

Some New Wrinkles for Fighting Fires

Beyond a doubt the firemen who "ran with the machine" in by-gone years were as persistent fighters of the flames and as intrepid in the face of danger as their successors of today. Yet not one in ten of those brave old fellows would be competent to serve in any thoroughly up-to-date fire department of these times. For fire fighting has been reduced to something approaching an exact science and the new wrinkles therein that have been adopted in the past few years would puzzle anyone not specially trained to the fire fighter's trade those days when anyone who could hold a nozzle, swing an axe or tilt a ladder against a house front would do for "the department" have permanently passed away.

Of course the net result of the introduction of scientific devices for fighting fire

to escape, because in the darkness and smoke he does not know which way to turn for safety. Often even after the floor or roof has sunk under his feet the fireman might still save himself if he could only see. Somewhere in most "caves" there is a way out, or a shelter, but at night the fireman, groping helplessly in the dark, must rely entirely on his sense of touch to find either.

With the "light" engine on the ground conditions will be changed. Then the fireman's work will be almost as fully illuminated at night as in the daytime and the record of fatalities will be very materially lowered. Then the flickering little night lanterns, peeping through the smoke like tiny yellow fireflies, will be things of the past. Moreover, there will be greater efficiency as well as greater safety and a noteworthy increase of salvage. The "fire patrol" men will know just where to find the most valuable goods and how to cover them up to the best advantage.

Like the ordinary "steamer," the "light" engine will have an upright boiler. It will develop eighty horse-power, all of which will be employed in driving the dynamo. The cost will be about \$3,500. It will be hauled by two horses and will be stationed in the heart of the big wholesale dry goods district where fires are most dangerous and costly and generally come at night. The total weight of the machine will be somewhat over three tons; it will carry a crew of three men—an engineer, a fireman and a driver. In proportion to the benefits it will bring, the "light" engine's first cost and the maintenance cost of about \$4,000 a year, are insignificant, though the small towns will probably not be able to use it on this account. It would be impossible to save this cost by adding a searchlight equipment to an ordinary steamer, for the reason that the light, to be of any real service, would consume all the power that the best engine could furnish.

Life Saving Cage.

Although the life saving cage recently adopted by the New York fire department has not yet been put to a practical test, the firemen expect great things from it. It looks not unlike a toboggan. It is about six feet long and two and a half wide, with wire sides and a curved bottom made of heavy metal. It is made to run along a strong ladder, elevated by means of a windlass and working on a revolving platform fastened at the front end of the hook and ladder truck that carries it. It is attached to a stout wire cable which passes over a pulley at the top of the ladder and is under the control of a fireman whose station is on the truck. After the ladder has been raised, it is swung around against the front of the building and then the "cage" is ready for business.

The operation of the cage is very simple. The truck is brought close to the curb in front of the building in which the fire has cut off the inmates, the ladder is elevated and swung into place and half a dozen agile firemen shin up like monkeys even before it has found the wall. Arrived at the top they make their way through the windows into the rooms where the firebound people await their coming. All who can climb are sent down the ladder in the ordinary way. When anyone unable to climb through physical disability, nervousness or fear is found, the cage is sent up with a rush, the ladder serving as a runway. As soon as the cage reaches the window where it is to be used the unconscious or unwilling person for whose rescue it has come is bundled into it in an upright position. Straps furnished with strong snaps are fastened about the



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LIFE LINE GUN.

tends toward the greater salvage of property. But the primary object of nearly all the new wrinkles is either to make the fireman's hazardous occupation less dangerous to himself or to increase his efficiency as a life saver. And, as shown by municipal statistics, the diminution of fatalities at fires both among firemen on duty and inmates of burning buildings has been very marked in recent years.

The very newest fire fighting wrinkle is the "light" engine. The first engine of this type will soon be put into service by the fire department of the city of New York. It was designed by the recently appointed chief, Edward Croker. Once in use it will undoubtedly be copied by every large city in the country, and it has already been decided by the New York department to add several others as speedily as possible.

Not Water, but Illumination.

The new engine will not be used directly to help put out fires. Nor will it be used at all in the daytime. But in the night time it will be invaluable to the firemen. It will have a high pressure boiler and a high speed engine, like all other fire engines, but in place of a pump and pipes it will have a big electric dynamo and a powerful searchlight. This searchlight will be different from all others. Instead of throwing a great beam a long distance, it will radiate illumination over a wide area.

The ordinary searchlight has a lens made of bars of glass running straight up and down. This concentrates the full strength of the light in a solid beam that carries anywhere from 500 feet to five miles. In the light designed by Chief Croker the glass bars are placed horizontally in the lens frame. This spreads the light, as shot is spread out of a chokebore gun. It doesn't carry nearly so far, but covers much more space on the target.

