

## THE LONDON FIRE-ESCAPE.

The frequency of fires in the city of London, and the appalling calamities by which many of them were attended, led, in 1833, to the formation of a society called "The Royal Society for the Protection of Life from Fire," the object of which was to save persons from the horrible fate of being burned alive. The first means adopted were the printing and circulating of an immense number of little pamphlets, containing minute directions to persons who might ever chance to find themselves in burning buildings, in regard to the proper mode of proceeding, such as crawling on their knees to avoid the smoke which fills the upper part of a room, covering the face with a wet cloth, &c. They also offered rewards to all persons who might be instrumental in saving the life of anyone exposed to danger from fire. The inventive genius of the community was aroused and the company had innumerable plans for fire-escapes submitted to their examination. They tried several, and finally adopted the one represented in the annexed engraving.

This is an extension ladder, so light that it is readily transported and managed by one man; it being trundled through the streets in the erect position shown. The main ladder is designed for the windows of the third story; and there is a supplementary ladder for either the second or the fourth story, as occasion may require. A light box or "balcony," as it is called, is fitted to slide up and down the ladder, for the removal of children or persons too timid to descend on the rounds of the ladder by themselves.

The funds of the society are contributed by voluntary subscription, partly by individuals and partly by insurance companies. A man is constantly employed to be always ready at each ladder; and he is required to proceed on the first alarm to every fire in his district, where it is his duty to devote himself to the saving of life. These ladders are stationed within half a mile of each other all over the city; they cost about \$600 each, and it requires about \$400 per year to keep one in order and pay the wages of the attendant. The society at this time numbers 15,000 subscribers, and they maintain 70 fire-escapes.

In looking over the record for the last 20 years of patents which have been taken out for fire-escapes, we find that they are all comprised in four classes—extension ladders, canvas tubes, lazy tongs and friction ropes. On June 27, 1846, James Cox, of Brush Valley, Pa., took out a patent for an extension ladder, which is essentially the same as that of the London apparatus, which was invented and constructed in England in August, 1848. On the 20th of February, 1847, Wm. Van Loan patented a fire-escape, consisting of a canvas tube for people to slide through, with proper hooks for attaching it to windows. We have been informed that this invention has been tried in England. We called attention to it on page 56, Vol. III. (old series) of the SCIENTIFIC AMERICAN. On June 2, 1851, John C. F. Salomon patented a ladder with folding steps, of a very novel character. A patent for an extension ladder was secured by George W. Keller on April 18, 1854; and another by Thos. Armitage, of the same date. Since that date the inventions have been multiplying; and there never has been so great activity in this department as at the present time. Inventors see plainly that the humanity of the country will imperatively demand an ample provision of fire-escapes, and

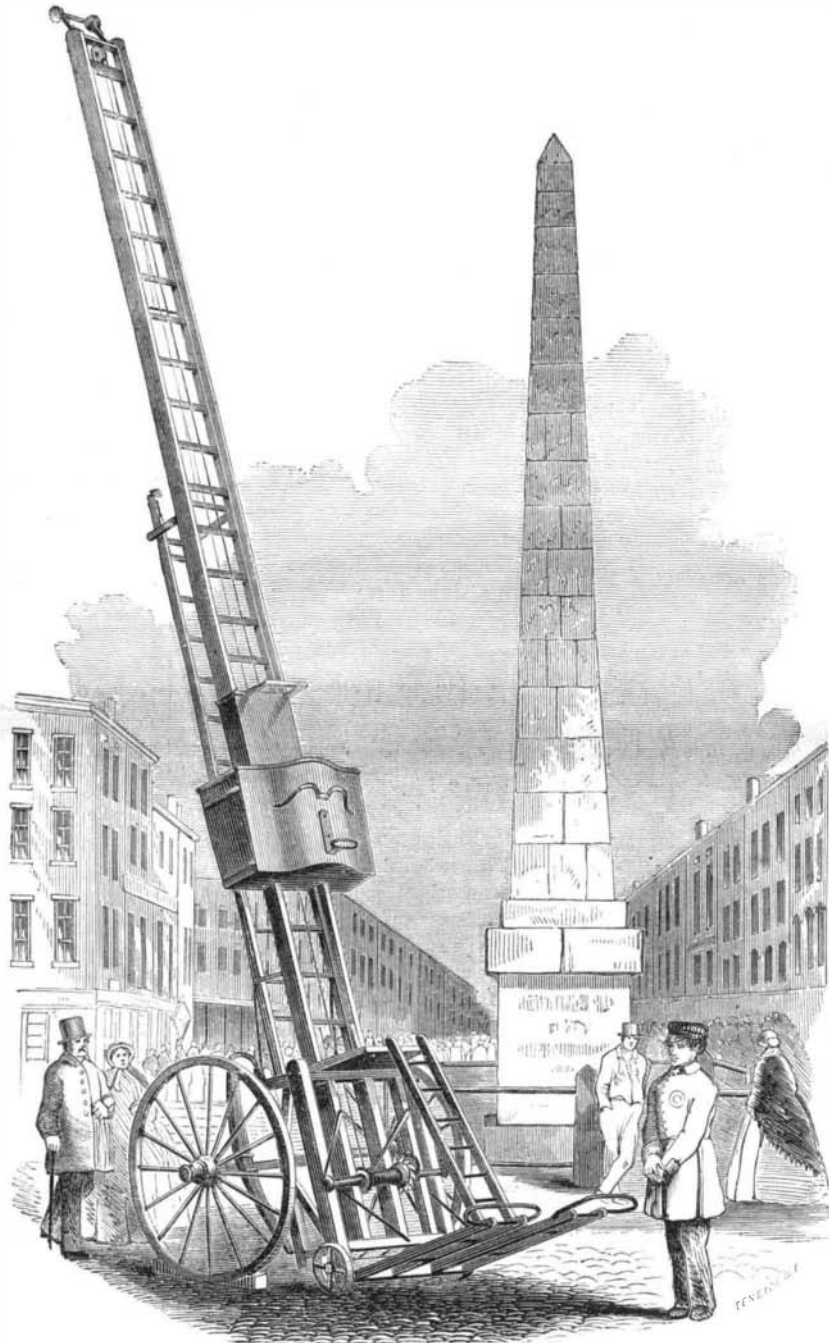
that he who happens to think of the very best contrivance will find a large market for his ideas.

