No. 607,965. Patented July 26, 1898.

S. S. STEVENS.

BOAT PROPELLING MECHANISM.

(No Model.) (Application filed July 10, 1897.) 2 Sheets—Sheet 1.

Fig. 1.

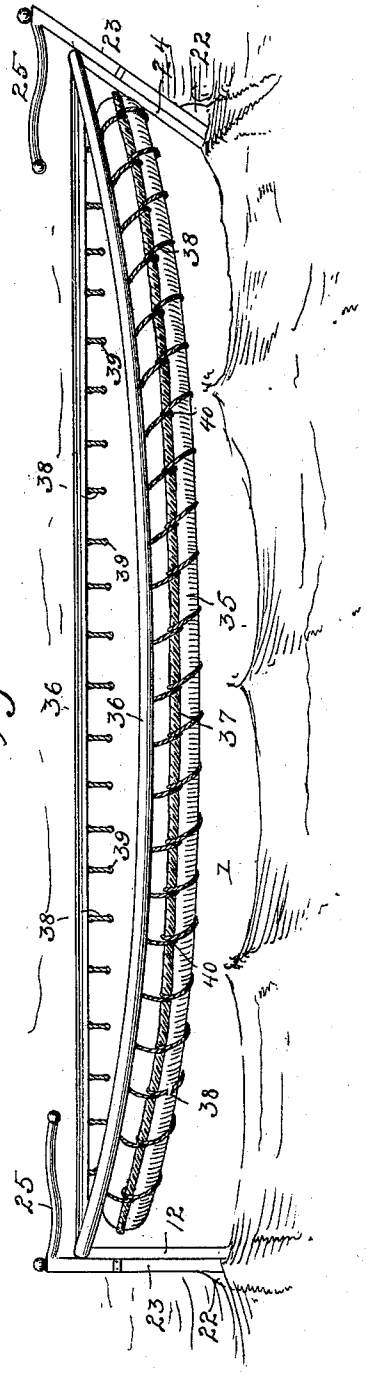
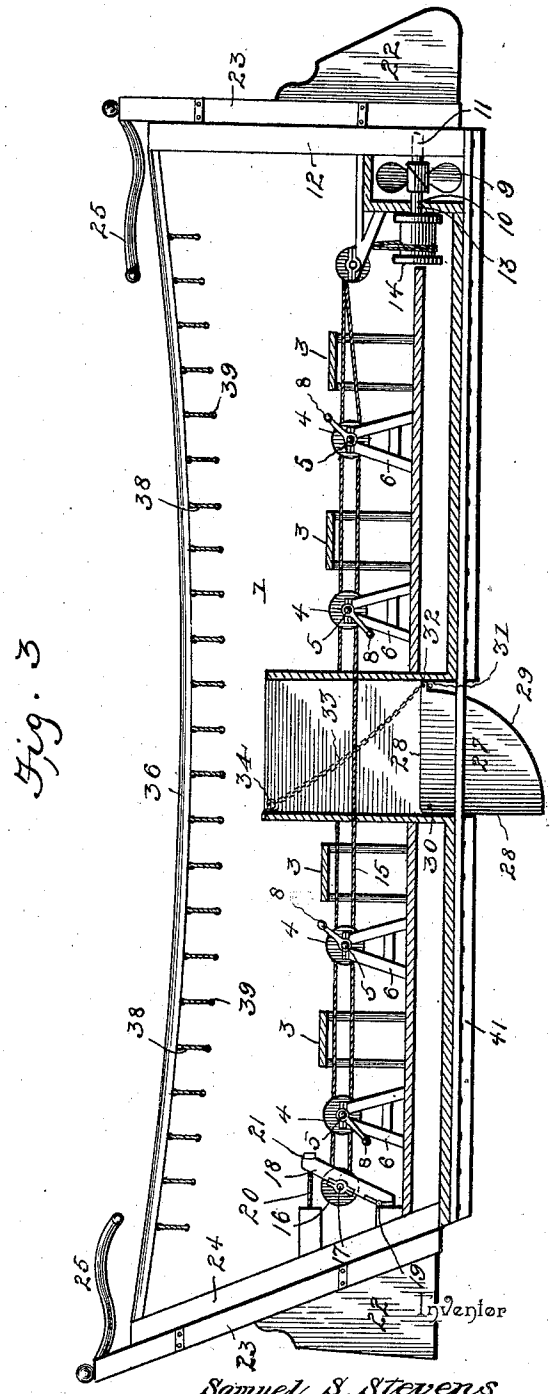


Fig. 3.



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2 Sheets—Sheet 2.

