for manslaughter by casting enough doubt on the key factor in the trial - Did Harris and Blanck know the exits were locked? The trial lasted 23 days and had 150 witnesses. Three years later, after several civil trials, the men settled at a rate of \$75 per life. An insurance policy, however, paid Harris and Blanck about \$400 per life lost. The men pocketed about \$60,000 by the end of the ordeal. Over the next few years, the men were cited and fined numerous times for locking exit doors during business hours.

While Harris and Blanck remained unchanged, things began to change in the American workforce. One could believe that the Department of Labor's seeds sprouted that day. The fire ignited people's interest in workers' safety, in fair wages, in establishing dignity for America's working men and women.

The Triangle Shirtwaist Factory fire, one of the nation's most deadly and horrific, led to some of the nation's strongest changes in worker safety in the manufacturing industry. From the ashes of tragedy rose the phoenix of reform.

New York City and New York State, over the next few years, adopted the country's strongest worker safety protection laws. Initially addressing fire safety, these laws eventually became model legislation for the rest of the country and state after stated enacted much more strict worker safety laws.

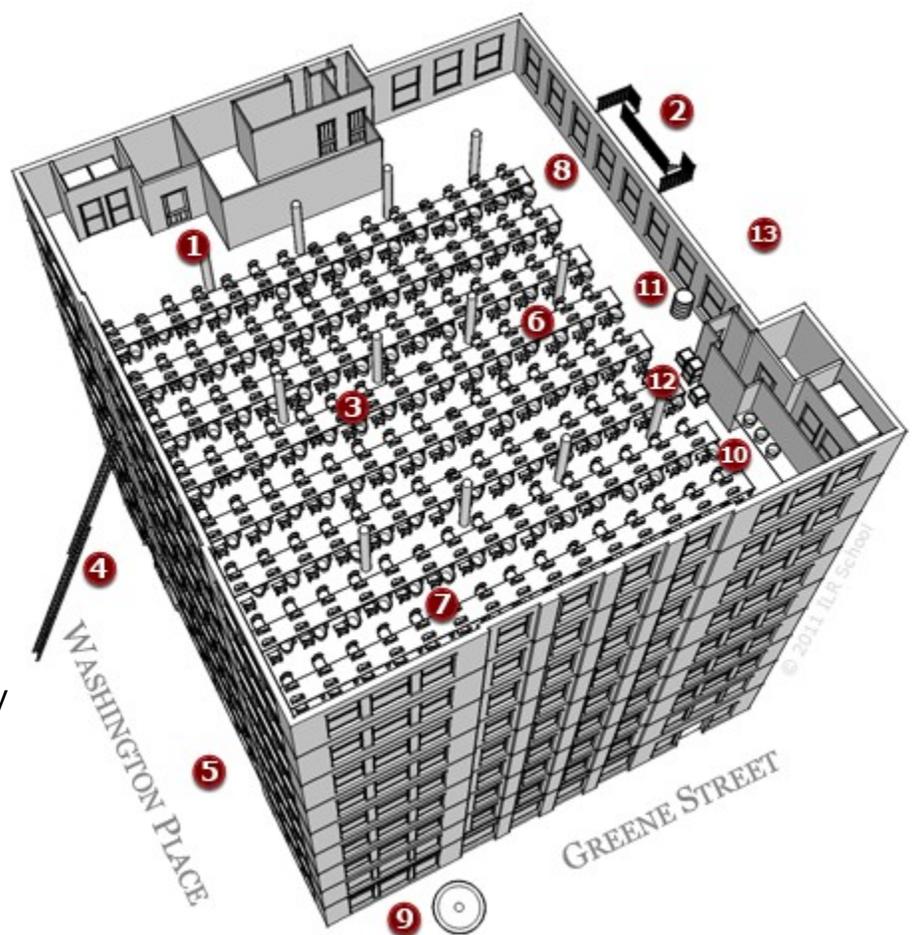
Editor's note: The following paragraph is from the History.com article "Triangle Shirtwaist Fire in New York City"

Blanck and Harris already had a suspicious history of factory fires. The Triangle factory was twice scorched in 1902, while their Diamond Waist Company factory burned twice, in 1907 and in 1910. It seems that Blanck and Harris deliberately torched their workplaces before business hours in order to collect on the large fire-insurance policies they purchased, a not uncommon practice in the early 20th century. While this was not the cause of the 1911 fire, it contributed to the tragedy, as Blanck and Harris refused to install sprinkler systems and take other safety measures in case they needed to burn down their shops again.

FIRE HAZARDS

1. Locked door to the stair well
2. Rusty fire escape that collapsed
3. Cluttered work spaces
4. Short ladders only reached 6th floor
5. Not enough water pressure
6. Long wooden tables became obstacles
7. Wicker baskets full of scraps
8. Oily floors spread the fire quickly
9. Fire nets failed to catch jumpers
10. No sprinkler system, only pails of water
11. Flammable barrel of oil
12. Boxes crowding the exit
13. Lack of a required third staircase

Illustration from Cornell University web site



PRELIMINARY REPORT OF THE NEW YORK FACTORY INVESTIGATING COMMISSION, 1912

TO THE LEGISLATURE OF THE STATE OF NEW YORK:

The Commission appointed under Chapter 561 of the Laws of 1911, to inquire into the conditions under which manufacturing is carried on in the cities of the first and second class of the State, hereby submits the following PRELIMINARY REPORT:

CREATION OF COMMISSION

On Saturday afternoon, March 25, 1911, a fire took place in the business establishment of the Triangle Waist Company, at No. 23-29 Washington Place, in the Borough of Manhattan, City of New York, in which 145 employees, mainly women and girls lost their lives.

