

# Scientific American.

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.

VOLUME IX.]

NEW-YORK DECEMBER 10, 1853.

[NUMBER 13.

THE  
SCIENTIFIC AMERICAN,  
PUBLISHED WEEKLY.

At 128 Fulton street, N. Y. (Sun Buildings.)

BY MUNN & CO.

Agents.  
Hotchkiss & Co., Boston. Dexter & Bro. New York  
Stokes & Bro., Philadelphia. B. Dawson, Montreal, C.E.  
Cook, Kinney & Co., San Francisco. M. Boulemet, Mobile, Ala.  
Le Count & Strong, San Fran. E. W. Wiley, New Orleans  
Avery Bellford & Co., London. E. G. Fuller, Halifax, N.S.  
S. G. Courtenay, Charleston. M. M. Gardissal & Co., Paris.  
S. W. Pease, Cincinnati, O.

Responsible Agents may also be found in all the principal cities and towns in the United States.

TERMS—\$3 a-year:—\$1 in advance and the remain der in six months.

## Broadway Railroad.

Judging from the multiplicity of communications received by us relative to elevated railroads for Broadway, we should think there were in some quarters a lively appreciation of the advantage to be derived from the accomplishment of such a scheme. The subject is to us becoming somewhat *dry*, but we perceive that the company holding the grant from the Common Council, for a railroad on the level of the street, are not going to give it up, although an injunction has been pronounced upon them, by the Supreme Court. They are now endeavoring to carry out their purpose by an organization under the general railroad law. The Harlem Company are endeavoring to anticipate them by a road through Crosby, (a street adjoining and parallel with Broadway.) We have received so many communications on this subject, that we are obliged to decline publishing any of them.

## The "Great Republic."

The mammoth clipper, "Great Republic" arrived in our harbor last week. As she was brought in alongside of some of our first class vessels, they seemed dwindled to the size of sloops. The model and construction do credit to her builder. If she should have favorable winds on her first trip, we should not be surprised to see her making extraordinary time. She has on board a steam engine for loading and discharging cargo, hoisting sails, pumping, &c., and the long boat is fitted with a propeller, so that in time of need, the engine can be placed on board of it, and save the crew from labor at the oars.

The cabins are fitted up in superb style, equal to our ocean steamers; there are accommodations in them for about fifty passengers. Her registered tonnage is 4,500 tons, not 4,000 tons, as stated a few weeks since.