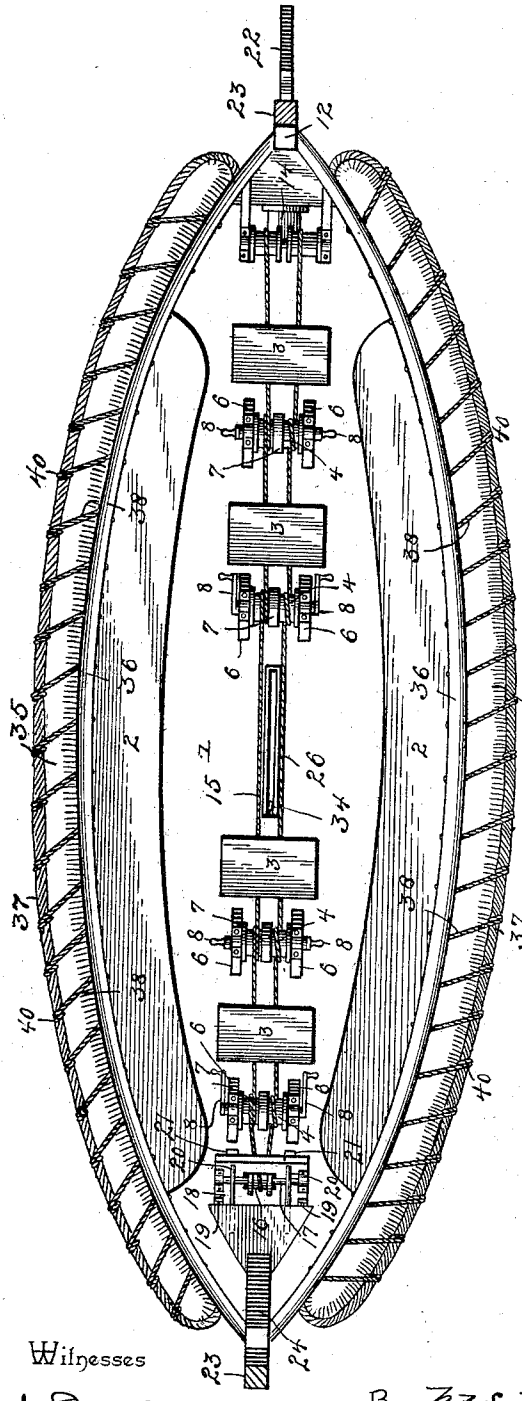

Fig. 2.

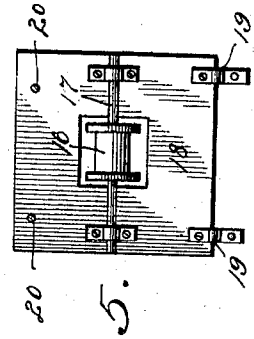

Fig. 5.

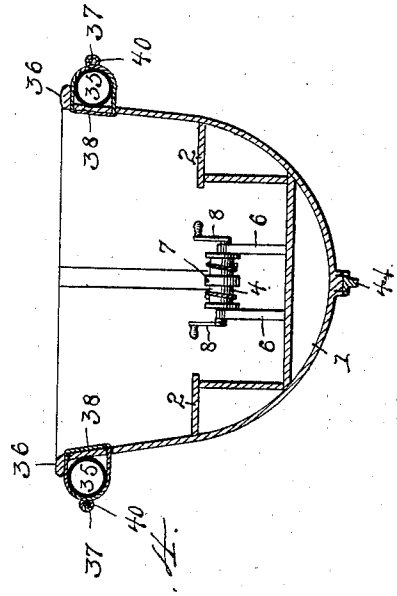

Fig. 4.

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UNITED STATES PATENT OFFICE.

SAMUEL S. STEVENS, OF POINT ARENA, CALIFORNIA.

BOAT-PROPELLING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 607,965, dated July 26, 1898.

Application filed July 10, 1897. Serial No. 644,142. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. STEVENS, a citizen of the United States, residing at Point Arena, in the county of Mendocino and State of California, have invented a new and useful Boat, of which the following is a specification.

This invention relates to boats more especially designed for life-saving service, its objects being to generally improve the structure of the boat, whereby it will be less liable to capsize and be more easily controlled, and also to provide means for manually propelling the boat in order that oars may be usually dispensed with. I propose, however, to equip the boat with oars for rowing and steering the boat in the event the propelling and steering mechanisms should become inoperative from any cause. These oars will be stored away beneath the seats or in some other convenient part of the boat when not required for use.

With these and other objects in view the invention consists of the several details of construction and combination of parts hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a boat embodying my invention. Fig. 2 is a plan view. Fig. 3 is a sectional side elevation. Fig. 4 is a vertical transverse section. Fig. 5 is a plan view of the bracket carrying the bow-pulley detached.

Similar reference-numerals indicate similar parts in the several figures.

1 indicates the hull of the boat, which may be of any approved shape, and provided on its interior with seats 2, running longitudinally of the boat on each side, and with a series of cross-seats 3. In close proximity to each seat 3 is a drum 4, the shaft 5 of which is journaled in bearings 6. Each drum has a central dividing-flange 7 and is fast on its shaft 5, and the shaft of each drum is provided at each end with a crank-handle 8. The crank-handles 8 are so arranged that they can be operated by persons on the seats 3.

