

Scientific American.

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

VOLUME 6.]

NEW-YORK, JUNE 14, 1851.

[NUMBER 39.]

THE
Scientific American,
CIRCULATION 16,000.

PUBLISHED WEEKLY

At 128 Fulton, street, N. Y., (Sun Building,) and
13 Court street, Boston, Mass.

BY MUNN & COMPANY,

The Principal Office being at New York.

A. T. Hothkiss, Boston.
Dexter & Bro., New York City.
Weld & Co., New Orleans.
Stokes & Bro., Philadelphia.
Conke & LeCount, San Francisco, Cal.
Courtenay & Wienges, Charleston, S. C.
John Carruthers, Savannah, Ga.
Barlow, Payne & Parken, London.
M. M. Gardissal & Co. Paris.

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

TERMS---\$2 a year---\$1 in advance and the
remainder in 6 months.

Rail-Road News.

Railroad Accidents in England.

The usual half-yearly document relative to railway accidents has been printed by order of the House of Commons. In the half year ending the 31st of December last, there were 123 persons killed and 188 injured. Nine passengers were killed and 38 injured from causes beyond their own control, 11 passengers killed and 9 injured owing to their own misconduct or want of caution; 40 servants of companies or of contractors killed and 11 injured owing to their own misconduct or want of caution; 26 trespassers and other persons, neither passengers nor servants of the company, killed and 5 injured by crossing or walking on Railways; 1 suicide. The number of passengers conveyed during the half year amounted to 41,087,919. The length of Railway opened on the 30th of June last was 6,308 miles, and on the 31st of December the length was 6,621 miles, making an increase of 313 miles.

Plank Roads in New York.

The following table shows the number of Plank Roads in the State of New York:

| Name. | Opened. | Miles. |
|----------------------------|---------|--------|
| Great Western Albany, | 1849 | 11 |
| Fonda and Garoga, | 1845 | 18 |
| Fultonville and Johnstown, | 1849 | 5 |
| Rome and Utica, | 1848 | 15 |
| Utica and Burlington, | 1849 | 5½ |
| Rome and Oswego, | 1847 | 60 |
| Rome and Western, | 1849 | 11 |
| Rome and Taberg, | 1849 | 9 |
| Rome and Madison, | 1849 | 22 |
| Salina and Central, | 1847 | 16 |
| Syracuse and Manlius, | 1844 | 8 |
| Syracuse and Bridgeport, | 1849 | 12 |
| Syracuse and Oswego, | 1840 | 32 |
| Syracuse and Liverpool, | 1849 | 11 |
| Syracuse and Tully, | 1848 | 25 |
| Split Rock Head, | — | — |
| Hannibal and Oswego, | 1848 | 11 |
| Hannibal and Oswego, | 1849 | 5 |

Total 276½ miles. The tolls which the farmers pay are not taxes, in one sense of the term—they are saved in the larger loads they are enabled to draw, the greater speed at which they are enabled to travel, the wear and tear of harness gearing and animal strength; and, finally, if it were for nothing more, than the pleasure of riding on a smooth plank road in comparison with an old corderoy one, hard-hearted must be the man who would not pay for it.

Great Steamboat Running.

The steamboat Reindeer, running between this city and Albany, has oftentimes run at the rate of 25 miles per hour. She has run from Albany to New York in 7 hours 45 minutes, and made all the landings; she is allowed to be the fastest steamboat in the world.

The growth of larch, which, it is said, is as lasting as the English oak, is much recommended by the "Builder."

AQUATIC VELOCIMETER---SHIPS' WAY MEASURER.

