

\$500,000,000 WORTH of SMOKE A YEAR



ROBERT ADAMSON

Commissioner Adamson, in Arranging for Commemoration of Triangle Fire, Calls Attention to Fire Prevention Reforms Effected Since That Disaster and Also to What Must Yet Be Done.

By ROBERT ADAMSON, Fire Commissioner.

INVESTIGATION immediately following the Triangle fire brought out the fact that careless habits, both in factories and in homes, were the main causes of most of our fires. A match or cigarette heedlessly thrown among some waste clippings on the Triangle floor, as has been said, was the probable cause of the terrible disaster. Out of that thoughtless action has grown the law against smoking in factories which the Fire Department is so strenuously endeavoring to enforce.

Despite all the efforts of the department, however, there is a vast amount of public disregard of simple precautions against fire, as is shown by an analysis of the reports of fires for the year just closed. For instance, glancing down the list of the principal causes of fires, it appears that cigars, cigarettes and their careless handling caused no less than 1,979 fires last year, with an estimated loss of \$206,335. The careless handling of matches caused a property loss in greater New York of \$131,888, the total number of such fires being 1,175. While on the subject of matches and their careless handling, it might be mentioned that children playing with matches caused 588 fires last year, with a loss of \$32,245, which must be added to the match damage, making a total from this cause of \$164,133.

THE BONFIRE A FRUITFUL SOURCE OF FIRES.

Another fruitful source of careless and entirely avoidable fires was the bonfire, and fires from brushwood lighting fences. These fires numbered last year 1,058, and cost greater New York \$10,230. Thus, out of a total of 12,958 fires for the year 1913 we have 3,000, or more than an entire third, caused by culpable negligence.

Taking the other main causes of fires, such as careless handling of gas lights and illuminants, stoves, furnaces and steam pipes, the misuse of benzine, the number of fires in chimneys from failure to clean flues, and such items, it appears that thoughtlessness and lack of care cover practically the entire list, with the exception, perhaps, of those fires which were deliberately set for the purpose of arson, or through pyromania. Fortunately, many persons are beginning to "think fire beforehand" and to heed the thousands of warnings which have been sent out by the Fire Department. This is shown in the fact that we have had in this city 2,678 fires less in 1913 than there were in 1912, with an estimated monetary saving of \$1,991,583.

12,958 FIRES DURING THE YEAR 1913.

Despite the decrease in the number of fires, however, there are still large numbers of careless fires. There is no reason whatever why New York should have 12,958 fires in one year, as was the record for 1913. The estimates of monetary loss here given do not include the economic loss or the loss of employment from fires and the consequent loss of business; nor do they include deaths and injury by fires. If all these elements were included in the calculations New York would be astounded at the total fire loss.

One of the prevalent and peculiar causes of fires last year—and one which might also be prevented by proper forethought was what is

known as "spontaneous combustion"—a cause of fire which accounts for a loss during 1913 of \$132,843. The number of fires attributed to this cause last year was 202. This mysterious sort of fire arises in oily waste, used in wiping machinery, lamps, etc. The waste, after use, is carelessly thrown aside into some cupboard or closet, or left in some corner of the room, perhaps near a warm radiator or stove.

SPONTANEOUS COMBUSTION ADMITTED BY EXPERTS.

Experts now admit that spontaneous combustion does take place, and fire investigators have too often witnessed its depredations to doubt its existence. Fires from this cause could be readily prevented by simply having metal receptacles, with lids, in which such waste materials could be deposited after use. And yet in hundreds of machine shops and in other places in this city highly combustible waste is left to lie about in odd corners. When fires occur in these places no one seems to know the cause.

If carelessness is the cause of more than 60 per cent of our fires, cleanliness might be called the remedy. If our great factories and other places of industry could be induced to keep their floors, counters, machinery and store and work rooms clear, half the battle against fire would be won.

It is the untidy habit that begets the conditions which make fires. This particularly applies to fires which occur in tenements. Half of our fires occur in tenements, and in nearly every instance it is found that these fires are caused by carelessness. Steam heating plants, furnaces, stoves and stovepipes, mostly in tenements, caused 636 fires last year, and cost the city a monetary loss estimated at \$96,151.

CHIMNEY FIRES AND DISPOSAL OF HOT ASHES.

Chimney fires, mostly in dwellings and tenements, caused a loss of \$72,758, with a total of 703 fires. Even such a small item as careless disposal of hot ashes caused a loss of \$25,710, with a total of eighty-three fires. The habit seems almost universal of placing hot ashes in wooden receptacles, or piling them up against wooden partitions in cellars. People who do these careless things do not seem to realize that mixed in with nearly all hot ashes are particles of coal which have not been fully consumed. The warmth of the ashes raises this coal to the kindling point, and the ashes often burst into flames, which, of course, readily set fire to any wood near by.