This shocking loss of life aroused the community to a full sense of its responsibility. A superficial examination revealed conditions in factories and manufacturing establishments that constituted a daily menace to the lives of the thousands of working men, women and children. Lack of precautions to prevent fire, inadequate fire-escape facilities, unsanitary conditions that were insidiously undermining the health of the workers were found existing everywhere. The need of a thorough and extensive investigation into the general conditions of factory life was clearly recognized.

Public-spirited citizens and representatives from the Fifth Avenue Association of the City of New York, the Committee on Safety of the City of New York and other organizations laid these facts before the Governor and Legislature of the State and asked for the appointment of a legislative commission to inquire into the conditions under which manufacturing was carried on in the cities of the first and second class of the State. As a result, the Act creating the Commission (Chapter 561 of the Laws of 1911) was passed and became a law on June 30, 1911.

Pursuant to the provisions of that Act, the following Commission was appointed:

SENATOR ROBERT F. WAGNER,
SENATOR CHARLES M. HAMILTON.
By the President of the Senate.

ASSEMBLYMAN ALFRED E. SMITH,
ASSEMBLYMAN EDWARD D. JACKSON,
ASSEMBLYMAN CYRUS W. PHILLIPS.
By the Speaker of the Assembly.

MR. SIMON BRENTANO,
MR. ROBERT E. DOWLING,
MR. SAMUEL GOMPERS,
MISS MARY E. DREIER.
By the Governor.

The commission was authorized by the Legislature to inquire into the existing conditions under which manufacturing was carried on in so-called loft buildings and otherwise, including matters affecting the health and safety of the operatives as well as the security and best interests of the public, the character of the buildings and structures in which such manufacturing and business takes place, and the laws and ordinances regulating their erection, maintenance and supervision so that, among other things, remedial legislation might be enacted to

eliminate existing peril to life and health of operatives and occupants in existing or new structures and to promote the best interests of the community.

The Commission was required to report to the Legislature on or before the 15th day of February, 1912.

The Commission was authorized to compel the attendance of witnesses, the production of books and papers, and to appoint counsel, a secretary, stenographers and necessary clerical assistants, and was otherwise to have all the powers of a legislative committee.

The members of the Commission were to receive no compensation for their services but were to be reimbursed for their actual and necessary expenses. The sum of \$10,000 was appropriated for the expenses of the Commission.

ORGANIZATION OF COMMISSION

The Commission organized on the 17th day of August, 1911, by electing Hon. Robert F. Wagner, Chairman, and Hon. Alfred E. Smith, Vice-Chairman, and by selecting Mr. Frank A. Tierney, as Secretary. The Commission appointed Mr. Abram I. Elkus, Chief Counsel, and Mr. Bernard L. Shientag as his assistant.

Through the generosity of the Committee on Safety of the City of New York and Mr. Robert E. Dowling, a member of this Commission, offices were furnished to the Commission without charge for which kindness the Commission expresses its thanks and appreciation.

The Commission retained as its expert in general charge of the work of inspection and sanitation, Dr. George M. Price, a physician of standing, practicing in the City of New York, who had made investigations of a similar nature, and who is the author of several well-known text-books on sanitation.

Dr. Price, immediately upon being retained, on September 15, 1911, organized a corps of inspectors for field work in the cities of the first and second class of the State.

The Commission selected as its advisory expert on the fire problem, Mr. H. F. J. Porter, a mechanical engineer of the City of New York, who had made a study of fire problems, had written many articles on the subject and was known to be conversant with the situation. Under his supervision, inspections were made of numerous manufacturing establishments with reference to the fire hazard.

For the inspection work and fees of the advisory experts, the sum of \$5,500 was expended by the Commission. Both Mr. Porter and Dr. Price agreed to give their own services for practically nominal sums, and both devoted themselves zealously to the work of the Commission.

SCOPE OF THE INVESTIGATION

The Commission was charged with the duty of inquiring into the following matters:

Hazard to life because of fire: covering fire prevention, arrangement of machinery, fire drills, inadequate fire-escapes and exits, number of persons employed in factories and lofts, etc.

Danger to life and health because of unsanitary conditions: ventilation, lighting and heating arrangement, hours of labor, etc.

Occupational diseases: industrial consumption, lead poisoning, bone disease, etc.

Proper and adequate inspection of factories and manufacturing establishments.

Manufacturing in tenement houses.

The present statutes and ordinances that deal with or relate to the foregoing matters, and the extent to which the present laws are enforced.

The Commission was to recommend such new legislation as might be found necessary to remedy defects in existing legislation, and to provide for conditions at present unregulated.

The Act creating this Commission limited the scope of its inquiry to cities of the first and second class, although the Commission was authorized to inquire into the conditions surrounding manufacturing in other cities of the State and country if it should so determine.

IMPORTANCE OF INVESTIGATION

New York is the first State in the Union to authorize a general investigation of the conditions in manufacturing establishments within its borders. Several other States have appointed Commissions which were limited in the scope of their investigations, such as the Illinois Commission on the subject of occupational diseases, the Massachusetts Commission on Factory Inspection and the various Commissions on accident prevention and employers' liability. It remained for the State of New York to lead the way with an investigation of factory conditions, general in its scope and character.