There are probably more than a score of applications now pending before the Patent Office on fire-escapes—nearly that number having been applied for recently through the Scientific American Patent Agency; and at a proper time illustrations and descriptions of some of them will appear in our columns.

## NEW JERSEY COPPER.

In passing through the eastern portion of New Jersey, near the Passaic river, the traveler is surprised to witness a soil possessed of a deep color, resembling, in a measure, good brick-dust. This color is due to the presence of a valuable and useful metal (copper), which is very

opened, and have been operated thus far with considerable success. Originally, these old mines were only to a depth of about six feet—no better than rabbit burrowing—but the present shafts have been sunk to about 100 feet. They pass through strata of alluvial soil and red sandstone 15 feet in thickness; then through a thick seam of red slate, beneath which is the bed of copper ore and sandstone. The ore is a carbonate of copper; and is said to be perfectly free from arsenic. The best quality of the ore is worth \$190, which is sold to a smelting company that has its works situated at Bergen Point. The amount of metal in the ore is about 25 per cent. It is transported in bags, each weighing about 15 pounds; and 700 sacks are now raised monthly, and prepared at the mines, by stamping and washing, for smelting.



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plentifully distributed in some situations, and which is found in sufficient abundance in some localities to yield good returns by smelting. If we mistake not, the first copper mines worked in this country were near Belleville, in New Jersey. This was before the Revolution, and Hornblower—brother of the celebrated English engineer of that name—came out with the first steam engine to operate the machinery. These mines ultimately ceased working, owing to a decrease in the richness of the ore; but they were re-opened last year, by an association named the "New Jersey Copper Company." Their property is near Belleville, embracing a tract of 59 acres in a bold ridge, in which are a great number of old pits which indicate the former ancient workings. Proper machinery and buildings have been erected to carry on the operations; four of the old pits have been

## THE DICTIONARY CONTROVERSY.

Considerable interest has been manifested among philologists in reference to the comparative merits of the rival dictionaries of Webster and Worcester; the work of the latter has recently appeared. We accepted Webster as the standard dictionary of our language some years ago; and, although we would not deny the excellencies of Worcester, still we adhere to Webster, and shall continue it as our authority.

The Springfield (Mass.) *Republican* says that Professor Stowe, of Andover, states of the new dictionaries as follows:—"I have looked over, with some care, the last issues of both Webster's and Worcester's dictionaries. Without any disparagement of Dr. Worcester as an able, laborious and successful lexicographer, I must say that this examination has confirmed my former impression of the superiority of Webster on almost every point for which a dictionary is usually consulted. Webster's dictionary, as now published, I think, has decidedly the advantage over Worcester's in the analytic clearness, the accuracy and neatness of its definitions, in the nice philosophical discriminations of synonyms, and in the graphic significance and beauty of the pictorial illustrations. It seems to me that all these qualities are clearly obvious, even to the most hasty examination. In the orthography of the comparatively few words in regard to which they differ, I generally prefer Webster, as he follows more closely the analogies of the language, anticipating usage, which is every day gaining ground, rather than adhering to that which is passing away. In copiousness of vocabulary, they appear to me to be about equal; at least, no one can now pretend that the vocabulary of Worcester is more

select and pure than that of Webster."

## THE DISHONESTY OF ENGLISH TRADERS AND MANUFACTURERS.

On the 18th of January last, a meeting was held at the Chamber of Commerce, in the important town of Huddersfield (England), when the subject discussed was the practice prevailing in many of the largest firms in England of falsely marking or labeling goods for sale, with a view of preventing the dishonest practice. Mr. Charles Brook, one of the partners in a manufacturing firm in Huddersfield, read a long statement, detailing the nature and extent of the practice under discussion, and made some significant revelations. We briefly give some of the facts related by Mr. Brook.

For many years his firm was manufacturing sewing