

Scientific American.

MUNN & COMPANY, Editors and Proprietors.

PUBLISHED WEEKLY

At No. 37 Park-row (Park Building), New York.

O. D. MUNN, S. H. WALES, A. E. BEACH.

TERMS.—Two Dollars per annum.—One Dollar in advance, and the remainder in six months.

Single copies of the paper are on sale at the office of publication, and at all the periodical stores in the United States and Canada.

Sampson Low, Son & Co., the American Booksellers, No. 47 Ludgate Hill, London, England, are the British Agents to receive subscriptions for the SCIENTIFIC AMERICAN.

See Prospectus on last page. No Traveling Agents employed.

VOL. II., No. 16.[NEW SERIES.]...Fifteenth Year.

NEW YORK, SATURDAY, APRIL 14, 1860.

FIRE-ESCAPES.



THE burning of a number of human beings which has been repeatedly done within the last few months, has sent a thrill of horror through the community, and has completely aroused our citizens to a determination to adopt the most effectual means possible to prevent the recurrence of such events in future. In carrying out this resolution several kinds of apparatus are offered for our choice, three of which have been recently pressed

upon the attention of the public. One of these consists of the several modifications of the extension ladder, to which class belongs the apparatus in use in London, of which we present an engraving on another page.

Another device which has been attached to the top of the City Hall and exhibited to crowds in the Park, is a canvas tube stretched from the top of the building at an inclination to the ground so that persons might slide down through it with ease and safety. This of course requires some accessory apparatus for raising its upper end and attaching it to the building, and is objectionable on account of its great weight and its liability to take fire from the flames issuing from the windows.

But the system which has attracted the most favorable notice is that exhibited by some of our German citizens and which has been in practical use in Germany for several years. It consists of a light ladder about 15 feet in length, with stout iron hooks at the upper end, of sufficient size to catch over the window sill. The fireman hooks the ladder to the sill of the window above him, mounts and enters the window, then draws up the ladder and hooks it to the window of the next story above, thus ascending one story at a time, and reaching the top of the highest building, simply by means of one short ladder. He carries at his belt on one side a small axe for prying open doors &c., and on the other a coil of strong cord, of the very best material, about $\frac{3}{4}$ of an inch in diameter, and 90 feet in length. With this cord he can draw up one end of a canvas tube if needed, or he can let down any person, or even, in a case of emergency, use it for his own escape. It is impossible to conceive of any apparatus cheaper, lighter or more portable than this. One man takes it on his shoulder and runs with it through the empty streets or makes his way through a crowd almost as fast as he could without any incumbrance, while the exceedingly low cost would enable these ladders to be provided in almost unlimited numbers, so that some one of them might be in the immediate vicinity of every house in the city. Each fire-engine and hose carriage could be furnished with one or more, and the firemen trained to their use.

Let, however, the several plans proposed be fully examined, not, by any means, neglecting the numerous modifications of the extension ladder. We understand that one of these, 80 feet high, is in practical operation in Albany, and is giving very complete satisfaction. We shall next week present to our readers an engraving of

one of the best of this class of fire-escapes, with a full description.

Not less important than the selection of the best apparatus is the adoption of the best plan for the organization and support of the establishment. In France, of course, this matter, as well as almost all others, is under the control of the government, which likes to have its finger in every pie. The Frenchman is taught to look to the police for directions almost how to tie up his children's shoes and wipe their noses. But all people who have acquired that highest and noblest of all arts—the art of self-government, have discovered that nearly all affairs can be more efficiently and more economically conducted by a compact and intelligent voluntary association, having but one object of attention, than they can by the clumsy machinery of the national or municipal organizations. All experience teaches us that if we leave this matter to our city government, it will probably be some two or three years before they will come to a decision, after which it will take at least several months more to go through all the processes of advertising for contracts, and getting the thing into practical operation. But a society might be organized, the funds raised, the apparatus constructed and properly distributed, all ready for use, in the space of one month.

It is creditable to the humanity of the city that such a movement has been begun, and we have no doubt it will commend itself to the favor and support of the community. Such reasonable aid as the association may ask of the city government, should certainly, under proper guarantees, be promptly conceded, but we hope no delay will take place for the sake of *awaiting* this action of our municipal authorities.

JUDGE MASON IN WASHINGTON.—People come from a distance often to consult Judge Mason on matters of infringement, interference, appeal, extension, &c.; and they are disappointed to learn that he is temporarily absent, and that they cannot see him. For ten days past, Judge Mason has been in Washington, conducting one of the most important extension cases ever brought before the Patent Office. On the 16th inst., he will return to this office again, and be prepared to consult with inventors and patentees as usual. All communications on professional business should be addressed to MUNN & Co., No. 37 Park-row, New York.

NOVEL AND EXCITING SPORT.