According to the preliminary report of the Census of 1910, there were 1,003,981 men, women and children employed in the factories and manufacturing establishments of New York State. This is the average of the number employed during the year. The Commissioner of Labor gives the number of such employees as over 1,250,000. The following schedule from the United States Census Report of 1910 shows the number of establishments, the capital employed, cost of materials used, salaries paid, value of products and number of wage earners and clerks in the cities of the first and second class in the State, together with their totals.

In addition to the actual wage earners concerned, the Commission's inquiry bears indirectly upon the millions of women and children who compose the families of these workers and are dependent upon them for support.

Health is the principal asset of the working man and the working woman. The state is bound to do everything in its power to preserve the health of the workers who contribute so materially to its economic wealth and its industrial prosperity.

Aside from the humanitarian aspect of the situation, economic considerations demand from the State the careful supervision and protection of its workers. Failure to perform this obligation will produce serious results in the workers of the future. It will affect the working capacity of the future generation.

The State not only possesses the power and the right, but it is charged with the sacred duty of seeing that the worker is properly safeguarded in case of fire; that he is protected from accidents caused by neglect or indifference; that proper precautions are taken to prevent poisoning by the materials and processes of his industry, and that he works under conditions conducive to good health, and not such as breed disease.

Indifference to these matters reflects grossly upon the present day civilization, and it is regrettable that our State and national legislation on the subject of industrial hygiene compares so unfavorably with that of other countries.

Factory workers particularly need protection and supervision. Among them disease more easily finds its victims than among other classes of workers. Every epidemic has drawn most of its victims from

the working classes. Statistics show the greater mortality of those engaged in factory work, as compared with those in other occupations.

The death rates of males per 1,000 according to occupations for registration states (12th Census, U.S., Vol. III, p. cclxi), are as follows:

Mercantile and Trading 12.1

Clerical and Official 13.5

Professional 15.3

Laboring and Servant 20.2

New York has already expended great sums of money to conserve its natural resources. The conservation of human life, the most valuable of all things, has received but little attention. The appointment of this Commission was the first comprehensive attempt to investigate the waste of human life in our modern industrial system, and to endeavor to devise means to prevent such a sacrifice, surely a matter of equal importance to the preservation of forests and streams.

Fires and industrial accidents are fortunately only occasional and extraordinary events. Their effects are visible and immediate so they are impressed forcibly upon our minds. But the common, everyday incidents of industrial life, the lack of ventilation, the long hours of labor amid unsanitary surroundings, the failure to give notice to employees of the dangers of their occupations and how to avoid them, these work unnoticed, but the toll of human life they exact is very great.

The illness and diseases caused by these conditions can in large measure be prevented, and prevention is always better than cure and less costly. In his report on National Vitality, Professor Irving Fisher shows that the economic gain to the nation that would result from proper precaution to prevent sickness and disease, would amount to at least \$500,000,000 per annum.

A New York State manufacturer testified before the Commission that he had installed a great many sanitary improvements and labor-saving devices tending to the comfort of his employees. He expressly disclaimed any philanthropical motives in so doing, but said it was a decided benefit to him in his business from a purely dollars-and-cents standpoint.

During the past few decades methods of protecting machinery in use have been vastly improved. Labor-saving devices have been introduced everywhere, but much remains to be done by the manufacturer to conserve the most valuable of all assets - the working man and the working woman. It cannot be said that this waste is the result of intentional wrongdoing. It has simply been nobody's business, and therefore has been neglected and unheeded.

The investigation has already produced results. In many cases the manufacturers themselves were unaware of the conditions under which they required their employees to work, or if indeed they were aware of these conditions, did not realize their evil effects. Many did not know what could be done to improve them. They took these conditions as a matter of course.

The authorities in many cities, because of the publicity of the Commission's inquiry, began special investigations, which resulted in many cases in improved conditions. The educational value of the Commission, therefore, has been very great. The manufacturers who had not only complied with the provisions of the law but had gone beyond its requirements, should feel rewarded by the contrast which was shown.

A general awakening has taken place throughout the State. A far larger number of inspections by authorities have been made than ever before. No great reliance, however, can be placed upon such a

momentary or spasmodic awakening. When its cause is no longer present, conditions relapse into their former state, and there is little real improvement.

To improve the industrial situation permanently, clear, concise and comprehensive legislation is needed.

FIRE HAZARD IN FACTORY BUILDINGS

It has long been known that there are many more fires in the cities of the United States than in the cities of the same size in Europe. There the fires are not only less frequent, but are also far less destructive. In this country fires occur almost hourly in which large amounts of property are destroyed and lives are lost.

Testimony presented to the Commission shows that in the city of New York alone, there is an average loss of one life a day by fire. Our public machinery for extinguishing fires, especially in the larger cities, is remarkably efficient, yet this loss of life and property continues to grow.

According to Geological Survey Bulletin No. 418: "The actual fire losses due to the destruction of buildings and their contents amounted (in 1907, the latest year for which statistics are available) to \$215,084,709, a per-capita loss for the United States of \$2.51. The per-capita losses in the cities of the six leading European countries amounted to but 33 cents, or about one-eighth of the per-capita loss sustained in the United States."