9 indicates a propeller the shaft 10 of which is journaled at one end in bearings 11 in the stern-post 12 of the boat and the other end in bearings 13 on the inside of the boat. A drum 14 is secured on the inner portion of the shaft 10, and an endless wire rope or chain 15 passes around the drum 14, the drums 4, and a single pulley 16 at the bow of the boat. The rope 15 is given several turns around the drum 14 and also around the drums 4 on each side of the dividing-flanges 7 in order to prevent the wire rope from slipping. It has a single turn only on the pulley 16 and passes on and off the upper side of the drums 4 on one side of the flanges 7 and on and off on the under side of said drums on the other side of said flanges.

The shaft 17 of the pulley 16 is journaled in bearings on a bracket 18, hinged at its lower end to the frame of the boat, as indicated at 19. Bolts 20 are firmly secured at one end in the frame of the boat, and their other ends pass loosely through openings in the upper end of the brace 18, and adjusting-nuts 21 on the bolts serve to vary the position of the brackets 18 and thereby regulate the tension of the wire rope 15. From the foregoing it is evident that by operating the crank-handles 8 to turn the drums 4 in one direction the propeller 9 will also be turned, and thereby propel the boat; also, that the propulsion may be in either direction.

The boat is provided at each end with a rudder 22 in order that the vessel may be more easily controlled. The rudder-posts 23 are hinged in the usual manner to the stern-post 12 and the prow 24, the latter being preferably formed on a straight line for this purpose. Each rudder-post 23 is provided with a handle 25 at its upper end.

26 represents a box for the centerboard 27. The board is substantially triangular in form, with two of its edges 28 at a right angle to each other, and the other edge 29 curved to form the arc of a circle of which the bolt 30 is the center. The bolt 30 serves as a pivot for the board 27 and is secured in the box 26. Another bolt 31 at the opposite side of the box 26 is adapted to engage a shoulder 32 on the curved edge 29 to limit the downward movement of the board 27 when it swings on its pivot. A chain 33 serves as a means to elevate or lower the board 27 and is adapted to be engaged with a hook 34 on the box 26 to hold the board in any desired position.

35 represents floats, one of which extends longitudinally of the boat on each side thereof

immediately below the gunwale 36. These floats are to prevent the boat from capsizing and may be of cork, inflated rubber bags, or any other suitable buoyant material. Each is provided with a longitudinal rope 37 on its outer side, which may be termed a "chafing-rope," and is for the purpose of preventing injury to the float from rubbing against any hard substance. A small rope 38 is wound around each float and through a series of openings 39 in the side of the boat, and at each turn around the float the rope 38 is given a half-hitch around the rope 37, as indicated at 40, thereby firmly securing the rope 37 in position on the float and also firmly securing the float to the boat.

41 indicates an iron keel which is firmly bolted to the wooden keel of the boat and serves as an additional preventive to the capsizing of the boat on account of the added weight to the bottom of the boat.

In operation some members of the crew will operate the cranks 8 in order to propel the boats and each of the rudders 22 will be under the control of a separate member of the crew, and it is obvious that the boat can be much more easily controlled by the two rudders than it could by one. As is well known, the loss or breaking of oars in life-boats is a source of considerable annoyance and often danger, and frequently life-boats are rendered inoperative through this cause. By dispensing with oars and using the cranks to turn the propeller this danger is entirely obviated, and hence a boat made in accordance with my invention is a great improvement over one propelled by oars. It is also obvious that by using a float extending from end to end of the boat and secured immediately under the gunwale it would be practically almost impossible to capsize the boat, no matter how rough the sea might be.

It will be understood that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention. For instance, instead of the drums 4 being provided with a central dividing-flange two separate drums connected together might be employed. In lieu of the precise manner of connecting the rope 38 to the chafing-rope 37 other means may be employed. Hence I do not limit myself to minute details.

Having thus described the invention, what I claim is—

1. In a boat, the combination of a propeller, a drum rigid on the propeller-shaft, a series of driving-drums arranged longitudinally of the boat and provided with crank-handles, a pulley adjustably mounted at the bow of the boat, an endless rope passing around the propeller-drum, and the bow-pulley and being reversely wound on the driving-drums, and means to adjust the bow-pulley to regulate the tension of the rope, substantially as described.

2. In a boat, the combination of a propeller, a drum rigid on the propeller-shaft, a series of driving-drums arranged longitudinally of the boat and provided with crank-handles, each of said series of drums having a central dividing-flange, a hinged bracket at the bow of the boat, a pulley journaled in said bracket, an endless rope passing around the propeller-drum, the driving-drums and the bow-pulley, said rope passing on and off the driving-drums at the upper side on one side of the dividing-flange, and on and off the under side of said drums on the other side of said flanges, and means to adjust the hinged bracket, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SAMUEL S. STEVENS.

Witnesses:
ARTHUR HICKS,
JEFFERSON M. BROWN.