

(No Model.)

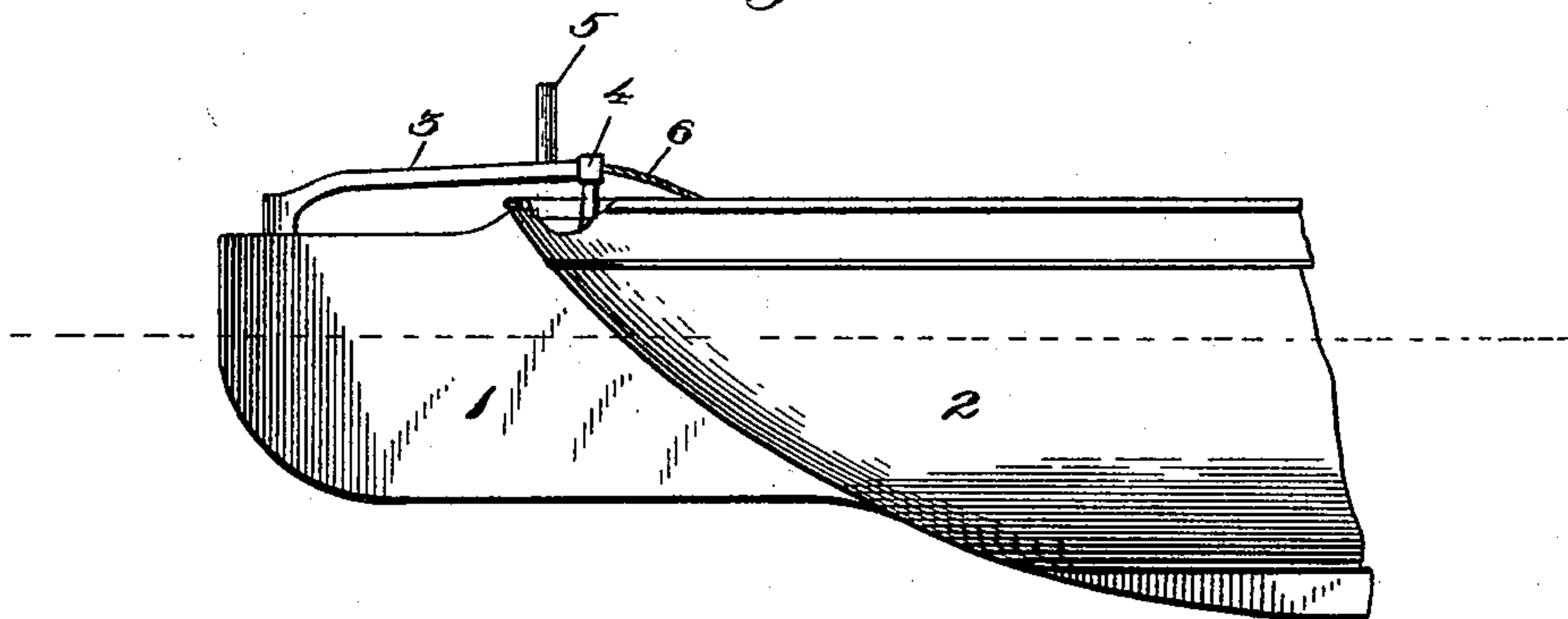
2 Sheets—Sheet 1.