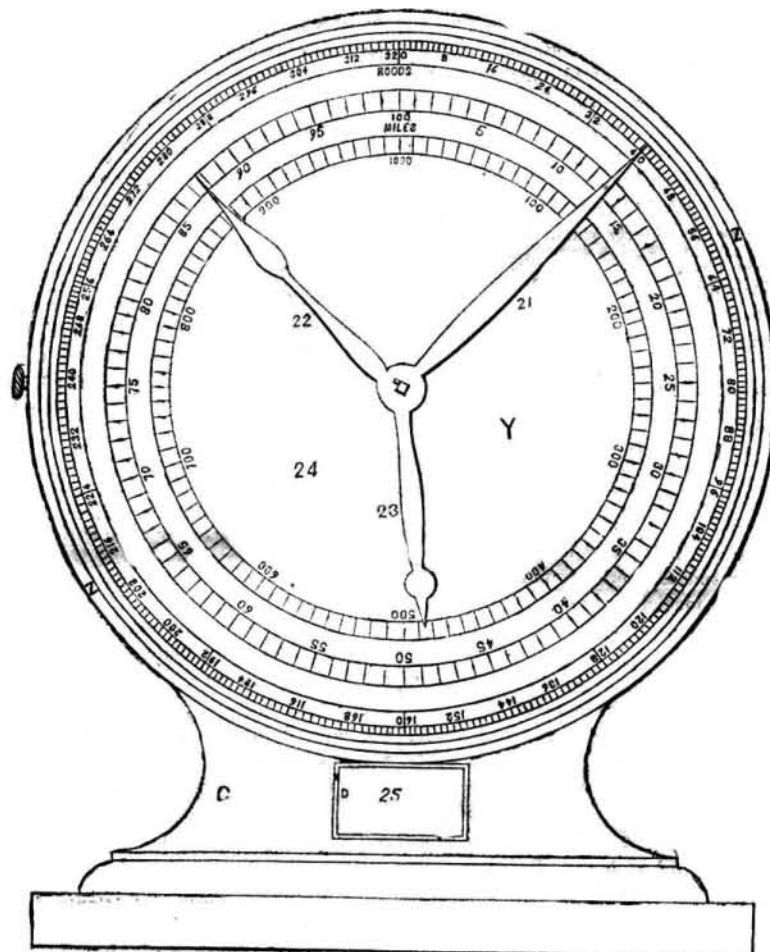
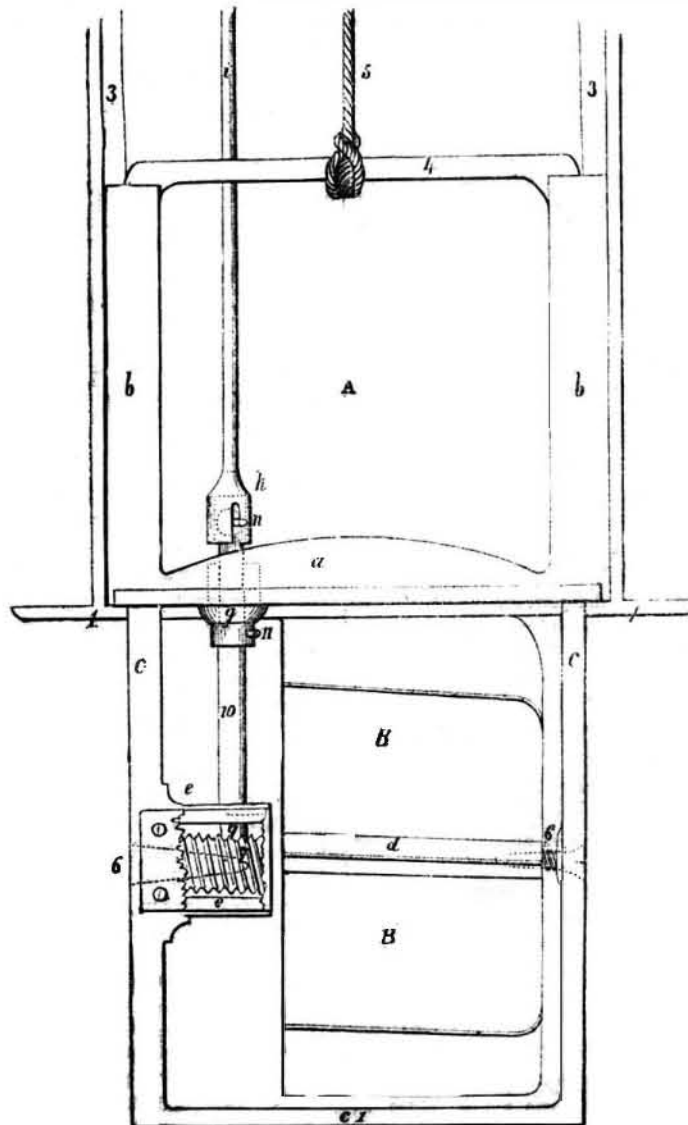