In large commercial plants one of the most fruitful sources of fires is the spark from machinery, caused by friction from belts or otherwise. Motors are left without guards and power bands, and belts are allowed to run in such a manner that sparks are often thrown off. The simplest precautions of safety are disregarded in this respect. It would be the easiest thing in the world to incase motors in wire netting, and so to protect pulley bands and power belts as to prevent giving off sparks. Failure to take these simple precautions caused last year a loss of \$511,055.

The whole situation might be summed up in one word—"negligence," with the exception, of course, of incendiary fires and those that

might be said to be directly due to lightning. If only waste were placed in receptacles there would be no "spontaneous combustion," and if motors were kept from sparking, we would have no fires from this source. Chimney fires are certainly avoidable by the simple process of sweeping out flues in time.

The too numerous fires caused by smoking are certainly preventable, simply by the enforcement of the statutory regulations in this respect. Speaking of legal restrictions, it might be mentioned that most of those laws for fire prevention have been placed upon the statutes since the Triangle fire. Thus, out of this great disaster much good has come. Of course, many of the laws passed have been experimental in character, drawn with amateurish hand and without scientific knowledge. However, time and more efficiency in drafting future fire prevention laws will rectify these conditions.

FIRE PREVENTION BUREAU ESTABLISHED.

One of the first tangible results of the Triangle fire was the drafting and passage of the law establishing the Fire Prevention Bureau. Some months elapsed between the passage of the law and the allotment of funds for the operation of the bureau, and when the latter came into existence the appropriation set aside for it was wholly inadequate to its extensive operation and the staff assigned insufficient for its proper organization. Though the Tenement House Department had under its supervision 160,000 less buildings than the Fire Department, the latter department was allowed only one-fifth of the number of inspectors with which to cover the vast territory of greater New York, with its 295,000 or more buildings coming under the Fire Department supervision. Naturally, this led to much congestion of orders and delay in their service, while fire hazards in many places in the city were not reduced. The Fire Department was enabled at that time to inspect and remedy only such conditions as required immediate attention, such as theatres and moving picture shows, public schools and factories, where the hazard was acute and conditions notoriously dangerous.

107,000 INSPECTIONS MADE IN ONE MONTH.

The new regulation of the department, however, calling for inspections by the uniformed force has greatly overcome the difficulties outlined above. During last month, for instance, there were more than 107,000 inspections made by the Fire Department, and next month these places will again be visited and others added to the list. Many conditions throughout the city have been remedied, and the general public is beginning to wake up to the dangers from fire which prevail. A campaign of education has been started by the Fire Department which includes wide distribution of literature, such as "no smoking" signs and various "don'ts" for fire prevention. Enforcement of the laws against smoking in factories and other regulations are having a salutary effect. Lecture centres are also being established, and the public schools will soon have a course of fire prevention studies. In carrying out fire prevention laws and regulations a large number of important factors enter into consideration. In the first place, there is the reduction of the fire hazard by the elimination of perhaps 75 per cent of our fires—that is, carelessness. This can be done most effectively by education and the constant vigilance of inspectors who pay minute attention to the cleaning up of waste, stopping of smoking and the overcoming of public inertia and ignorance in the matter of simple, ordinary, common sense methods of preventing fires.

IMPORTANT FACTOR IN FIRE PREVENTION.

