

No. 794,317.

PATENTED JULY 11, 1905.

J. SAUNDERS, JR.
PROPELLER FOR VESSELS.
APPLICATION FILED MAY 31, 1904.

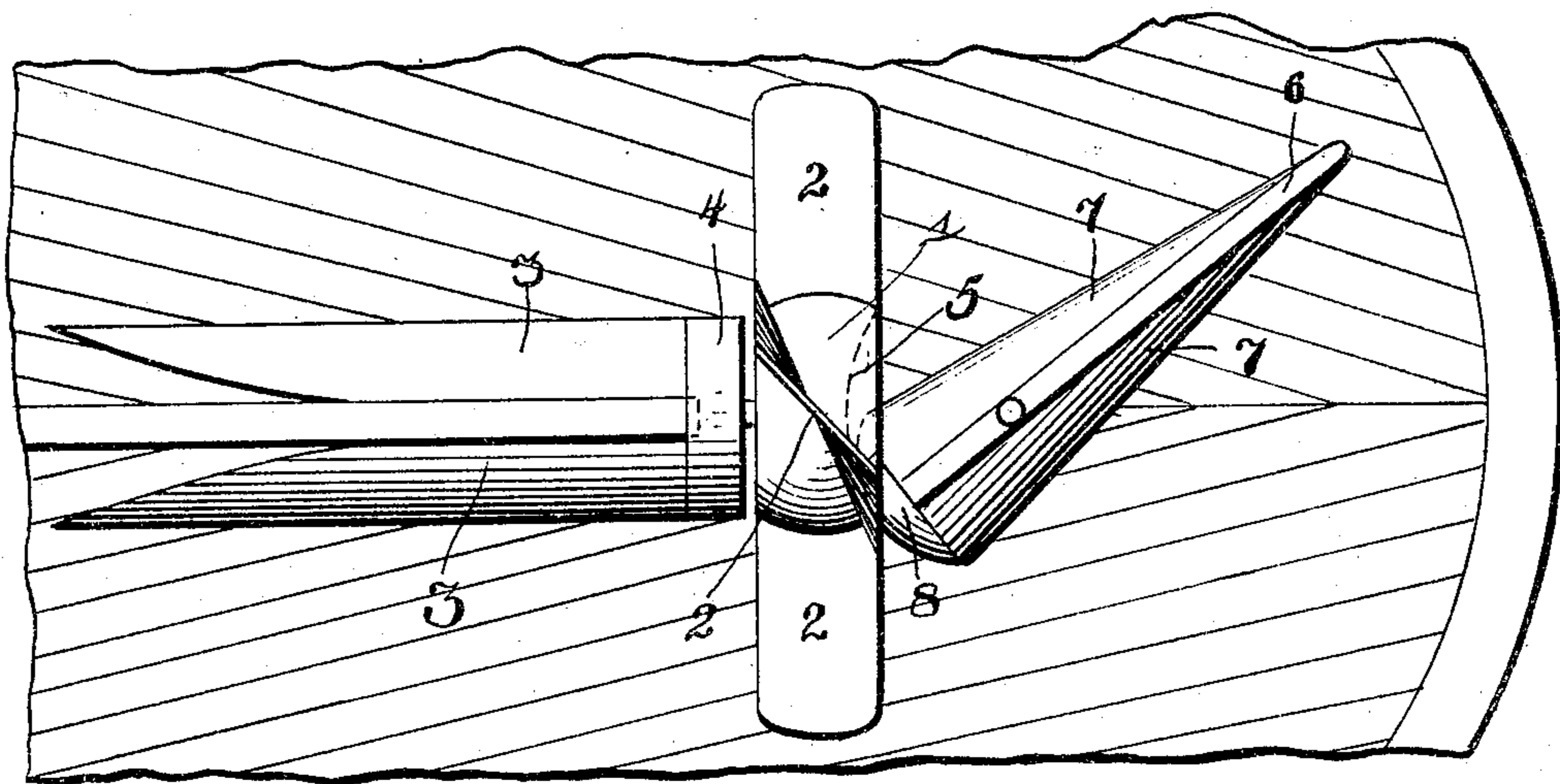
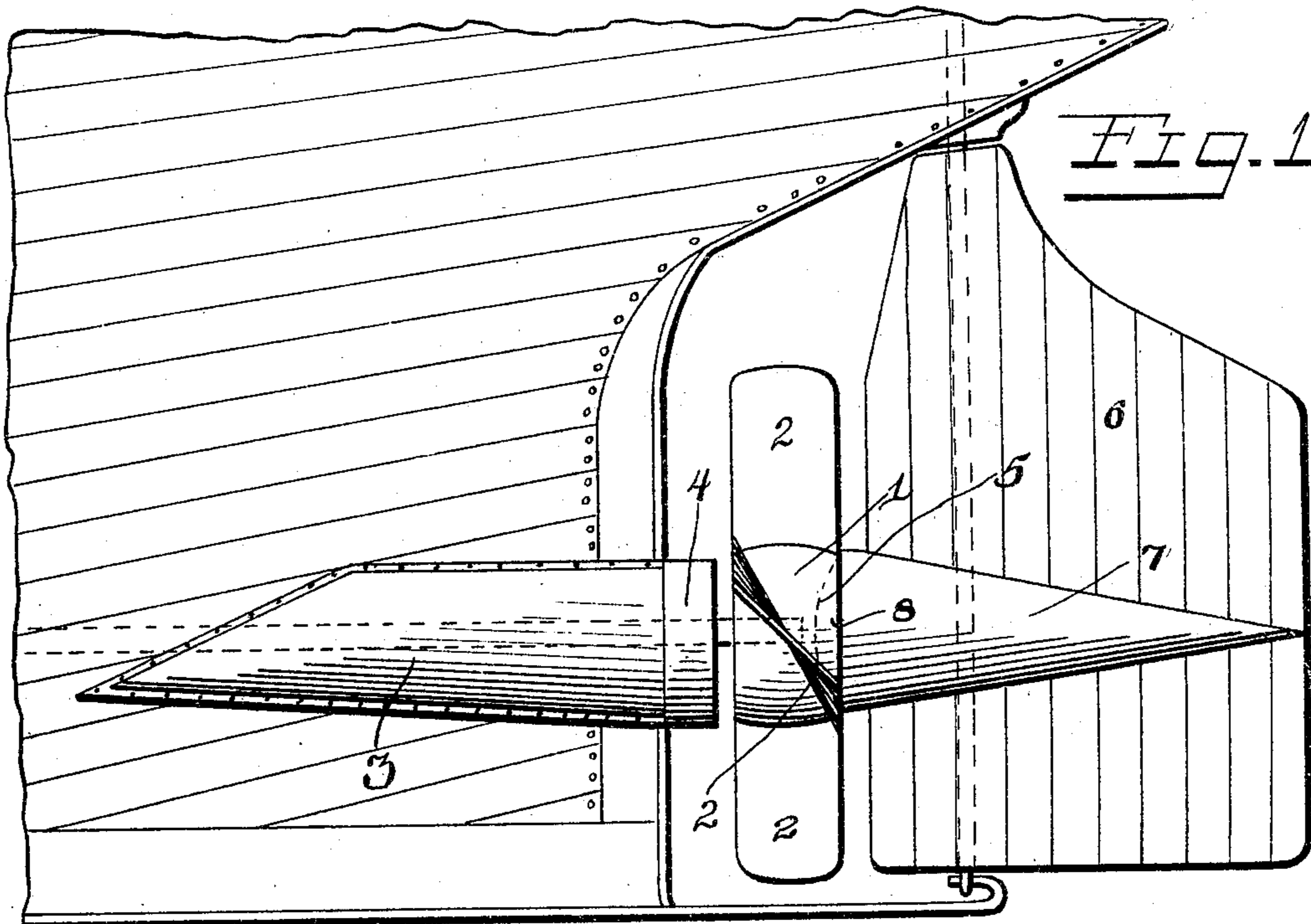


