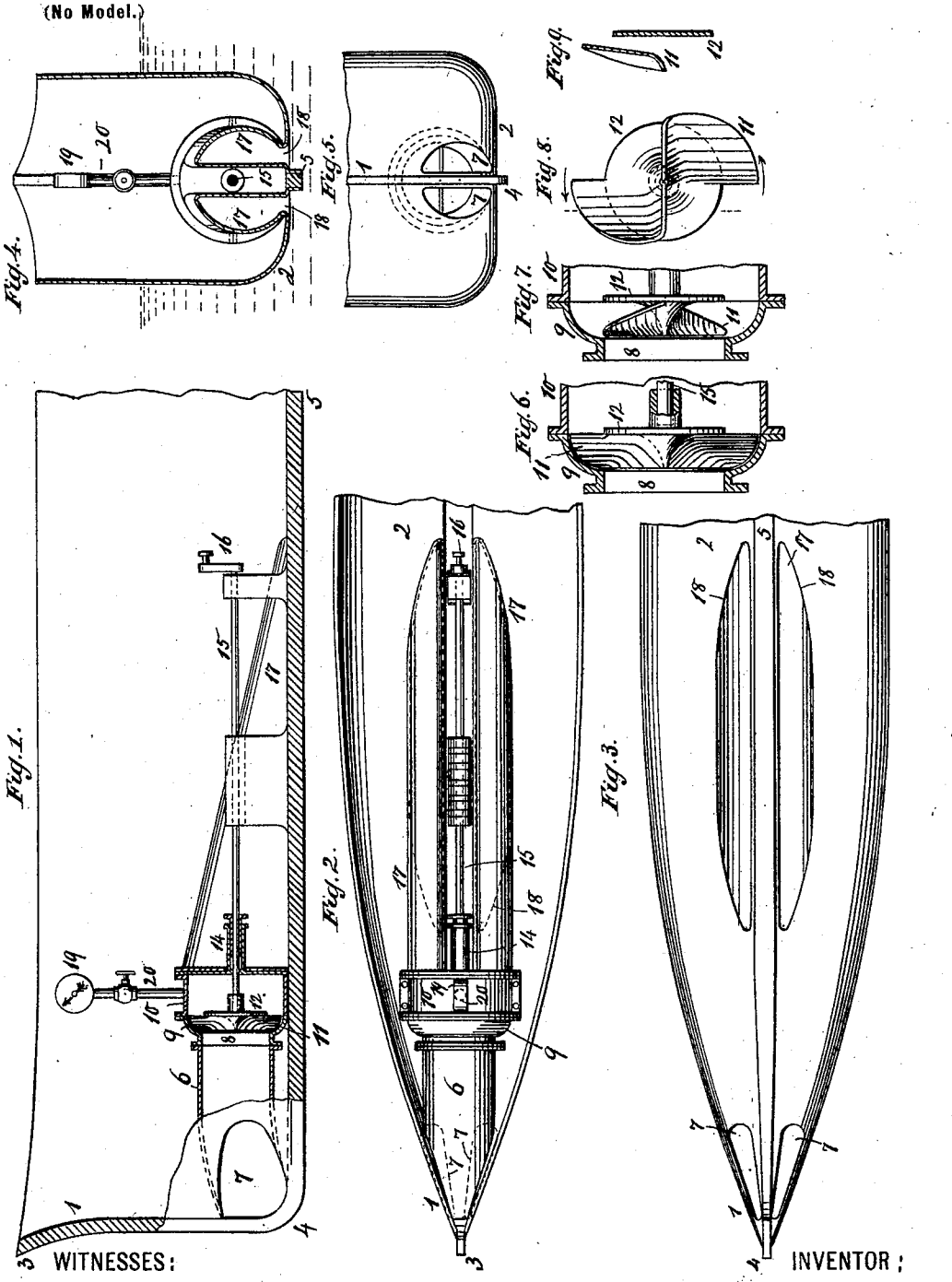
No. 633,171. Patented Sept. 19, 1899.