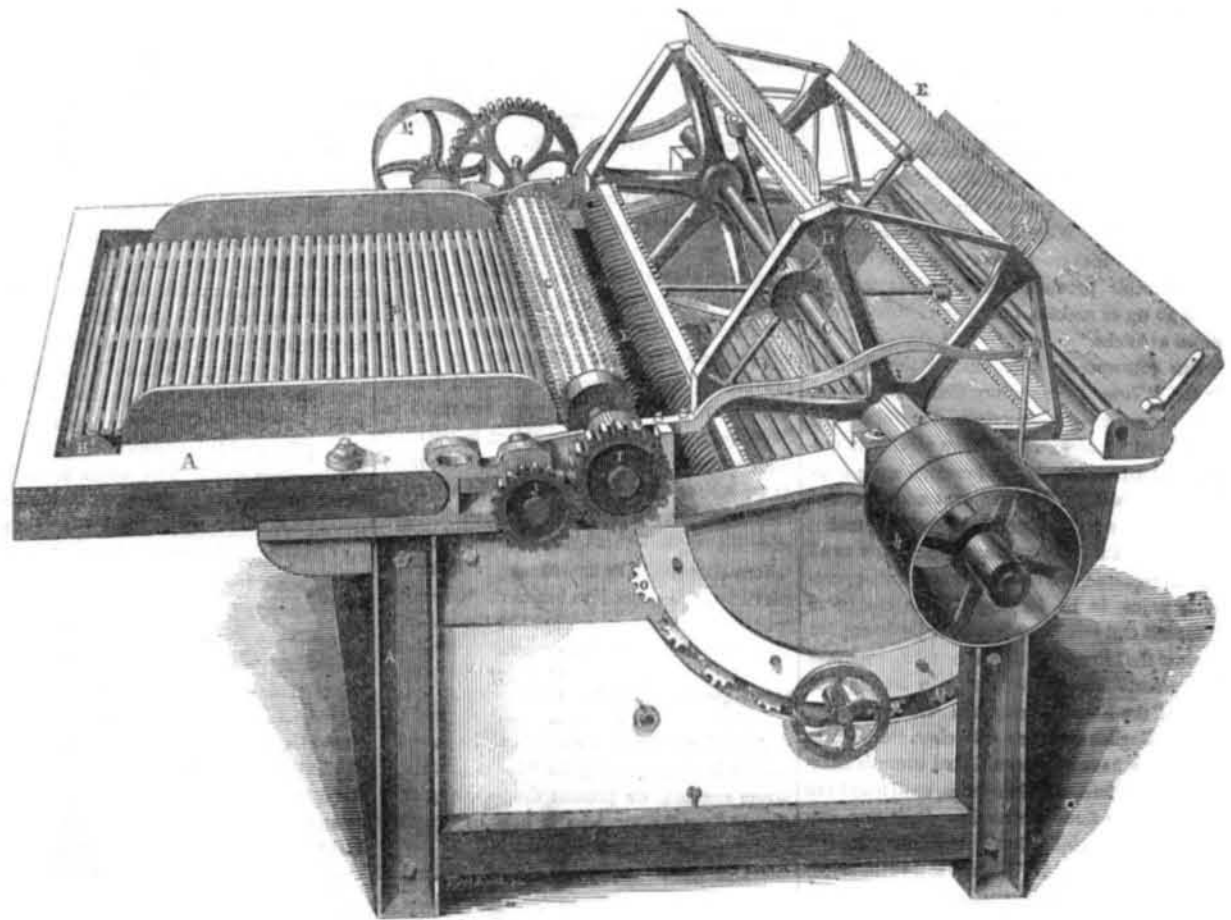
## Steamer Prize Model.

The Commissioners of Birkenhead, England, have announced a premium of £100, for the best model of an iron steamboat for a ferry. The steamer to be constructed to steer from both ends, and must not exceed 130 feet in length over all, and her extreme draught of water, with engines, &c., on board, must not exceed 5 feet 6 inches. The points chiefly to be regarded by the modellers will be the strength and speed of the vessel, the convenience of the passengers, as far as it can be secured, in all weathers, the carrying capacity of the boat, which must not be less than 600 passengers, according to the measurement laid down by the Board of Trade—viz., three square feet clear space to each.

Professor Agassiz has relinquished his connection with the Charleston College in South Carolina, and is now engaged for twenty weeks annually in the service of the Massachusetts Board of Education.

The manufacture of portable iron edifices is progressing in Belgium. A church of cast-iron is being constructed at Charleroi, which will be removed to Cairo, the place for which it is destined, as soon as completed.

## KELLOGG'S PATENT WOOL PICKER.



The annexed engraving is a perspective view of Kellogg's Wool and Cotton Picker, which is on exhibition at the Crystal Palace. As will be seen, it differs materially from any other in use. A is the frame of the machine; B is a fast and loose pulley on C, the principle shaft of the machine, this pulley derives its motion from the propelling power; D is one of the arms of the shaft, C, to which are secured the hooked teeth, E E; F is one of a series of plain iron rollers, in the bottom of the frame, upon the ends of which are the pinions, O O, one-half of the rollers having pinions at one side of the frame and the alternate rollers having pinions at the opposite side of the frame; G is one of two hooked feed rollers, and H is the endless plat-

form, on which the wool is fed in; I is a wheel upon the end of the lower feed roller gearing with J, a pinion on the end of the shaft propelling the endless apron; K is a wheel on the shaft of G, which is propelled by the driver, L, on the same shaft with J; M is a pulley which takes its motion from a small one on the end of C; N is a pulley receiving its motion from one by the side of J, and communicating motion to the pinions, O O. The upper feed roller has its bearings in the crooked levers shown in the engraving, to the opposite ends of which weights are attached, so that when the feed rollers are likely to become choked, the upper one may rise and thus relieve them.