J. W. DOBSON.  
RUDDER.

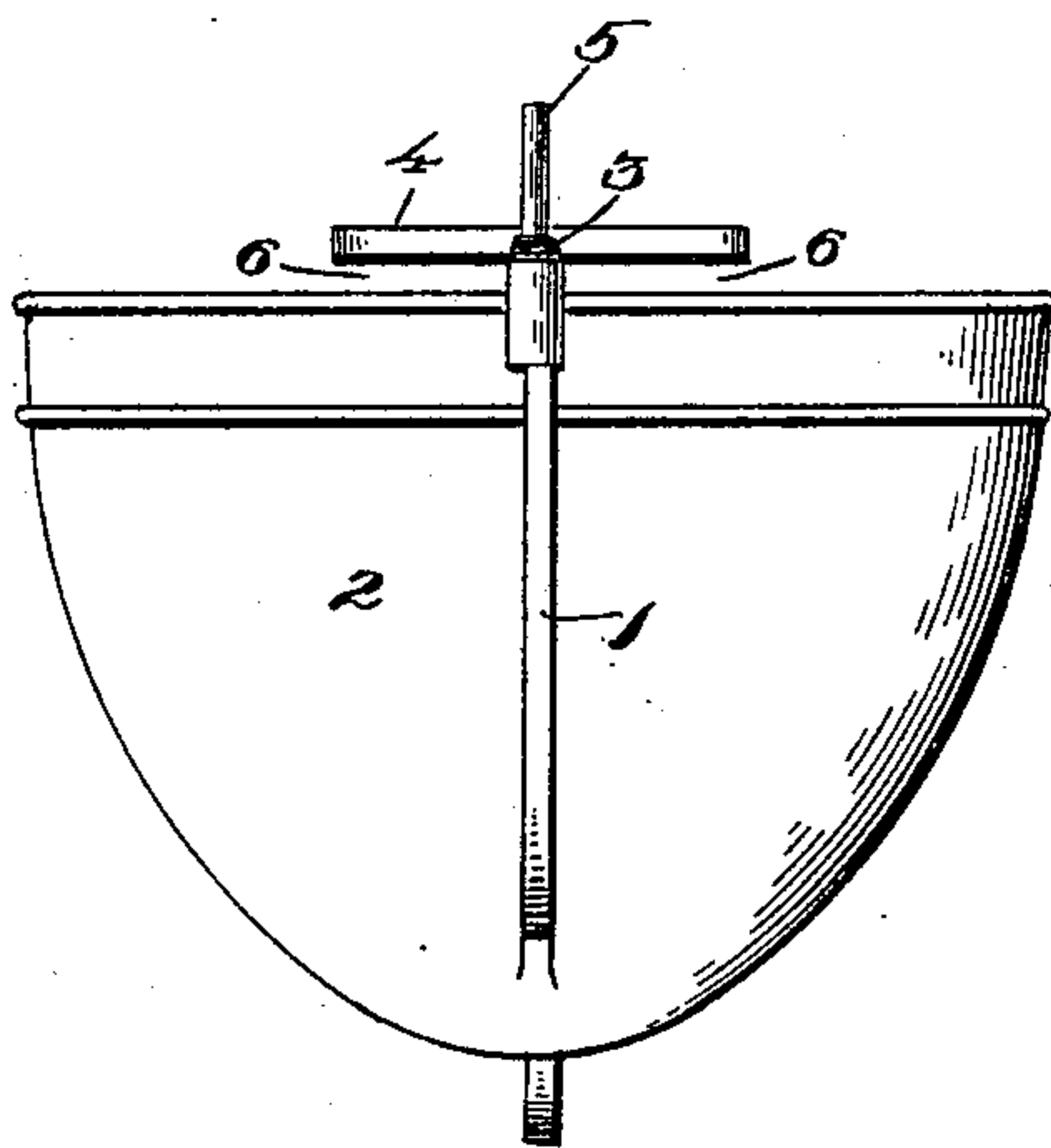
No. 594,068.

Patented Nov. 23, 1897.

