

# Scientific American.

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

VOLUME VII.]

NEW-YORK, MAY 15, 1852.

[NUMBER 35.

THE  
Scientific American,  
CIRCULATION 16,000.

PUBLISHED WEEKLY  
At 128 Fulton street, N. Y., (Sun Buildings),  
BY MUNN & COMPANY.

Hotchkiss & Co., Boston.  
Dexter & Bro., New York City.  
Stokes & Bro., Philadelphia.  
Jno. Thomson, Cincinnati, O.  
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## RAIL-ROAD NEWS.

### The Panama Railroad.

The charter granted by the Granadian Government to this road is for 49 years, and 30 thousand acres of land are given to assist in its construction. The only privilege of reserve is that of carrying men and munitions of war.

The Mexican Government have refused to grant a complete charter for a road through the Isthmus of Tehuantepec. This route, if obtained by a United States company, would be shorter than by the Isthmus of Panama, for passengers going to California. In our opinion, this route is only delayed for a few years in coming under the control of the United States; in the course of events, this may be calculated upon, we think, with certainty. The progress of Anglo-Saxon sway is towards the west, and is like a stream of lava, steady and resistless.

### Philadelphia and Oswego Railroad.

At a meeting of the Philadelphia Board of Trade, held lately, a report was made by a committee previously appointed to examine the subject, in favor of establishing and completing a continuous line of railroad from that city to Oswego. The object is to procure a share of the Lake trade, as well as that of central and western New York. The intention is probably to connect at Binghamton or Syracuse. A portion of the road being built, it is proposed to contribute \$200,000 in stock subscriptions for the completion of the remainder.—By this line of communication to Oswego and the Lake, the committee claim that it will bring Philadelphia nearer those commercial points than the city of New York is by the present route. A resolution approving of the project was adopted by the Board, and recommended to the favorable consideration of Philadelphians.

### Railway from St. Petersburg to Warsaw.

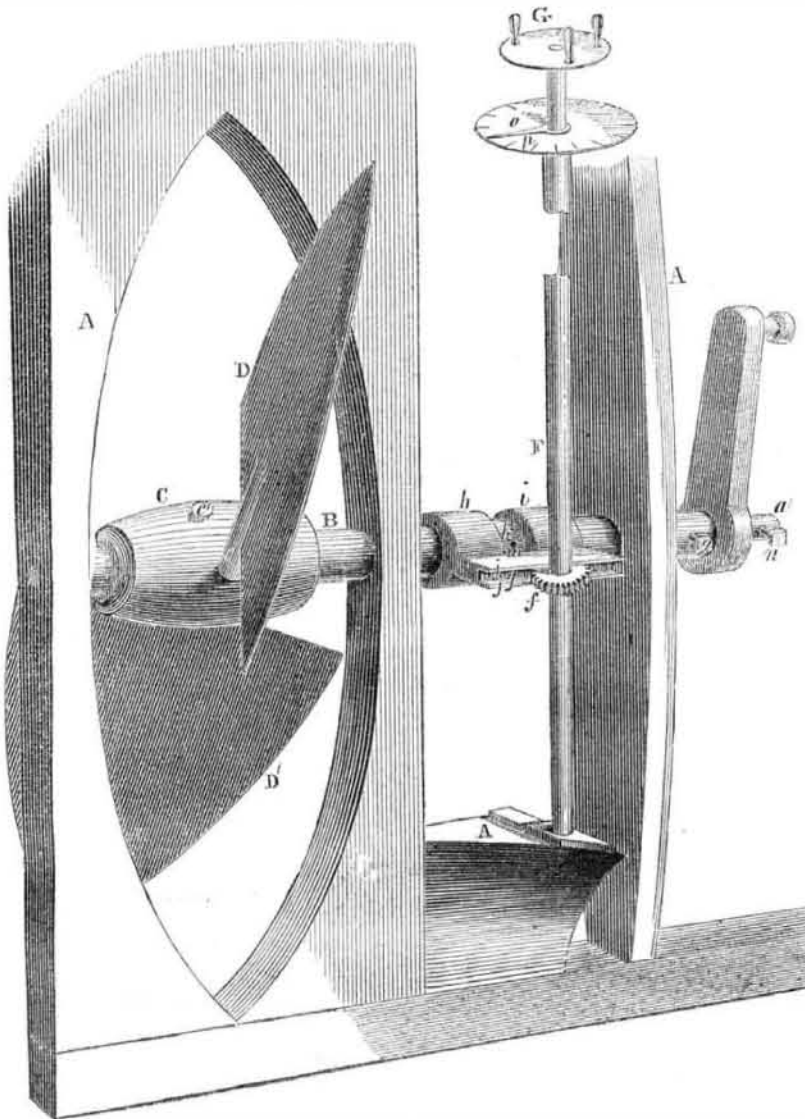
The works of the railway from St. Petersburg, Russia, to Warsaw, Poland, are being carried on with extraordinary activity. The number of workmen at present exceeds 10,000, and they work during part of the night. All the rails necessary for this immense line are to be delivered by the end of July, and the contracts for the supply of locomotives have just been signed.

The Prussian Government contemplate making a great reduction in the present duties on British iron, steel, and machinery of every description, either for railways, steamboats, or manufactories, which at present nearly prohibited by the high tariff imposed upon their entry.