When the machine is in operation, the wool

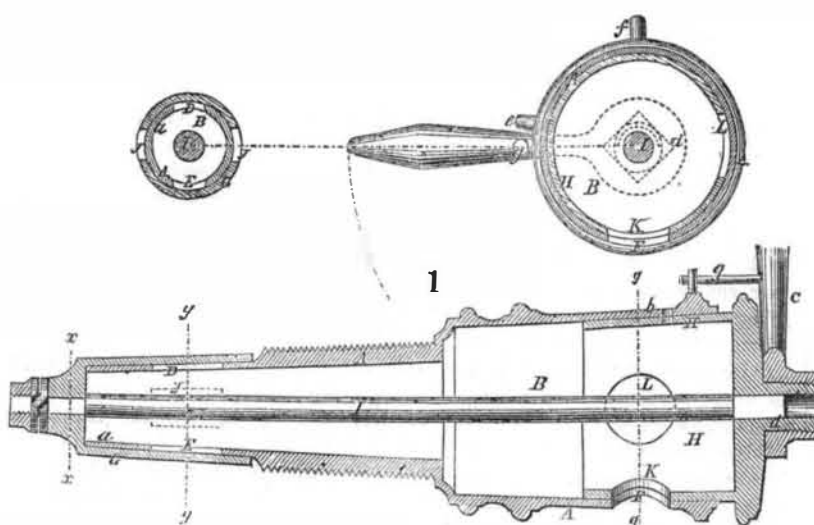
or cotton is laid on the feeding platform, A; it is by this carried between the rollers which, having an unequal motion, tear it apart, and it is then taken from them by the hooked teeth, E E. As it is carried downward by them it falls upon the plain rollers at F, and these having a motion in opposite directions, the dirt is shaken through them, while the wool is carried to the other end of the machine, whence it is taken away by an attendant. We can recommend it as a durable and efficient implement.

For further information can be obtained from E. Kellogg & Co., Pine Meadows, Conn., or of their agents, Andrews & Jessup, 70 Pine street, New York.

## SELF-MEASURING SAFETY FAUCET.

FIGURE 2.

FIGURE 3.



The annexed engravings represent three sectional views of an improved faucet, on which J. B. Larwell and J. Cross have applied for a patent. Figure 1 is a longitudinal section; figure 2 is a cross section through the line, y y, and figure 3 is a cross section through g g. A is the portion of the faucet which screws into

the cask; B is a part of the cavity which extends throughout the whole length of the faucet, and is made of a given capacity, say one pint; C is the handle, having in it the pin, g, which serves as a stop, this handle is screwed firmly on the part, d, of the faucet, which moves with it, as does also the rod, I, this rod

being square where it fits into d. This rod is attached in a similar manner to the other extremity of the part G. Now if it is wished to use this as a measuring faucet, the handle is set on between the pins, e f, figure 3. It is then so arranged that when it is turned, so that the apertures, K F, will be opposite each other, by means of the rod, I, the apertures at the other end of the faucet, which admit the liquid into the cavity, will close, so that an amount of liquor equal to the capacity of the faucet, will be discharged, and no more; if the handle be then turned back, the aperture, E, will close, and the others open, so that the faucet will be filled. But if it be wished to use this as a constant faucet to empty the barrel, the position of the handle, and the part d H, of the faucet, is changed upon the rod, by placing the handle as seen in figure 3, and a constant stream is the result.

The advantages of this faucet are sufficiently obvious. It affords a quick mode of measuring liquids. It prevents the waste of liquids by the carelessness of attendants in leaving the faucet open. It prevents flame from being communicated to the interior of the barrel or cask in the case of combustible liquids. It is certainly a very ingenious and useful invention. For further information apply to the assignee, J. B. Larwell, Esq., Bucyrus, Crawford Co., Ohio.