A. R. WEISZ.

SCREW PROPELLER.

(Application filed Oct. 3, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

ALBERT RICHARD WEISZ, OF NEW YORK, N. Y.

SCREW-PROPELLER.

SPECIFICATION forming part of Letters Patent No. 633,171, dated September 19, 1899.

Application filed October 3, 1898. Serial No. 692,511. (No model.)

To all whom it may concern:

Be it known that I, ALBERT RICHARD WEISZ, a citizen of the United States, residing at New York, (Brooklyn,) in the county of Kings and State of New York, have invented new and useful Improvements in Propellers, of which the following is a specification.

The object of this invention is to secure thorough efficiency or prevent loss of power of a propeller; and the invention resides in the novel features of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a longitudinal section of a way with a propeller. Fig. 2 is a plan view of Fig. 1. Fig. 3 is a bottom view of Fig. 1. Fig. 4 is a sectional view of outlets. Fig. 5 is a bow or front view of Fig. 1. Fig. 6 is a detail view of the propeller. Fig. 7 shows the propeller in a different position than in Fig. 6. Fig. 8 is a face view of the propeller. Fig. 9 is a sectional view of Fig. 8.

The ship is shown with bow 1, bottom 2, and keel 3 4 5 of usual construction. An inlet-tube, or, as it might be popularly called, "suction-tube," is shown at 6, having inlets 7 at the bow at each side of keel 4, so that the latter is not cut or broken. This tube 6 leads to an inlet 8 of hood 9, secured to or forming part of the way or force-tube 10. The propeller-blades, of any suitable construction, are shown at 11, the propeller having a disk 12. The way or force-tube 10 has a stuffing-box 14 for propeller-shaft 15, suitably actuated, as by a crank 16. This shaft has its journals or thrust-blocks arranged in any suitable way.

The shaft 15 is shown journaled between the two independent outlet-tubes 17, which together are at least equal in capacity or cross-section to way 10, so as to allow free outflow. The outlet-tubes 17 lead to the mouths or outlet-openings 18 at the bottom 2 at each side of keel 5, so that the latter remains intact.

The suction-inlet 8 is of smaller area than the diameter of way 10, and satisfactory results have been obtained in practice by having the area of opening 8 equal to one-half the surface or area or cross-section of way 10 and the disk 12 equal in diameter or area to inlet 8. The inlets 7, being located as deep as possible at the bow, are made to come below the water-line, and the outlet 17 ends at 18 at the bottom of the boat on each side of the keel, said mouth 18 preferably not extending back of the center of the boat.

The propeller being rotated in the proper direction the water is forced in at entrance 7 and passes out at mouth 18, the hood or curve 9 acting as a reflector or causing the water thrown centrifugally from the propeller to be forced or deflected back into the way 10 or into the line of force. The propeller being below the water-line will never run dry nor partly dry, and the points 7 and 18 being located forward at some distance from the rudder the latter is not interfered with, so as to be quite sensitive.

The pressure generated in way 10 by the screw forcing the water from inlet 8 toward mouth 18 can be gaged by a manometer 19, communicating with tube 20 and way 10. The inlets 7 could be covered by netting or the like to prevent the entrance of foreign matter, but should be large enough to allow free inflow into tube 6. The water being ejected downward through outlets 18 of tubes 17 at the bottom front part of the boat tends to raise the bow or ease the forward travel of the boat.

What I claim as new, and desire to secure by Letters Patent, is—

1. A propeller combined with a way or force-tube having a suction-inlet of smaller surface than the tube-section, said propeller having a disk arranged at its forward side in the force-tube and equal in surface to the surface of the suction-inlet substantially as described.

2. A propeller combined with a way or force-tube having a suction-inlet of smaller surface than the tube-section, said inlet being extended to the bow at each side of the keel without breaking the latter, and an outlet for the force-tube having mouths at the bottom at each side of the keel and clear of or alongside the latter to leave the same unbroken substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALBERT RICHARD WEISZ.

Witnesses:
W. C. HAUFF,
E. F. KASTENHUBER.