The breaking-up of the ice on the North river has brought to an end, for this season, a series of the most exhilarating of all winter sports, which have kept the inhabitants of the several towns and villages along the Hudson, from Cold Spring to Troy, in a state of merry excitement during the past winter. The idea of sailing on the ice by the force of the wind has probably occurred to hundreds of people, and many attempts have been made to reduce it to practice, but it has been reserved to the inhabitants of this State to produce a really practical ice boat, and, as in many other things, the reality surpasses the most extravagant anticipations which had been formed in regard to it.

The speed of the ice boats is the thing which is especially astonishing, and which makes this sport so intensely exciting. With a strong breeze they glide with the velocity of a dried leaf over the ice, sweeping past the express trains of the Hudson River Railroad, literally on the wings of the wind. They are also found to be far more completely under the control of the helmsman than any water boat, a change of one-sixteenth of an inch in the position of the rudder altering at once the direction of the boat, and being sufficient even, when close hauled, to shake the wind out of the sails.

The practical ice boat is of triangular form, with one angle at the stern and one side forward, and is fitted with outriggers which are attached to a plank laid across the bow. These outriggers are runners, and the boat rests upon them and upon the rudder, which is also a runner. If the boat is 12 feet long, the runners are placed 12 feet apart. A light platform rests upon these three supports, and thus the whole thing is cheap and simple. A sloop rig is adopted; the sailor reclines comfortably at the stern, enveloped in furs, with or without the company of one or more fair companions, and sails swiftly along in the fastest vehicle that was ever yet under the control of a single rider.

We are told, by Mr. Stevens, of Poughkeepsie, that there has been the greatest rivalry all along the river in

getting the fastest boats, and that thousands have gathered on the banks to witness the gliding, turning and swallow-like sweeping of these sailors of the frozen sea. No doubt another winter will witness the spread of this rare and rollicking sport all through the northern portions of the country; and gentlemen who wish to keep up with the times will do well to have their boats ready in the Fall, to lead off the fashionable fun in their respective neighborhoods.

PRESENTATION OF A GOLD SNUFF-BOX TO AN INVENTOR.

We have just seen a magnificent gold snuff-box which was presented by the Boston and Lowell and Nashua and Lowell Railroad Company to the Hon. Henry Rutan, of Cobourg, Canada West, as a recognition of the value of his plan for ventilating cars. Judging from its color, we suppose it is 24 carats fine; that is, absolutely pure gold. It is elegantly modeled and engraved, and cost about \$350.

The one intolerable annoyance of railroad traveling in dry weather is the dust. It rolls up in smothering and suffocating clouds, not only loading the eyes and mouth and nose and ears of the passenger, but penetrating every part of his clothing, and completely covering him from head to foot. We know of no greater boon that could be bestowed on the whole traveling community than the complete abatement of this insufferable nuisance; and we are not surprised at the readiness of our railroad companies to recognize the value of a successful invention for this purpose.

Mr. Rutan has been engaged several years in investigating the subject of ventilation, and has devised a plan which is stated to render cars perfectly free from dust in the summer, and to supply them abundantly with pure air in the winter. He takes the air in at the top of the car, carries it around the sides and under the bottom, where it passes over a shallow pan of water, into which it deposits its dust. It then rises through pillars in the car, and is distributed above the heads of the passengers, passing out in the rear, and forming a gentle current, clean, cool and refreshing.

We are glad to find that some of our railroad companies are abandoning the "old fogy" conservatism which has caused them to turn the "cold shoulder" to the inventors of all improvements in their line; and we trust that travelers are not much longer to be smothered in the dust which they have been condemned to breathe ever since the introduction of railroads.

OUR CORRESPONDENCE.

We invite attention to the varied character of the correspondence in the present number of our paper, contributed by all classes of minds—from the tyro of eleven years, making his first timid essay in experimental philosophy, to the veteran and illustrious masters of every science. We desire to encourage this correspondence on all the broad fields embraced in science and the mechanic arts, making our journal more and more the medium of intercommunication between all the varieties of intellects throughout the land; not doubting that, in this way, we shall best adapt it to the multifarious tastes to be found among our thousands of readers.

HOWE'S SEWING MACHINE TRIAL.

In our correction (on page 224) of a notice of the above trial we stated that the court ordered an injunction against the defendants. We should have added that the court ordered the parties to be enjoined unless they gave bonds, and that one of the defendants—Mr. Williams—entered the required security; so that no injunction was placed upon him. His case will come up for full trial hereafter.

THE RENOWNED GENERAL TOM THUMB!—With our family we spent an evening last week, very pleasantly, at one of this little gentleman's levees, which he nightly holds at Hope Chapel, No. 720 Broadway, in this city. We first saw the General fifteen years ago, when we thought him one of the greatest wonders of the age. Since that time he has traveled over the continent of Europe twice, and has been exhibited in every city and almost every town in the Union. The marks of age begin to creep upon the General's fair face, arising probably from his almost constant exposure in traveling by sea and land. Charles C. Stratton is the General's real name, and to his first manager—P. T. Barnum—he is indebted, we believe, for his professional name. The