The Hon. Walter L. Fisher, Secretary of the Interior, in an address before the Fifteenth Annual Meeting of the National Fire Protection Association, states the situation admirably: "If the Government should suddenly lay an annual tax of \$2.51 on every man, woman and child in the United States on a promise of spending the money for some useful purpose, that promise would not avail against the storm of protest which would be aroused. Nevertheless, a tax which in the aggregate amounts to that is being paid by the people of this country. It is the annual fire loss of the nation upon buildings and their contents alone. It is expended not in productive enterprise, but in death and destruction, and an even larger sum is annually expended upon fire protection and insurance premiums. Not only is this property loss paid by our people, but, in addition, annually 1,500 persons give up their lives, and nearly 6,000 are injured in fires.

Possibly in no other direction is the national habit of waste more clearly exemplified than in the comparative indifference with which we permit such a sacrifice. In no other civilized country are conditions so bad as they are here.

It seems ridiculous that a people so apt and so eager to seek out and destroy the mysterious and hidden enemies of mankind should be so slow and sluggish in fighting a foe so plainly in sight and so readily vanquished. We have led the world in seeking out the causes of pestilence and removing them. We are in the very vanguard of the battle against tuberculosis, typhoid and yellow fever, and still we stand apart and let the older nations lead the fight against an enemy much more easily conquered."

The consideration of the fire hazard problem is divided into two parts:

1st Investigation of conditions in existing factory buildings, and recommendations to render those premises safe.

2nd Requirements for future construction of factory buildings which will reduce the fire hazard.

Factory buildings may be classified as special factories or buildings especially constructed for manufacturing purposes, generally occupied by one or two establishments, loft buildings, which may

be fireproof or non-fireproof, and dwellings or tenements originally erected for living purposes, but which have been converted into factories.

THE EXISTING FIRE PROBLEM IN NEW YORK CITY

Five kinds of buildings are used for factory purposes in the City of New York.

1. The converted tenement or dwelling.
2. The non-fireproof loft building.
3. The fireproof loft building less than 150 feet in height.
4. The fireproof loft building over 150 feet in height.
5. The factory building proper, constructed for factory purposes and occupied by one establishment, which may be fireproof or non-fireproof.

Three of the above types are especially dangerous when used as factory buildings. These are (1) the converted dwelling or tenement house which was never intended to be used for business purposes above the ground floor; (2) the non-fireproof loft building usually six or seven stories high; and (3) the fireproof loft building less than 150 feet in height.

THE CONVERTED DWELLING OR TENEMENT

Owing to the increase in land values and change in the residence localities, a number of buildings formerly used for living purposes have been made over into factories. The buildings are from four to six stories in height, usually 25 feet wide by about 60 to 85 feet deep. The exterior walls are brick or stone, the floors, interior trim, stairways, beams and doors are of wood. The stairways are usually from two to three feet in width, the doors often open inward; there are no automatic sprinkler systems, no fire prevention or extinguishing appliances except fire pails, which are not always preserved for fire purposes; the workrooms are divided by wooden partitions and crowded with employees, while the machines are placed as close together as space will permit, without regard to means of exit. There are exterior fire-escapes with balconies on each floor, connected by vertical ladders (those of late construction by inclined stairways), which usually lead to a yard in the rear of the premises, or to some blind alley from which there is no means of escape. There is ordinarily a ladder from the lowest balcony to the ground, but it is generally not in place, or very difficult to use in case of fire because of its weight. There is usually but one door leading from the street.

Here we have a type of building constructed for dwelling purposes only, in which the number of occupants is multiplied any number of times without any change in the exit facilities provided.

THE LOFT BUILDING

The loft building marks an evolution in the construction of factory buildings in the City of New York. The first lofts were built about twenty-five years ago, for the storing and sale of merchandise, but the manufacturer soon found it desirable to have his goods manufactured in workrooms adjacent to his salesroom and directly under his supervision.

Increase in land values, moreover, forced the manufacturers to extend upwards instead of spreading out horizontally. The availability of the loft for manufacturing purposes was soon appreciated, and today this type of building is generally used for factory purposes.

THE NON-FIREPROOF LOFT BUILDING

The non-fireproof loft building is usually six or seven stories in height, 25 feet wide by 80 feet in depth, with brick, stone or iron fronts and rears, brick side walls, wooden floors and wooden trim. There is usually one unenclosed wooden stairway, varying in width from two to three and one-half

feet, and often winding around the elevator shaft. Wooden doors lead to the stairways; very often the doors open inwardly.

These buildings, as a rule, possess exterior fire-escapes similar to those found on the converted tenement described above. Usually every floor in these buildings is occupied by a different tenant, in some cases there being two or more tenants on each floor. The tenant uses the floor, or his portion of it, as salesroom, office and factory, dividing one from the other by wooden partitions. In the manufacturing part there are usually a number of machines placed as close together as possible with little aisle space between. These buildings are to be found in numbers on the lower east and west side. The number of people permitted to work on a floor is restricted only by a provision of the Labor Law which provides a minimum of 250 cubic feet of air space per person and entirely disregards the floor area. As the distance between floor and ceiling is at least ten feet, and often more, this cubic air space is easily obtained without any appreciable prevention of overcrowding and congestion. The present law does not require the posting of the number of people allowed even by this standard, and so prosecutions for violations of this law are practically unknown. These buildings usually do not contain any automatic sprinklers. They have fire pails, which are rarely kept for the proper purpose. A few of them have standpipes, with hose which is often useless.