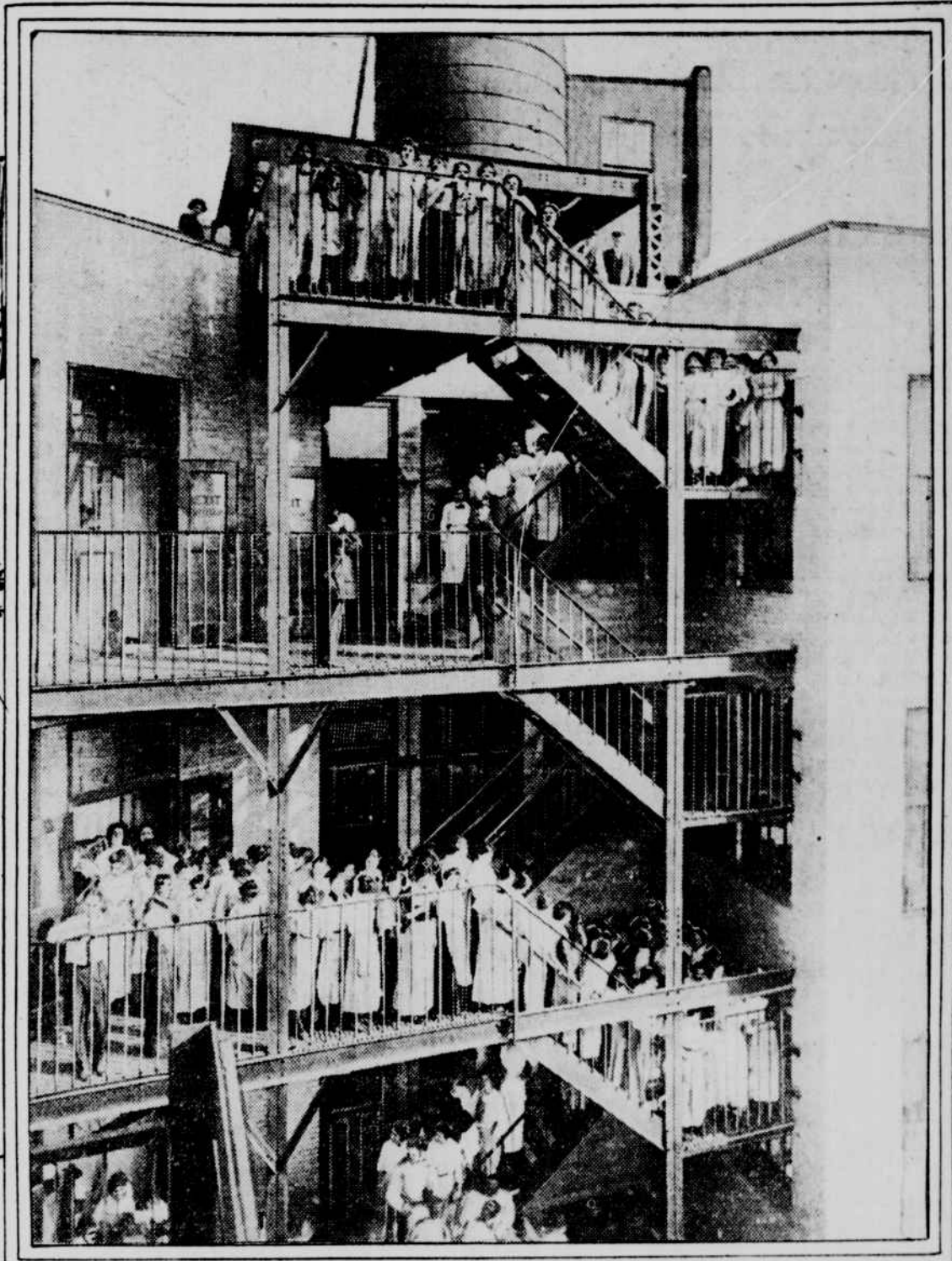
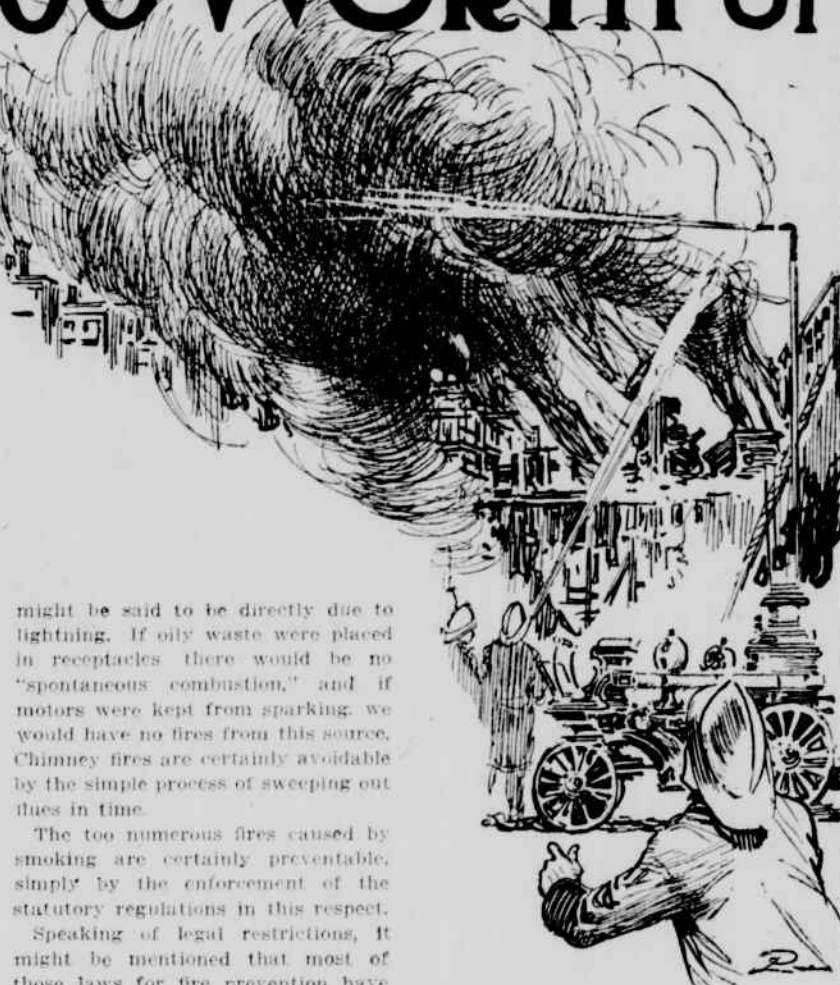
A second very important factor in achieving fire prevention is the introduction of appliances which will extinguish fires in their incipency. These include fire extinguishers and fire pails, hose lines on floors, and, most important of all, the automatic sprinkler.