*Fig. 1.*



*Fig. 2.*



WITNESSES

*T. L. Mockabee*  
*L. W. Stockbridge*

INVENTOR,

*John W. Dobson,*  
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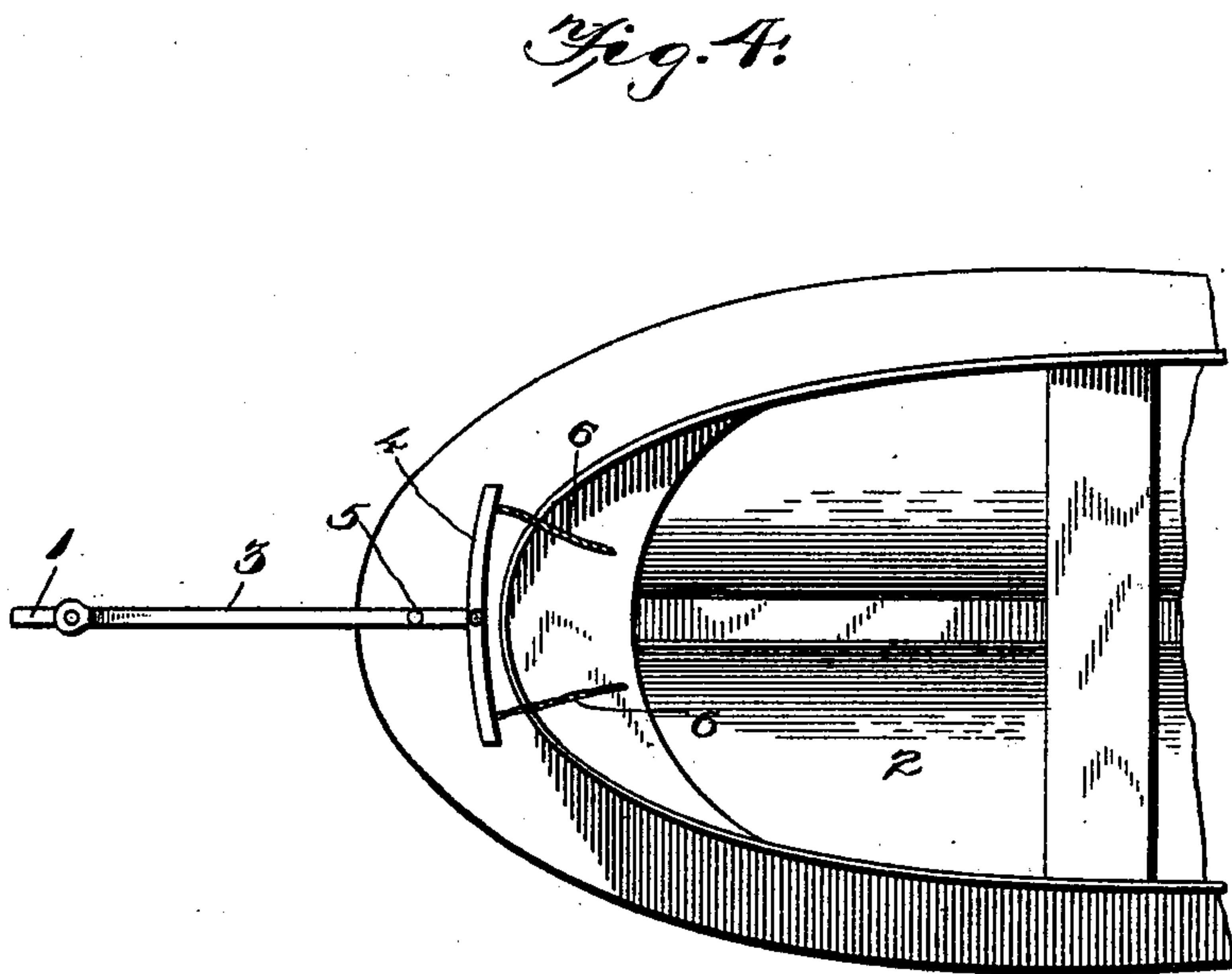
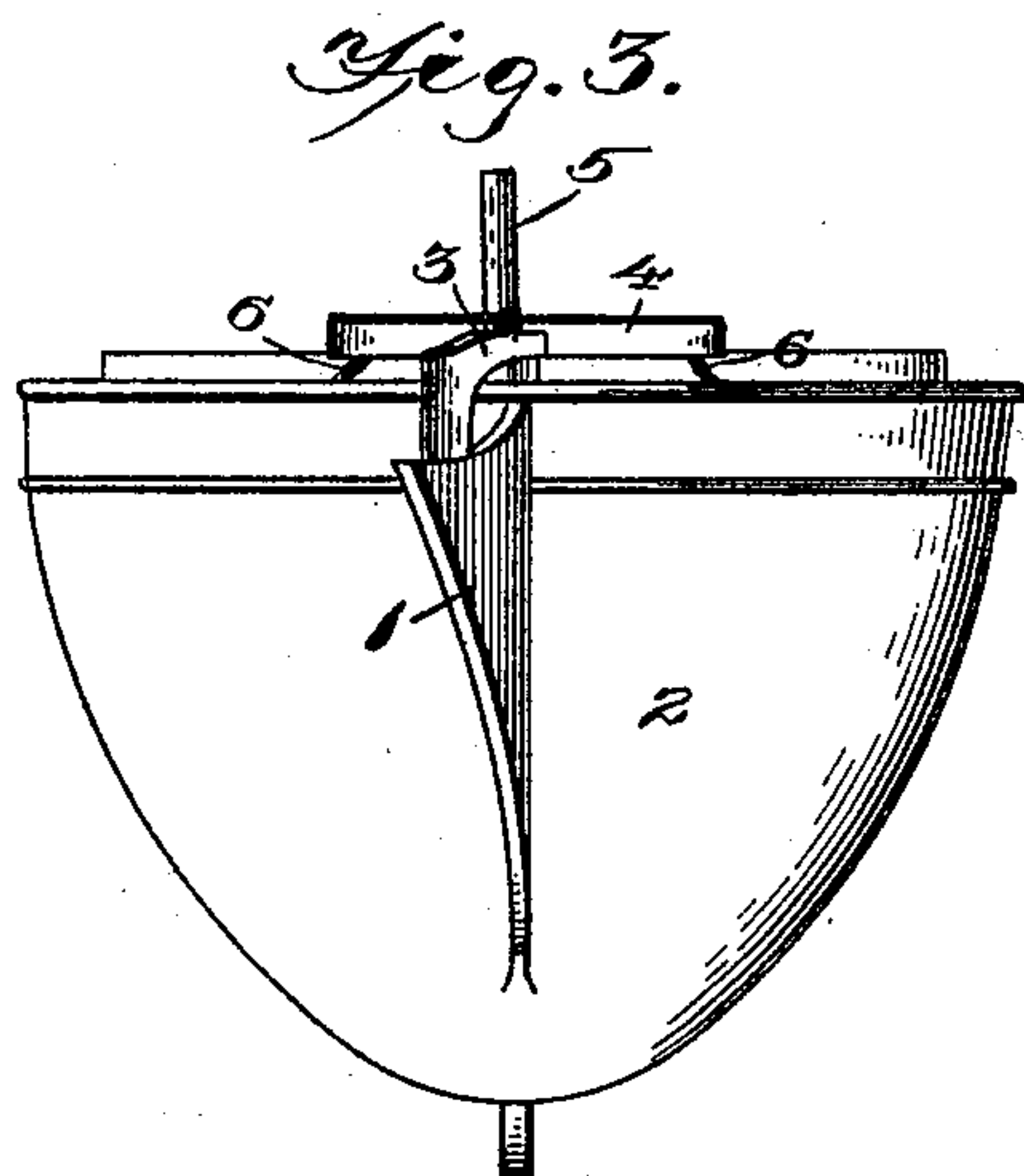
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2 Sheets—Sheet 2.