THE FIREPROOF LOFT BUILDING LESS THAN 150 FEET HIGH

The fireproof loft building less than 150 feet in height, that is about 12 stories or under, has brick, stone or metal exterior walls, wooden floors and trim, stairways of metal or stone and elevators. Stairways are generally about three feet wide, enclosed by fireproof walls. These buildings are either 25, 50, 75 or 100 feet wide by 80 to 200 feet in depth, the usual size being 50 by 80 or 90 feet. The conditions of occupancy as to tenants are similar to those in the non-fireproof loft buildings just described. The Triangle Waist Company occupied a building of this type at 23-29 Washington Place. That building, in its construction and interior is typical of the so-called fireproof loft buildings, and indeed much better than hundreds of buildings used for similar purposes in New York City today. Some of these buildings have automatic sprinkler systems. They are usually provided with stand pipes, connected with the city water supply, and have on each floor a hose of required length, and some are provided with exterior fire-escapes. It is to be noted that in these buildings the elevators are used to go from the street to the upper floors not only by the employers but by the employees. In most cases the latter are absolutely unaware of the location of the stairways. Auxiliary fire appliances are present in most cases, but their existence is unknown to the workers and no care is given to their preservation. The interior arrangements are similar to those existing in the non-fireproof loft building, the same wooden partitions, the same congestion and doors opening inwardly.

Testimony shows that the danger in these so-called fireproof buildings results from the use of wood for floors, doors and trim. The buildings are usually of such a height that the Fire Department ladders and extensions, and even the water towers, do not reach the upper stories. Fire occurring in these places under conditions of manufacture which are hereafter described usually results in the destruction of the entire contents of the building while walls and floors remain substantially intact.

THE FIREPROOF LOFT BUILDING MORE THAN 150 FEET HIGH

This building is more than twelve stories in height. The walls are of brick, stone or metal, the floors are of cement or stone, the trim and doors are of metal or fire-resisting material, the stairways are of stone or metal, and enclosed by fireproof walls. There are usually several stairways and elevators. The buildings are sometimes supplied with automatic sprinkler systems and have standpipes to which hose is connected on each floor, and other appliances for extinguishing fires. In addition, these buildings sometimes have exterior stairways leading either to the street or to the ground in the rear.

The buildings are usually 50, 75 or 100 feet or more in width and are from 75 to 200 feet deep. They are occupied for manufacturing and other purposes, and sometimes one tenant is found to occupy more than one floor. In these buildings, if a fire occurs, it is usually confined to the floor on which it starts since it cannot burn up or down except through the windows.

Above the sixth floor these buildings are open to the same objections as are fireproof buildings less than 150 feet high, namely the upper floors cannot be reached by the firemen. The exit facilities are usually well constructed, but the number of people who occupy these buildings is not determined by either exits, width of stairways, or floor space. The only restriction is, as in all other buildings, the 250 cubic feet of air space provision. The distance between the floors is usually 10 to 15 feet, so the cubic air space may fulfill the legal requirement while the floor presents a congested condition.

DANGER TO LIFE IN FIREPROOF BUILDINGS

Particular reference is made to the fireproof building which is believed on account of its construction to be safer for the occupants than the non-fireproof building and to require few if any precautions, either to prevent fire or to preserve the safety of the occupants in case of fire. The testimony discloses the weakness of these suppositions. While fireproof building itself will not burn, the merchandise, wooden partitions and other flammable material burn as readily in a fireproof building as in any other. It is assumed by all fire insurance experts that when a fire occurs on any one floor, the contents of that entire floor will be destroyed. It is like placing paper in a fireproof box: it confines the fire to that locality, but the fire is just as hot and just as destructive within its bounds. Therefore, unless means are provided for automatically extinguishing fires and for the rapid escape of the occupants, loss of life may occur even in fireproof buildings.

The Triangle Waist Company fire is illustrative of this fact. There the building was practically left intact, yet the fire was severe enough to cause the death of a large number of the occupants. In the fireproof building the fire is confined to a limited area and is therefore more easily controlled. The occupants of floors over eighty feet from the ground cannot, however, be reached by the Fire Department's ladders, and must trust for escape to the stairways or exterior fire-escapes.

In many of these buildings the occupants manufacture garments and other inflammable articles. The floors are littered with a quantity of cuttings, waste material and rubbish, and are often soaked with oil or grease. No regular effort is made to clear the floors. No fireproof receptacles are provided for the accumulated waste, which in some cases is not removed from the floors for many days. Many of the workmen, foremen and employers smoke during business hours and at meal times. Lighted gas jets are unprotected by globes or wire netting, and are placed near to the flammable material. Very often quantities of made-up garments and flammable raw material are stored in those lofts. Fire drills are not held, save in rare instances, exits are unmarked and the location of the stairways and exterior fire-escapes is often unknown. Access to the stairway and outside fire-escapes is obstructed by machinery, wooden partitions and piled-up merchandise, while in some cases the fire-escape balcony is at such a distance from the floor as to make it almost impossible for women employees to reach it without assistance. Wired glass is not used in the windows facing the balconies of the fire-escapes except in fireproof buildings over 150 feet high. In some cases the window leading to fire-escapes are not large enough to permit the passage of grown persons readily. Automatic or manual fire-alarms are hardly ever provided, except in the larger fireproof buildings.