Another important point in fire safety is the provision of adequate means of egress from all buildings where numbers of workers or other persons are engaged. Not only should properly built fire escapes and fire towers be provided, but wherever possible buildings should have fire walls running through their entire extent, so that workers in one part of a factory may walk to safety through these walls by means of proper fire doors, closing automatically in case of fire.

Proper fire drills should be inaugurated in all factories. The labor law requires such drills. In order to draw attention to this particular point the Fire Department this year

is endeavoring to commemorate the Triangle waist disaster.

In the Triangle fire there was no fire drill whatever, the fire escape was inadequate, and led down into a blind court, making a literal fire trap. The workers were unacquainted with the exits, one of which was undoubtedly locked. There were only two stairways in this building, though the building code required three, and the doors leading upon this stairway opened inward. Only one stairway led to the roof, and few of the workers were aware of its existence. The windows of the building had no wire



THE LARGEST FIRE-ESCAPE IN NEW YORK THIS FACTORY CAN BE EMPTIED OF ITS 2000 EMPLOYEES IN 2 MINUTES



THE FIRE-ESCAPE ON THE TRIANGLE-WAIST BUILDING BEFORE THE FIRE, DURING WHICH IT COLLAPSED CAUSING MANY DEATHS

glass in them, and this caused the fire to leap from one floor to the other. Curiously enough, though the fire started on the eighth floor, the principal fatalities occurred on the ninth. The floors were littered with scraps and cuttings, and no attempt was made to clean them up and place them in metal-lined receptacles, as is done in the same building to-day, which is now equipped with automatic sprinklers. The concerns occupying the building also have fire drills, using as means of exit a capacious fire escape in the rear of the building, and also interior fire towers, the doors of which open outward. All waste and rubbish is swept regularly from the floors and placed in metal-lined boxes, so that even should fire start within the boxes from spontaneous combustion it cannot spread.

SMOKING IN TRIANGLE BUILDING SINCE FIRE.

It might be mentioned in connection with the Triangle Building to-day that, though so many lives were lost from the careless smoking of some one in the shirtwaist factory on March 25, 1911, in the same building several times since the disaster persons have been fined as much as \$50 at a time for disobeying the Fire Department order against smoking. The terrible loss of life from this cause seems to have made little impression on some of these people.

When the fatal Triangle fire occurred in this building the employees not only had no fire drills, but they were so placed at work that they blocked their own egress from the floors. In most of the large fac-

ories throughout New York City Fire Department inspectors now insist upon ample floor space in the aisles. Piles of goods or boxes on floors must be so arranged that they do not block easy access to exits. As the terrible Iroquois fire in Chicago on December 29, 1903, in which six hundred persons perished, resulted in the safeguarding of theatres throughout the country, so has the Triangle waist factory fire brought about a great reformation in rendering factories in New York City more secure than they were before the fire. Of course, there is no doubt that even at the present time many fire hazards still exist in factories.

FIRE PREVENTION A HOBBY WITH SOME FIRMS.

The Triangle fire has, however, so focused public attention upon the subject of fire prevention in factories that many large firms, on their own initiative, have made fire prevention almost a hobby. There are some factories in the city, employing more than one thousand women workers, which are as safe from fire danger as it is possible to make them. While these particular firms deserve the highest commendation, there are others who have been extremely reluctant to meet the Fire Department half way in its efforts to reduce the fire danger. With these latter firms it is a pity that some such system could not be introduced as that which prevails in France where persons who have fires are held personally responsible for all losses connected with such fires. In France the law of "neighbor's risk" holds any person liable who can be proved

to have been negligent in the matter of fire. Even if the fire extends to a whole block, the individual in whose premises the fire starts, and who can be proved to have been negligent is held responsible for all damages. As a consequence of this law, and owing also to the French building code and the strict fire insurance regulations, the per capita loss from fire in Paris is only 43 cents, whereas here in New York our average fire tax per head of population is about \$2.50.

