

June 17, 1924.

G. R. SMITH

1,497,801

CATAMARAN

Filed Dec. 4, 1923

Fig. 1.

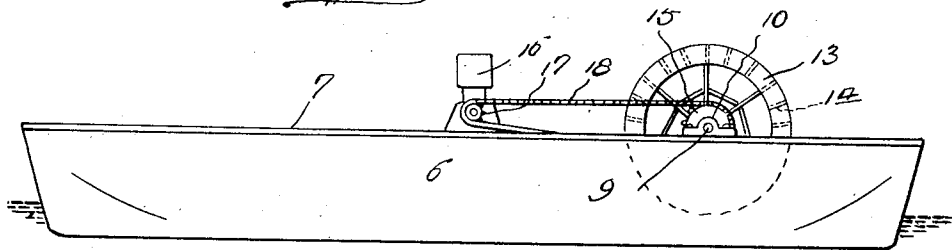


Fig. 2.

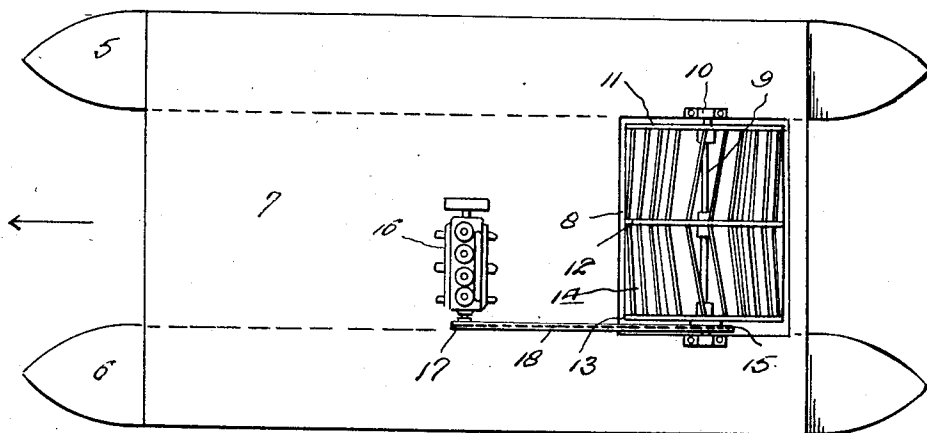
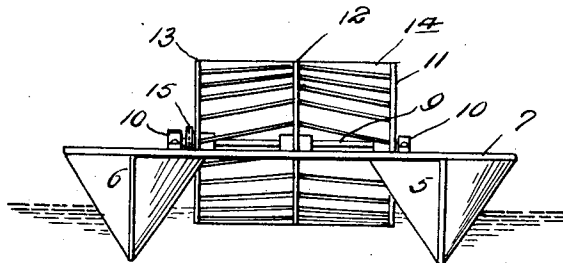


Fig. 3.

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UNITED STATES PATENT OFFICE.

GEORGE R. SMITH, OF ROGERSVILLE, TENNESSEE.

CATAMARAN.

Application filed December 4, 1923. Serial No. 678,447.

To all whom it may concern:

Be it known that I, GEORGE R. SMITH, citizen of the United States, residing at Rogersville, in the county of Hawkins and State of Tennessee, have invented certain new and useful Improvements in Catamarans, of which the following is a specification.

This invention relates to certain new and useful improvements in catamarans, and has particular reference to an improved means or mechanism for the propulsion of boats of this kind.

The primary object of this invention is to provide a generally simplified and improved form of catamaran embodying simple, durable and efficient propulsion mechanism that may be cheaply and easily manufactured and installed, and that will not readily get out of order.

Other objects will appear as the nature of the invention is better understood, and the same consists in the novel form, combination, and arrangement of parts, herein-after more fully described, shown in the accompanying drawing and claimed.