RECOMMENDATIONS OF THE COMMISSION

1. PREVENTION OF FIRE

Testimony was given that at least 50 percent of the fires occurring today could be prevented by taking certain simple and inexpensive precautions. Some experts placed the percentage of preventable fires as high as 75 per cent. Fire extinguishment has received careful attention in the past, and today the means supplied for extinguishing fires are many. But little attention, until recently, has been given to the subject of fire prevention. An ounce of prevention in the case of fires, as in any other case, is worth a pound of cure.

The principal causes of fires in the city of New York during the past few years have been rubbish heaps, lighted matches, cigars and cigarettes, and exposed gas jets. It is believed by the Commission that the prohibition of smoking in manufacturing establishments, and the cleaning up or removal of rubbish, cutting and waste from the floors, and providing fireproof receptacles therefor, will be most effective in the prevention of fires.

The fire in the Triangle Waist Company building was caused by a lighted cigarette thrown upon a pile of cuttings. Smoking should be strictly prohibited to both employees and employers. The Commission in its investigation visited among other establishments, a cigar factory in a converted tenement house when there were several hundred employees at work. The foreman was asked whether smoking was allowed. He stated that smoking was prohibited, although at that moment he was busily engaged in smoking his own cigar.

A number of witnesses testified that while smoking ought to be prohibited, its prevention was a hopeless task. Such an attitude surprises the Commission, as it believes from its investigation that a little education upon the subject will convince both employee and employer of the wisdom and necessity of this law. Smoking in a factory is a constant menace to all employed therein.

Chiefs of the Fire Departments in nearly every city testified that fires in factory buildings would be reduced by 50% if provisions for the removal of rubbish, the protection of gas jets and the prohibition of smoking were enacted and were promptly and fully complied with. The requirement of these provisions will work no hardship upon anyone, and will entail no great expense. Their proper enforcement depends, however, upon adequate and systematic inspection and prompt and effective punishment for violation. Sufficient means should be given the department charged with the enforcement of this law for the strict punishment of those who fail to comply with its provisions, so that there may be no excuse for non-compliance.

The Commission therefore recommends on the subject of prevention of fires the following:

Fireproof receptacles. There shall be provided in every factory building or manufacturing establishment a sufficient number of properly covered fireproof receptacles, to be placed as may be directed by the First Commissioner of the City of New York, and elsewhere by the Commissioner of Labor, in which shall be placed all flammable waste materials, cuttings and rubbish. Waste materials, rubbish and cuttings shall not be permitted to accumulate on the floors of any factory or manufacturing establishment, and the same shall be removed there from not less than twice during each day. All rubbish, cuttings and waste materials shall be entirely removed from a factory building at least once in each day.

Gas Jets. All gas jets or lights in factories or manufacturing establishments shall be properly enclosed by globes, or wire cages, or shall be otherwise properly protected.

Smoking. Smoking in all factories or manufacturing establishments shall be prohibited. A notice to that effect setting forth the penalty for violations thereof shall be posted on every floor of such

establishments in English and such other language or languages as the local Fire Commissioner or Fire Marshal shall direct.

2. NOTICE TO AUTHORITIES IN CASE OF FIRE

No matter what care and what precautions may be taken, fire will occur, and attempts are frequently made by employees to extinguish them before calling upon the public authorities. In almost every case this is a serious mistake. In the Triangle Waist Company and Equitable Building fires, lives would have been saved and the fire would not have been nearly so severe had the Fire Department had been promptly notified. In this regard the Commission can do no more than lay before the public the facts disclosed. It had been the intention of the Commission after examining into the matter, to recommend the installation of automatic or manual fire alarms in certain factories. After conferring, however, with the Fire Commissioner and the chief of the Fire Department in New York City, the Commission has decided to withhold for the present, this recommendation for the following reasons:

1st The present fire-alarm telegraph system at Fire Headquarters is entirely inadequate to deal with the large number of alarm stations that would be created as a result of this provision.

2nd The business of installing automatic or manual fire alarms in the City of New York is in the hands of but three or four concerns, and there is danger, if any such mandatory legislation were enacted, that it might cause serious inconvenience to those affected thereby.

3rd The Fire Department at present has no control over the systems of automatic fire alarms, and their efficiency does not always prove equal to the test.

The Commission emphatically states, however, its belief in notification of Fire Headquarters by some automatic or manual means on the premises, in case of fire in a factory building where more than 250 persons are employed. The Commission expects to take up this matter again during its continuance, and believes by that time there will be such changes in conditions that it will be able to make some recommendations upon this subject.

3. NOTICE TO OCCUPANTS IN CASE OF FIRE

The Commission gave much thought and attention to means of notifying the occupants of a building in case of fire. After consideration of the facts before it, the Commission is of the opinion that the dangers from panic and excitement caused by any alarm, such as the ringing of a bell indicating on which floor the fire had occurred, when the alarm might be false or the fire slight and readily controlled, outweighed the advantage to be gained. Therefore the Commission does not at this time recommend any automatic fire-alarm system, save as may become necessary in connection with the operation of a fire drill hereinafter provided for.

