

(No Model.)

O. CONGELTON.
CONSTRUCTION OF VESSELS.

No. 472,859.

Patented Apr. 12, 1892.

Fig. 1.

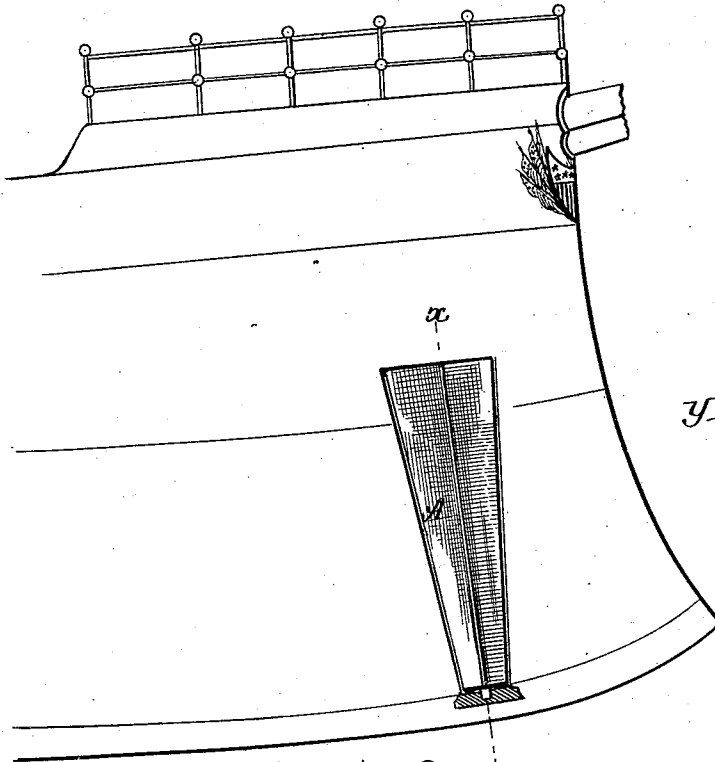


Fig. 3

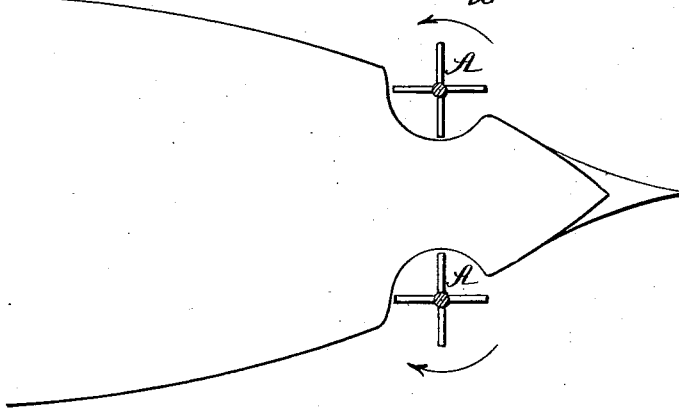
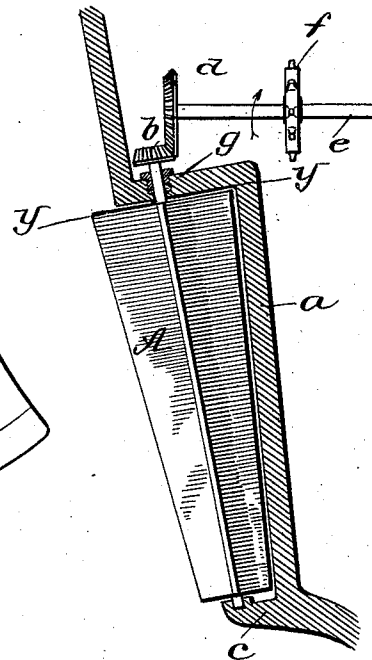


Fig. 2.



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CONSTRUCTION OF VESSELS.

SPECIFICATION forming part of Letters Patent No. 472,859, dated April 12, 1892.

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To all whom it may concern:

Be it known that I, OSBORN CONGELTON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in the Construction of Vessels, of which the following is a specification.

The object of my invention is to provide a construction of vessels that will render the propulsion and steering of the same through the water easier and increase the speed.

To this end it consists in combining with the bow of the vessel on each of its wedge-shaped faces an elongated propeller arranged about an axis slightly inclined to the vertical to suit the inclination of the side of the vessel, which propellers are arranged within corresponding recesses in the sides of the vessel, and are given by suitable connecting-gears a positive rotation, with their outer sides moving rearwardly, whereby a partial vacuum is formed at the bow by the displacement of the water outwardly and rearwardly, which serves both to propel the boat and also reduce the resistance and friction which it finds at the bow. The propellers being reversible and separately operated, furnish excellent steering-power.

Figure 1 is a side view of the bow of the vessel provided with my improvement. Fig. 2 is a vertical section of the same, taken through line *xx* of Fig. 1; and Fig. 3 is a horizontal section through line *yy* of Fig. 2.

At the bow of the boat in each face of its wedge-shaped end is formed a recess *a*, extending from a point near the keel to about the water-line. This recess is substantially semicircular in cross-section, but tapers to a larger size at the top. In this recess is arranged an elongated propeller-wheel *A*, extending from the water-line nearly to the keel, and also of tapering form to correspond to the recess. The axis of this propeller-wheel is nearly vertical, being somewhat inclined or canted outwardly at the top to correspond with the inclination of the side of the vessel. The axis or shaft of this propeller-wheel is stepped upon a bearing at its lower end, sustained upon an offset or bracket

c, strongly fastened to the hull of the vessel near the keel, and the upper end of the shaft passes through a stuffing-box in the horizontal portion *g* of the hull, and is provided with a gear-wheel *b*, by which it is driven. As shown, two bevel-gears *b d* transmit the motion to the propellers from a shaft *e*, which in turn is driven by a chain-wheel *f* and chain, extending back to the engine; but any other driving mechanism may be employed. When the two propellers are set in motion, they rotate in the direction of the arrows—*i. e.*, their outer portions move rearwardly—and the effect is to take and transfer the water from a point in front of the vessel, where it opposes the movement of the vessel, and throw it outwardly and rearwardly, thus forming a partial vacuum in front of the vessel and also positively propelling the vessel forward by leverage upon the water.

The object in making the propellers of larger diameter at the top is to give a more powerful and effective throw to the water at the point where the lateral displacement of the hull increases. If desired, the blades of the propeller may be set spirally, to produce an upward lift and also reduce churning or beating.

I am aware that propellers operating about a vertical axis are not new and that such a propeller has been arranged beneath the bottom of the vessel in a closed case, but not acting laterally upon the water at the wedge-faces of the bow, as in my invention.

• Having thus described my invention, what I claim as new is—

1. The combination, with the bow of a vessel having vertical recesses *a* in its wedge-faces, extending from the keel straight up to the water-line, of a pair of propellers set within said recesses upon upright axes parallel to the sides of the vessel, substantially as shown and described.

2. The combination of the hull of the vessel having at its bow the vertical recesses *a*, with horizontal portions *g*, the propellers having their shafts extended through said horizontal portions to the interior of the hull, and driving-gears transmitting motion to said

propellers, substantially as shown and described.

3. The combination, with the bow of a vessel having vertical recesses *a* in its wedge-
5 faces, of the elongated propeller A, made tapering or widest at its upper end and arranged in said recesses about an axis inclined

to the vertical, substantially as shown and described.

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Witnesses:

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