DANGEROUS CONDITIONS IN LOFT AND WAREHOUSE.

Numbers of our factories in New York City are located in old buildings, formerly tenements, but which have been converted into factories, owing to various defects in our building code these buildings gradually enter the "loft" and "warehouse" class, and dangerous fire conditions have arisen without any distinct violation of particular laws. In many of these old converted buildings some of the worst fire dangers exist. It is on the monthly physical inspections by the uniformed force that the Fire Department hopes to clear up a number of risky conditions. A large number of buildings now occupied as lofts and factories were put up before the present building laws came into operation, and in these also dangerous conditions prevail.

Of course, in all matters of fire prevention, building construction is of supreme importance. The best form of building for fire prevention purposes is the type of mill building developed in New England states; where the floor beams are massive, and the floors, where wooden, are of great thickness—usually four inches. There are no vertical openings between the floors for the spread of fire from one floor to another, and these buildings are also equipped with automatic sprinklers and other devices for extinguishing fire.

NO BUILDING IS ABSOLUTELY FIREPROOF.

The Triangle fire demonstrated forcibly the fact that no building is absolutely fireproof, for it is impossible to make the contents non-flammable. However, with proper building construction and with the use of fire retarding materials, such as wire glass, doors covered with blocked tin, concrete partitions, and similar fire stops, the progress of fire may be arrested sufficiently long to save life and property, provided auxiliary fire appliances are up to standard also.

It is building construction that has placed European cities so far ahead of us in the matter of fire losses. For instance, greater New York has 300 fires per 100,000 inhabitants, while London, for the same population, has but 81; Paris, 74; Berlin, 97; Vienna, 59, and St. Petersburg, 75. Our fire loss in this country is about eight times that of Europe. The actual cash loss—to say nothing of upkeep of fire departments, water supply and fire insurance premiums—is about \$600,000 for every day of the year, or \$25,000 for every hour of the day. We spend every year in this country about \$500,000,000 as a fire tax, or \$125,000,000 more each year than the total cost of the Panama Canal. And yet our econo-

mists complain of the "high cost of living!" What nation can afford to buy for each \$500,000,000 worth of smoke a year?

So many elements enter into the question of fire prevention, and the subject is so large that it would take volumes to cover it. It has only been attempted here to give an outline of the importance of the subject. The Triangle factory fire emphasizes one other extremely important item, the loss of life, which averages about 2,000 persons a year. In the last ten years in this country it is estimated that 200,000 persons have lost their lives by fire, and about 50,000 workers and other persons have been injured.

Mystery of New York Girl's Fate

Continued from third page.

tion. These are the real plumes, too, and you'll see how poor in comparison are those you buy in the New York shops.

"Well, the next letter you get from me will be written in Beira. It won't be long, for I'll wait to tell you the news in New York. I'll simply let you know when to expect us, for we may have to let one steamer go, so that Jan may wind up his business with the government and I may dispose of our household goods.

This letter was brought down to the coast by two blacks detached from the expedition to carry photographs and a report from Wexelsen to the Portuguese officials. It was mailed in Beira, and was delivered here in May, 1910. Since then not another word has come from either Mrs. Wexelsen or her husband, and the Portuguese government has been silent on their fate.

Wexelsen had planned to return to Beira by easy marches, and along a different route from that by which he had come up country. In her letter from Victoria Falls Mrs. Wexelsen made no mention of any trouble with the blacks, but her husband in another communication stated that several of them had been unruly and resentful under discipline. He stated, however, that he felt they would cause him no more worry, as the majority of the carriers had remained loyal, refusing to be led into dissension or mutiny.

QUESTIONS THAT DEEPEN THE MYSTERY.

Was Wexelsen mistaken in his carriers, and did they at last rebel and kill the man and his wife, or make them captive? These are the questions that make their disappearance a deep and tragic mystery. Where in the depths of the forest was the last fateful chapter in the romance of this young couple enacted? And if Wexelsen and his New York wife are not dead, where in the remote recesses of the jungle are they held? A postscript to the girl's letter from Victoria Falls read:

"I have been telling Jan just where we shall live—up on Morningside Heights, overlooking Central Park. The trees will remind him of the forest."

Does the girl, somewhere in the forest, still dream of a New York apartment?