Fig. 2.

Witnesses

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PROPELLER FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 794,317, dated July 11, 1905.

Application filed May 31, 1904. Serial No. 210,554.

To all whom it may concern:

Be it known that I, JOHN SAUNDERS, Jr., a citizen of the United States, residing at Greenbay, in the county of Brown and State of Wisconsin, have invented certain new and useful Improvements in Propellers for Vessels; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in propellers for steam vessels; and it consists in the construction, combination, and arrangement of devices hereinafter described and claimed.

In the accompanying drawings, Figure 1 is an elevation of the stern of a steam vessel provided with a propeller embodying my improvements. Fig. 2 is an inverted plan view of the same.

In accordance with my invention the hub 1 of the propeller is relatively large, being approximately of a diameter equal to one-third the diameter of the propeller. This enables the propeller-blades 2 to be set at such an angle as to give them the greatest possible efficiency and provides the hub with a surface of sufficient extent to enable the blades to be securely attached thereto. This enables the blades to be comparatively straight from end to end, so that the entire surface of each blade is efficient and the blades do not drag in the water, as is the case with propellers of usual form, in which the hub is so small as to render it necessary to twist the inner ends of the blades and thicken them in order to secure the blades to the hub and make the blades sufficiently strong.

To prevent the hub of my improved propeller from dragging in the water, I provide the vessel with a water-shed 3 of cylindrical form, which is concentric with the propeller-shaft, and the diameter of the rear end of each is equal to that of the hub of the propeller. At the rear end of the said water-shed and between the latter and the front side of the propeller-hub is a block 4 of cylindrical form, the diameter of which is equal, or substantially so, to that of the rear end of the water-shed and the propeller-hub.

In the rear side of the propeller-hub is a recess 5 of concave form. The rudder 6 has a rearwardly-tapering cap 7 of conical form, which projects from opposite sides of the rudder and is provided at its front enlarged end with a segmental head 8, which is adapted to enter the concave recess 5 of the propeller-hub. This enables the rudder to be readily turned as required to steer the vessel, and the cap 7 forms a run for the water displaced by the water-shed 3 and the enlarged hub of the propeller.

My improved propeller obviates the waste of power occasioned by dragging in the water, which is an objection to propellers now in common use, and is much stronger than the propellers now in common use.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A vessel having a propeller having an enlarged hub, said vessel having a water-shed disposed in front of the propeller-hub and corresponding in diameter at its rear end to the diameter of the hub, the latter having a concave recess in its rear side, and a rudder having a cap provided with a crown of segmental form projecting from the front side of the rudder and extending into the recess in the propeller-hub.

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

JOHN SAUNDERS, JR.

Witnesses:

BYRON H. STEBBINS,
JOHN F. DOCKRY.