4. FIRE DRILLS

The Commission personally witnessed fire drills in factory buildings, and some testimony was taken upon this subject. The Commission believes that in factory buildings where more than twenty-five persons are regularly employed above the second story, a fire drill should be conducted. One of the purposes of the fire drill should be to indicate to the occupants where the stairways are, and the means of reaching them. It has been found in many of the larger buildings where the occupants use the elevators to go to and from their work, that the location of the stairs or exterior fire-escapes is unknown. The Commission is of the opinion that the drill should be supervised by the local Fire Departments. A fire drill is also extremely useful in preventing panic. While of course not so effective in the case of occupants of a loft or factory building as in the case of school children, it undoubtedly would go far in preventing a mad rush towards the exits. If the fire drill accomplishes nothing more

than to acquaint the occupants of a building with the different exits, to compel them to use those exits at stated intervals, and to keep them clear and unobstructed, it will have served its purpose. The periodical fire drill will constantly bring to the minds of employee and employer alike the possibility of fire and the necessity for using every proper means to prevent the same. The Commission makes the following recommendation:

Fire Drills In every factory building or manufacturing establishment in which more than 25 persons are regularly employed above the ground or first floor, a fire drill of the occupants of such building shall be conducted at least once in every three months under the supervision of the local Fire Department or one of its officers. Every employer and employee shall aid and assist such Fire Department and its officials in conducting such fire drill. In the City of New York the Fire Commissioner, and elsewhere the State Fire Marshal, is authorized and directed to prepare appropriate rules and regulations to make effective this provision; said rules and regulations to be posted on each floor of every such factory building or establishment.

5. PREVENTION OF SPREAD OF FIRE

Reference has already been made to the size of windows leading to balconies connected with exterior fire-escapes. In some cases these windows are too small in size to admit the free passage of a grown person. The windows are usually of ordinary glass which does not resist fire at all. The flames break through these windows, and the result is that no protection whatever is afforded to those going down the fire-escapes. The use of wired glass instead of ordinary glass would serve as some means to check the flames and would give the employees on the upper stories who are compelled to resort to the exterior fire-escapes a much wider margin of safety.

Fire Departments are unable to reach with their ladders any point above the seventh story of a building or more than ninety feet above the ground. Therefore ordinary precautions are insufficient to safeguard properly the workers above the seventh floor. Much testimony was taken upon the use and efficacy of automatic sprinkler systems. The Chiefs of various Fire Departments testified that one of the greatest means of preserving life, especially in high buildings and in those where wooden trim is used, is an automatic sprinkler system. This system, briefly, consists of a tank, usually upon the roof of the building, containing a large supply of water, communicating with pipes which run along the ceilings on the various floors. At regular intervals in these pipes are placed what is known as "sprinkler heads," fastened with fusible nuts which automatically break and discharge a flow of water when exposed to a certain degree of heat. The automatic sprinkler confines the fire to a limited area and checks it in its incipiency.

Testimony as to the efficacy of sprinkler systems varies, but the lowest estimate of their proper working is 75 per cent and the highest 95 per cent. Proof was given that in the New England mills where sprinkler systems have been in use for many years, there was only one loss of life where a sprinkler system was installed, and in that case the water supply for the system was cut off just before the fire occurred. The installation of an automatic sprinkler eventually pays for itself in the form of a reduction of fire insurance premiums granted where the system is installed.

Such reduction of premiums is allowed, however, only if the system is one approved by the National Board of Fire Underwriters, consisting of representatives of all the fire insurance companies in the United States. This Board has approved of only a few systems, and the manufacturer who desires to obtain benefit of a reduction of insurance must install one of these approved systems. Testimony was given indicating that there was some arrangement or understanding by which high prices were charged for these sprinkler systems.

It was also testified that any competent plumber could install a sprinkler system which would be effective in the case of fire.

The installation of the automatic sprinkler system has been recommended by Fire Chiefs throughout the State, and by nearly all of the experts on the fire problem. The Commission does not desire to make any drastic recommendation on this subject, but it is convinced that in buildings over seven stories or 90 feet in height, in which wooden floors or wooden trim are used, and more than 200 people are employed above the seventh floor, the only safe means to prevent the spread of fire and the loss of life incidental thereto would be the installation of an automatic sprinkler system.

Chief Kenlon of the New York Fire Department testified that had an automatic sprinkler system been installed in the Triangle Waist Company building, he believed that not a single life would have been lost. If manufacturing is carried on above the seventh story of a building, or 90 feet above the ground, the manufacturer should be required to furnish every possible device to safeguard the lives of his employees in case of fire.

The Commission therefore makes the following recommendations:

Windows of Wired Glass. All windows and doors leading to outside fire-escapes shall be not less than two feet in width by five feet in height, and shall be constructed of wired glass.

Automatic Sprinklers. In all factory buildings over seven stories or 90 feet in height in which wooden floors or wooden trim are used, and more than 200 people are regularly employed above the seventh floor, the owner of the building shall install an automatic sprinkler system in the form and manner approved by the Bureau of Fire Prevention in the City of New York and in all other parts of the State by the State Fire Marshal. Such installation shall be made within one year of the passage of the law carrying this recommendation into effect, the Fire Commissioner of the City of New York, and the State Fire Marshal elsewhere, to have the discretion to extend such time for good cause shown, for an additional year.

6. ESCAPE FROM WORKROOMS

The Commission ascertained by investigation and testimony, that exits to outside fire-escapes and to interior stairways, especially when they lead through other portions of the loft, were often unknown to many of the operatives. It certainly is necessary to indicate clearly the location of these exits.