### Silver in Bohemia.

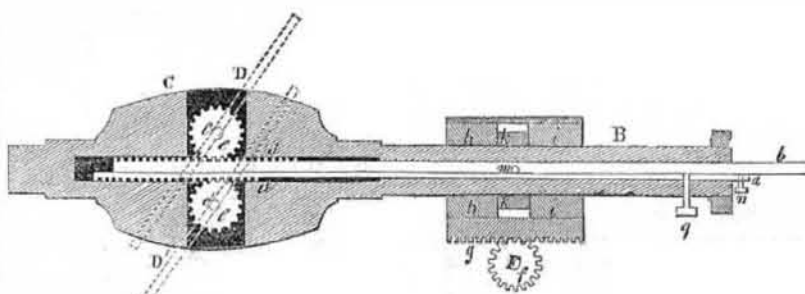
The silver mines discovered in 1850, in Bohemia, are reported to be so productive that the government has ordered the other mines, eleven in number, which have been abandoned for half a century, to be again worked, in hopes to find them similarly rich.

## IMPROVEMENT IN SCREW PROPELLERS.—Fig. 1.



The accompanying engravings are views of improvements in Screw Propellers, invented by Charles F. Brown, of Warren, Bristol Co., R. I., who has taken measures to secure a patent for the same. Figure 1 is a perspective view, showing the propeller, rudder, and part of the frame of a vessel at the stern, Fig. 2 is a horizontal section taken through the axis of the propeller. The same letters of reference indicate like parts. This invention relates more particularly to that description of screw propellers which has its blades adjustable in the hub, for the purpose of altering the pitch of the screw, and for bringing the blades to a position to offer no material resistance to the progress of the vessel when under sail. Another principle of the improvement consists in so operating one of the blades, that, when brought into a proper position, and the revolutions of the propeller stopped, it will act as a rudder, in case of the vessel's rudder being disabled, and it will therefore serve to steer the vessel when under sail.

Figure 2.



rod and the pivots, and where it is slotted from the outside to the centre bore, to allow the pinions to be inserted. The pinions are secured to the pivots, and the pivots are confined in the hub by the pinions or by other suitable means. If the rod, a b, be moved longitudinally, the rack, d, turns the pinions, e e, and by this means the blades, D D', are brought to any position either in line with or parallel to the axis of the screw, or at any pitch or inclination in either direction, so as to make a right or left hand screw; the pinions are gear-

ed with the rack so as to make each blade occupy the same position in relation to the axis of the shaft.

The rod, a b, is moved by a person on the deck of the vessel, as follows:—A vertical shaft, F, is placed in suitable bearings near one side of the propeller shaft—its upper end reaching above the deck and carrying a wheel, G. Opposite the propeller shaft it carries a toothed pinion, f, which gears into a rack, g; this rack is attached to a collar, h i, which fits to, but is capable of moving longitudinally on the propeller shaft. This collar is prevented from turning on the shaft by flanges, j j, above and below the rack, which embrace the pinion and keep the rack in gear. There is a recess in the collar, h i, which divides it into two parts, and in this recess is fitted another collar, k, fitting to the shaft, B, so as to be capable of sliding on it, but this collar is made to turn with the shaft by a pin, m, passing through it and the shaft, and through the rod, a b; a slot in the shaft allows the pin to move longitudinally. By turning the wheel, G, the pinion, f, is made to move the rack, g, longitudinally; and the collar, h i, moving with the rack, actuates the collar, k, while the pin, m, moving with the said collar, actuates the rod, a b, and causes the rack to turn the pinions, e e; this can be done either while the propeller is revolving or while it is stationary. A dial, O, is placed upon deck, and a pointer, p, on the shaft, F, indicates the position of the blades. This is seen on deck, and is a very convenient arrangement for setting the blades.

The rod, a b, so far as it has been described in its relation to the adjustment of the blades of the propeller, may be considered a single rod, but for the purpose of using the blade of the propeller as a rudder, it (the rod) is divided longitudinally into the two parts, a and b, which are held together by a screw bolt, n, at the front end, when the propeller is in use. The part a of the rod carries that part of the rack which gears with the pinion, which is on pivot c of the blade, D, and the part b carries that part of the rack gearing with the pinion on the pivot, c', of blade D'. The blade, D, is the one which is intended to serve for a rudder; and, for that reason, that portion, a, of the rod is made larger than the other, and for another reason, viz., when the other blade is not in use, it is necessary for the pin, m, to work clear of the other part, b. The first thing to be done to use the blade, D, for a rudder, is to bring the said blade, D, to a vertical position downwards, and this is done by stopping the engine in proper position. The blade, D' is then secured in its place above the other one by a set screw, q, which passes through the shaft, B, into a recess in the part, b, of the rod. The screw bolt, n, is then loosened from that part, a, of the rod, which is thus left free to be moved independently of the other part, b, of the rod, thus enabling one of the blades to be used for a rudder in an emergency.

The superiority of this mode of arranging and adjusting the blades, consists chiefly in the depth of bearing, or socket obtained for the pivots of the blades, by fitting them through the hub. The common arrangement is to make the pivots, c c, radial, and to turn them by bevel gearing—that is, in arrangements of adjustable blades; this prevents their being carried through, and requires the hub to be hollow to receive the gearing. This arrangement is therefore more compact, and far stronger, according to the dimensions of the parts. The steering improvement, in many cases, may be the means of saving a vessel, such as in a case like the Helena Sloman.

The workmen commenced laying the track of the Central Railroad on the 28th ult., and it was expected that it would be laid 20 miles in ten days, and thus allow the cars to come into Chicago.