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RUDDER.

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WITNESSES  
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# UNITED STATES PATENT OFFICE.

JOHN WM. DOBSON, OF SALT LAKE CITY, UTAH.

## RUDDER.

SPECIFICATION forming part of Letters Patent No. 594,068, dated November 23, 1897.

Application filed October 31, 1896. Serial No. 610,757. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WM. DOBSON, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Rudders; and I do hereby 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 rudders for boats, the same being especially applicable to use upon racing boats and yachts, the prime object of the same being to produce a rudder which when the helm is "hard down" will present no angles which will retard the speed of the boat and will reduce the draw-back tendency due to eddying suction to a minimum.

The invention consists of a rudder made of flexible material, secured to the under side of the stern of the boat at its forward end, an arm pivoted to the rear end of the rudder and extending forwardly therefrom, a cross-bar pivoted to a stationary part of the hull, to which said arm is secured, tiller-ropes connected to the outer ends of said cross-bar, and a handle upon said arm, whereby the rudder may be operated directly by hand.

The invention also consists in other details of construction and combinations of parts, which will be hereinafter more fully described and claimed.

In the drawings forming part of this specification, Figure 1 represents a side elevation, partly broken away, of the rear end of the hull of the boat with my improved flexible rudder applied thereto. Fig. 2 is a rear elevation of the same. Fig. 3 is a similar view showing the rudder in steering position. Fig. 4 is a top plan view of the hull of the boat with my improved rudder applied.

Like reference-numerals indicate like parts in the different views.

My improved rudder 1 is permanently secured at its forward end to the hull 2 of the boat, as clearly shown. In large vessels the rudder 1 would be completely submerged; but in smaller vessels the upper end thereof will project slightly above the surface of the water. The said rudder is preferably constructed of flexible steel, so that the rear free end thereof

may be turned in one direction or the other for steering purposes. When this is done, it will be seen that no sharp angles are produced between the extreme stern of the boat and the rudder which will tend to retard the motion of the vessel, and, furthermore, eddying suction having the same effect are reduced to a minimum. Pivoted at a point near the rear end of the rudder 1 is an arm 3, which extends forwardly and is connected at its front end to a cross-arm 4, which is itself pivoted at its central point to the hull 2. An operating-handle 5 may be secured to the upper side of the arm 3 to provide means for turning the rudder directly by hand. Upon a smaller boat the outer ends of the cross-arm 4 will have attached to them tiller-ropes 6 6, extending forwardly therefrom.

My improved rudder is operated in the same manner that ordinary rudders are, either by means of the handle 5 or the tiller-ropes 6 6, connected to the cross-arm 4.

The device is extremely simple in construction and effective in operation, especially upon racing-craft, where it is the desideratum to present as free and smooth a surface to the water as possible.

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

1. The combination with the hull of a boat, of a flexible rudder therefor fixedly secured at its forward end to the stern of the boat.

2. The combination with the hull of a boat, of a rudder constructed of steel or other suitable flexible material fixedly secured at its forward end to the boat, and means for bending said rudder.

3. The combination with the hull of a boat, of a flexible rudder therefor, an arm pivoted at its rear end to the free end of said rudder and extending forwardly therefrom, and means for turning said arm, substantially as and for the purpose described.

4. The combination with the hull of a boat, of a flexible rudder therefor secured at its forward end to the stern of said boat, an arm pivoted at its rear end to the free end of said rudder and at its forward end to a stationary part of said boat, and a handle upon said arm, substantially as and for the purpose described.

5. The combination with the hull of a boat,  
of a flexible rudder therefor secured at its for-  
ward end to the stern of said boat, an arm  
pivoted at its rear end to the free end of said  
5 rudder and connected at its forward end to a  
cross-bar pivoted to the stationary part of said  
boat, and means for swinging said cross-bar,  
substantially as and for the purpose described.

In testimony whereof I have signed this  
specification in the presence of two subscrib- 10  
ing witnesses.

JOHN WM. DOBSON.

Witnesses:

J. C. JENSEN,  
ARTHUR F. BOWYER.