A contributing cause to the loss of life in the Triangle Waist Company fire was the lack of clear passageways leading to the fire-escapes and stairways. The employees were so crowded together, seated at tables containing machines, with chairs back to back, that when a great number of them attempted to leave at the same time there was panic and confusion. The following is a diagram showing the arrangement of the sewing machines, and the congestion prevailing on the ninth floor of this building, where most of the deaths occurred.

In the report made by the Superintendent of the New York Board of Fire Underwriters, it was stated that 20 dead bodies were found near the machines "apparently overcome before they could extricate themselves from the crowded aisles." The condition which prevailed in this building obtains in many similar buildings. The necessity for clear and unobstructed passageways to exits should be absolutely insisted upon, otherwise with the slightest panic, even without a fire, severe injuries, if not loss of life, would occur.

The Commission has already commented on the width of doors and windows leading to outside fire-escapes. It has also found that the doors leading to stairways are too narrow. This is especially so in the old converted tenements where these narrow doors are a source of danger in case of panic or

fire. The first rush is always for the doors. The attempt upon the part of a number of persons to pass through at one time leads to a jam, and if the doors are dangerously narrow, many would lose their lives. When there are only a few persons employed upon a floor a narrow door is not a serious objection, but where a number of persons are employed, regard for their safety requires that such dangerous conditions be remedied.

7. HUMAN FACTORS

Results of the Data Obtained by the Investigation

NEGLECT OF THE HUMAN FACTOR

Brief as was the period devoted to the investigation, limited as was the number of industries and establishments inspected, and incomplete as was necessarily all our data, the conclusion that forcibly impressed itself, after the completion of the preliminary investigation, was that the human factor is practically neglected in our industrial system.

Many of our industries were found housed in palatial loft buildings, and employing the most improved machinery and mechanical processes, but at the same time greatly neglecting the care, health and safety of their employees.

Our system of industrial production has taken gigantic strides in the progressive utilization of natural resources and the exploitation of the inventive genius of the human mind, but has at the same time shown a terrible waste of human resources, of human health and life.

It is because of this neglect of the human factor that we have found so many preventable defects in industrial establishments, such a large number of workshops with inadequate light and illumination, with no provision for ventilation, without proper care for cleanliness, and without ordinary indispensable comforts such as washing facilities, water supply, toilet accommodations, dressing-rooms, etc. It is because of utter neglect on the part of many employers that so many dangerous elements are found in certain trades. These elements are not always necessary for the successful pursuit of the trade, and their elimination would mean a great improvement in the health of the workers, and would stop much of the misery caused by the occupational diseases incident to certain industries.

It is true that many enlightened employers, especially those who control large establishments, show a commendable zeal for the health of their operatives, but such care not being supervised or organized under scientific direction, leaves much to be desired. In the matter of industrial production, we are still under the sway of the old "laissez faire" policy, and there is still very inadequate supervision of industries with a view to lessening dangers to the health and life of the working class.

There is still no regulation whatever of factory construction, outside of the rules adopted by municipal building codes which regulate only the width of walls, the strength of foundations, etc. all matters of sanitation are without control during the times when such control could best serve the purpose of the buildings and the interests of those destined to inhabit them.

The construction of tenement houses in New York City is under the strict supervision of the Tenement House Department. There is no reason why the interests of the greater number of persons

inhabiting factory buildings should not be conserved as much as the interests of the tenement house dwellers.

(Point 8 was apparently redacted before publication as it is not in the original manuscript - editor)

9. IGNORANCE OF THE NUMBER AND OF THE LOCATION OF INDUSTRIAL ESTABLISHMENTS

In the course the investigation, much difficulty was found in locating all the establishments in an industry or a district. At present there is no method by which every manufacturing establishment may be located, and its existence brought to the attention of the authorities. At present, any person who has the necessary capital or credit may build, lease, or hire any ramshackle building, engage as many workers as he can crowd into his premises, and work them under any conditions. The very existence of this establishment may not be known to the Labor Department, until it is discovered by accident.

In the investigation of the Cloak and Suit Industry, made during the last year, by the Joint Board of Sanitary Control, about 30 percent of the shops were found unrecorded, and in our own investigation, our inspectors found the utmost difficulty in tracing many establishments which were never recorded by the Labor Department in the list sent by them to us.

10. LACK OF STANDARDS

The worker spends the greater part of his waking hours in the workshop and factory. The proper sanitation of the workplace is therefore of paramount importance to the worker, both to his health and to the security of his life.

It is only lately that intelligent employers have awakened to the fact that factory sanitation is very closely related to industrial efficiency, and that neglect of this subject by factory owners is detrimental to their own interests as well as extremely injurious to their workers.

It is also but lately that the workers themselves have realized the value of proper sanitation of factories, and have added this to the economic demands of their labor organizations.

Unfortunately, there is hardly a field of science where there is such a complete lack of standards as in industrial hygiene.

It is on account of this deplorable lack of standardization that many provisions of the labor laws are so vague and indefinite, and that large employers, willing to introduce modern safety devices and sanitary conveniences in their factories, are unable to do so with complete success. It is also this lack of standards that makes the enforcement of the sanitary clauses of the labor laws so unsatisfactory, for it is a most difficult matter for the inspector to exactly determine what is meant by "sufficient" fire protection, "proper" light, "adequate" ventilation, "fit" toilet accommodations, etc.

The standardization of factory sanitation is one of the most important matters which the Commission has considered during its brief preliminary investigation, and we intend to devote much attention to it if our activities are continued.

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