The introduction of the "light" engine will mean the elimination of one of the greatest sources of danger for the fire fighters. Nothing is so productive of accidents at night fires as the darkness. In the daytime and in light places men are seldom caught in a trap even when a "smothered fire" has eaten away the props of floor or roof. If he can only see, the fireman's practiced eye can generally discern preliminary indications of danger when the support on which he is standing, or the particular place that he is approaching has been undermined. But at night he can discern nothing of these indications and must blindly take chances, trusting to luck and agility for his escape when the trap manifests itself by the trembling that always precedes the caving-in of a roof or floor. Even if he notices the trembling in time, or if a burst of flame shooting out of the smudge reveals it to him, he frequently finds himself unable

head and shoulders and the cage is sent down with its human freight. The passenger could neither fall out nor jump out, even if he wanted to. It is estimated that one person can be rescued every minute from a height of four stories with the aid of this contrivance.

Truck No. 20, which carries the cage, is undoubtedly the best equipped fire truck in the world. It is located at 157 Mercer street. "Babe," "Sarah" and "Johnson," the first a powerful bay and the others

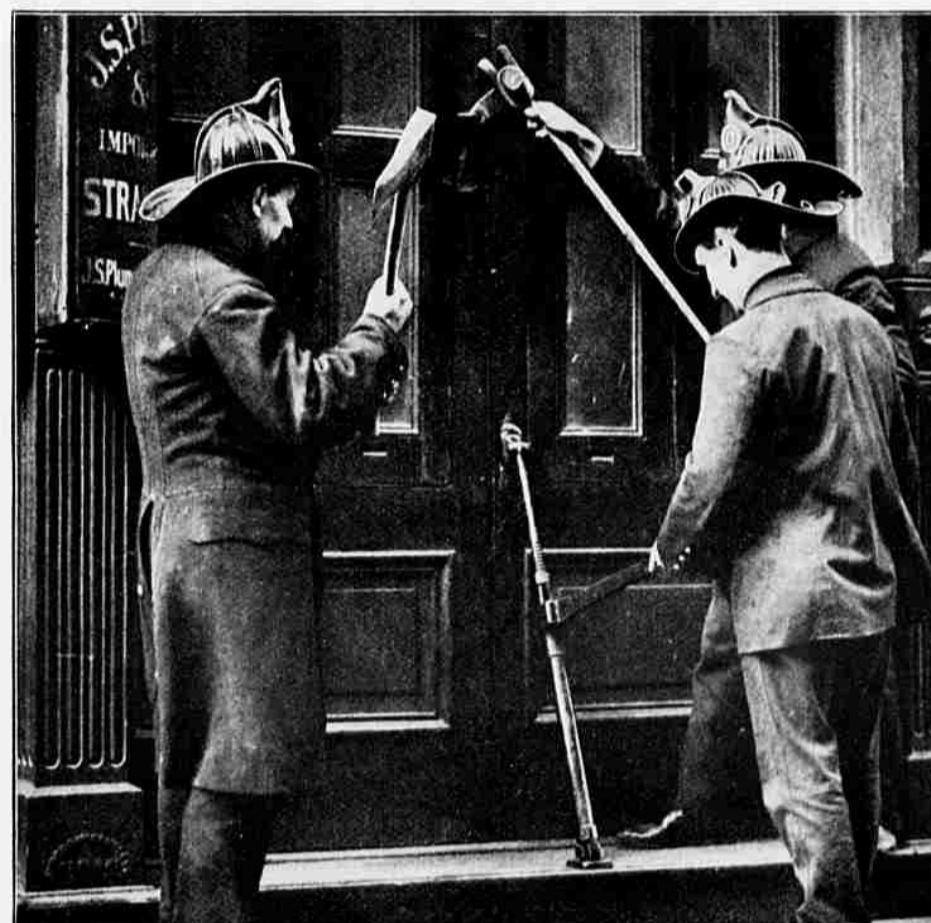
equally powerful grays, have the honor of hauling it, and, though, with the extensive equipment of "tools" and ladders, the truck weighs over seven tons, the three horses have no difficulty in making short runs at the rate of a mile in four minutes.

To Prevent Smothering.

The smoke helmet, though not so novel, is an exceedingly useful contrivance. It is an awkward-looking affair, about two feet high and somewhat over three feet in circumference. It is carried in a polished

sons who are accustomed to taking their air straight existence in that helmet is not pleasant. It is intended to be worn in

(Continued on Eighth Page.)



BURGLARIOUS TOOLS FOR FIREMEN.



LIFE SAVING CAGE.

hard wood case and is guarded and tended as carefully as a watch, for the firemen are very much attached to it.

Though only a short time in use, the helmet has already stood them in good stead. It is made of leather. It covers the head completely and its base rests on the shoulders, where it is held firmly in position by means of straps that run under the armpit. The writer put the helmet on the other day to see what it seemed like inside and was very glad to get it off again. It may be considered a luxury by firemen, but to per-



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