In the drawing, wherein like reference characters indicate corresponding parts throughout the several views,

Figure 1 is a side elevational view of a catamaran constructed in accordance with the present invention.

Figure 2 is a top plan view of the device shown in Figure 1, and

Figure 3 is a rear elevational view thereof.

Referring more in detail to the drawings, the invention embodies a pair of elongated spaced parallel floats in the form of closed hulls 5 and 6 that are connected at their tops by means of a horizontal rigid platform 7.

In accordance with the present invention, the platform 7 is provided with a relatively large rectangular opening, as at 8, which opening is provided in the rear end of the platform 7 between the hulls 5 and 6 as seen clearly in Figure 2. A paddle wheel, in the form of an elongated hollow cylindrical drum is mounted within the opening 8 so as to project above and below the platform 7, and a proper distance below the water line of the hulls 5 and 6 to enable the blades of said paddle wheel to enter the water for propulsion purposes. This paddle wheel embodies a shaft 9, the ends of which are journaled in brackets 10, fixed upon the

platform 7 at opposite sides of the opening 8, and a plurality of discs or spoke supported rings 11, 12, and 13 that are rigid and concentric with the shaft 9, and which support the blades 14 disposed therebetween. The rings 11 and 13 are supported at the ends of the shaft 9, while the ring 12 is supported midway between said rings 11 and 13, and the blades 14 are provided in two series, one of which is disposed between the end ring 11 and the intermediate ring 12, while the other circular series of blades is provided between the end ring 13 and the opposite side of the intermediate ring 12. The blades 14 of one circular series are angularly related to those of the other series, and the blades of both series are arranged angularly or obliquely to the shaft 9. In other words, all of the blades are arranged obliquely to the longitudinal axis of the shaft 9, and the blades of one series extend in an opposite direction to those of the other series. This provides for gradual immersion of the blades as they enter the water for reducing resistance to the minimum for insuring maximum propulsion effort after the blades have entered the water and move rearwardly in their power strokes. The ends of the blades may be secured to the sides of the rings in any desired or preferred manner so as to be rigid with said rings and provide a durable, rigid, paddle wheel of cylindrical form carrying herring bone blades.

Upon one end portion of the shaft 9 may be secured a sprocket wheel 15, and a suitable motor 16 may be mounted upon the platform in front of the paddle wheel with its drive shaft provided with a sprocket wheel 17 that is operatively connected with the sprocket wheel 15, in any suitable manner, which connection may embody reversing mechanism, clutches and other machine elements found necessary to the best operation of the boat. This operative connection is shown merely for example, and in a general way as including a sprocket chain 18 passing around the sprocket wheels 15 and 17, although clutches and reversing mechanism may be interposed in this driving mechanism if found necessary or desirable without the exercise of invention, or without departing from the spirit and scope of the invention as claimed.

A propulsion mechanism provided in this manner will enable positioning of the motor

and the paddle wheel so that the weight will be substantially evenly balanced with respect to the two hulls 5 and 6 in a lateral direction, and whereby the rear portions of said
 5 hulls will be slightly submerged for a greater depth than the forward ends thereof to increase the efficiency of the paddle wheel and return the frictional resistance to the travelling movement of the device
 10 through the water. Also, the propulsion effort is applied at a most effective point, and where a durable and simple mounting of the paddle wheel is had.

What I claim as new is:

15 A catamaran including a pair of spaced floats disposed parallel with each other, a platform connecting the floats together and

bridging the space between them and provided at its rear end with an opening, a propeller located in the opening at the rear
 20 portion of the platform, means mounted upon the platform for driving the propeller, said propeller consisting of a drum located in the space between the floats, and located between the front and rear ends of the floats,
 25 the drum being provided upon its periphery and at a point midway of its ends with an outwardly extending annular flange, and propeller blades arranged in herring bone form upon the end portions of the periphery
 30 of the drum, and connected with said flange.

In testimony whereof I affix my signature.

GEORGE R. SMITH.