Fig. 1.



The accompanying engravings illustrate the patent granted to Mr. John R. St. John of this city, patented on the 13th of last month, and assigned to the "Trustees of the St. John's Compass and Log Manufacturing Co.," composed of James Renwick, L.L.D., Geo. F. Barnard, and Edward B. St. John, New York city. As there are a number of engravings, and as the specification is a long one, we are obliged to occupy more than one page with the subject.

The object of the invention is to denote the speed of a ship through the water, and to register the distance it has run.

Figure 1 is an elevation of the Velocimeter wheel, and a section of the pipe enclosing the connection of the recording clock-work, the registering face of which is also shown. Figure 2 is a section of the clock-work, and a side elevation of the wheel. These two figures include the connection from the Velocimeter wheel to the clock-work. The connection with the registering apparatus, and the wheel that is actuated by the water below, is represented in broken lines, so as to show the whole machinery, only leaving out, to shorten the engravings, the parts of the tube that do not require to be exhibited. Figure 2 is placed on another page along with figure 3, a front elevation of the clock-work with the disc and recording face removed. The same letters refer to like parts.

The improvements comprise—1st, the means of fixing the mechanism in place for use, and detaching the same easily for examination or repair, and for refixing again without reference to the situation of the ship. 2nd, the certainty of denoting and registering the number of miles the ship has run through the water. 3rd, the means of detaching the working parts from the Register at pleasure, so that the latter shall not operate when the ship is at anchor in a tide way. 4th, fitting the acting parts, so that they are protected from the effects of any vertical motion of the ship or water.

A is a tube, commencing from the deck or cabin, as may be desired; it is placed forward of the run, and terminates with a water-tight joint on the outside of the ship's bottom; 1 is a flange which is a seat for the circular metal plate, a, which prevents any indirect current passing into or out of the tube, A; it has an upper frame b b, with grooves, 2 2, (fig. 2), which receive ribs, 3 3, on each side. In the whole length of the tube, these ribs and grooves are set fore and aft of the ship, and serve to guide the apparatus into or out of the proper place for work. The cross piece, 5, on the frame, b b, has a rope 5, by which the whole frame is lowered and raised at pleasure. Below the orifice, the plate, a, has two hanging standards, c c, and a foot piece, c'; these and the frames, b b, are all made solid with the plate.

Between the standards, c c, two screw centres, 6 6 carry the ends of the principal shaft or arbor, d, on which are set eight paddle-blades, B B; these are placed on the shaft, d, not parallel with the axis, but at such an angle of deflection, in proportion to their length, that a progress of four feet, in a direct line through the water, shall give the blades, B, exactly one complete rotation and no more. At e e two flanges, cast solid with one of the standards, c, form the top and bottom of a box; this is enclosed with a strip of metal screwed on the sides of the standard, and has a hole to pass the shaft, d, which, within the box is fitted as a single thread worm wheel, 7, that gears into a corresponding tooth-wheel, f, with forty teeth set on a pivot stepped arbor, 8, in the bottom of the box, with a square,

(Continued on the Fourth Page.)