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J. ALCORN

PROPELLER FOR BOATS

Filed July 5, 1923

Fig.1.

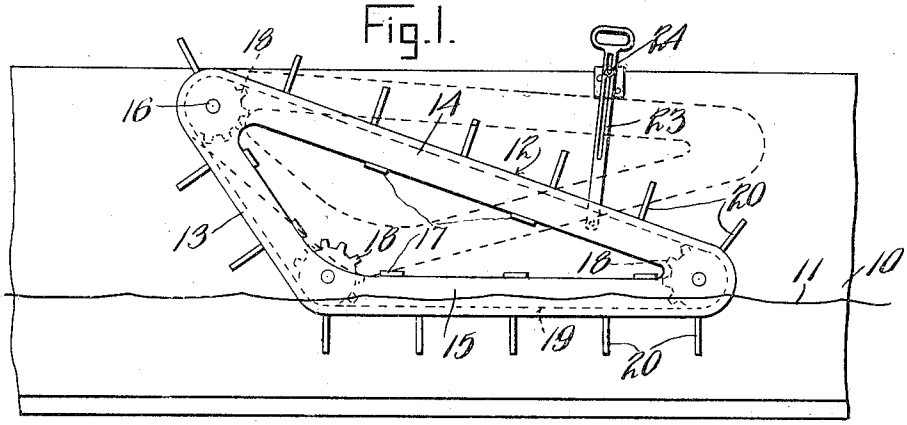
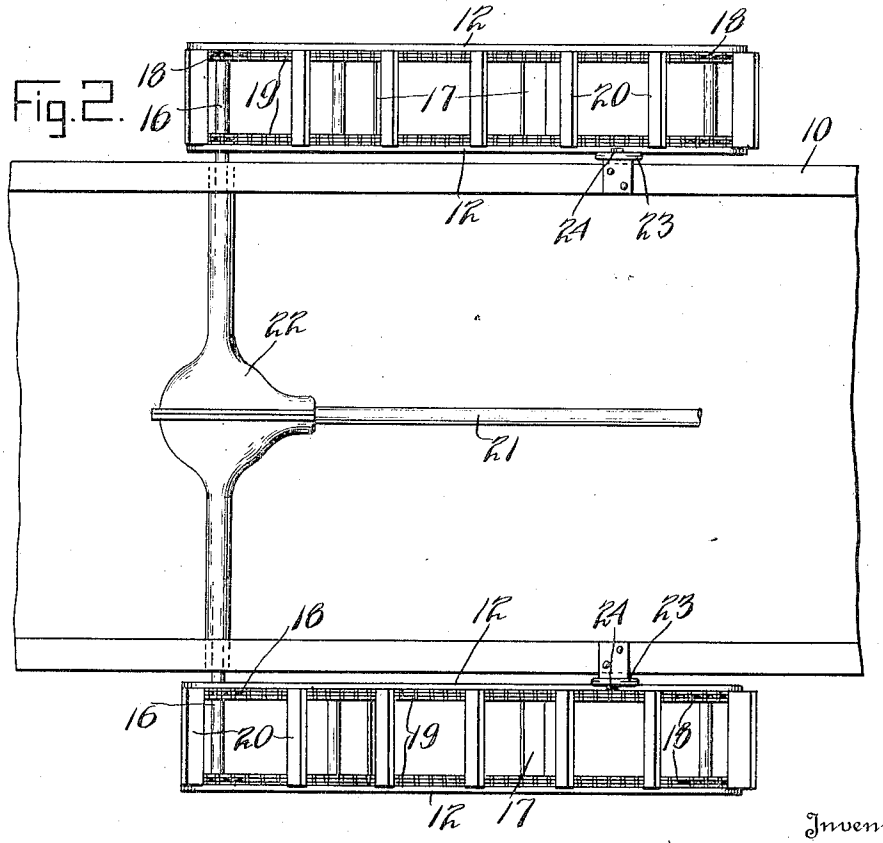


Fig.2.



Inventor

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By

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UNITED STATES PATENT OFFICE.

JOSEPH ALCORN, OF COATESVILLE, INDIANA.

PROPELLER FOR BOATS.

Application filed July 5, 1923. Serial No. 649,743.

To all whom it may concern:

Be it known that I, JOSEPH ALCORN, a citizen of the United States, residing at Coatesville, in the county of Hendricks and State of Indiana, have invented certain new and useful Improvements in Propellers for Boats, of which the following is a specification.

My said invention relates to a propeller intended primarily for use for driving boats but which may be used for other purposes or in other relations if desired.

One object of my invention is to provide a device of the character described which shall be weedless, i. e. it will not become fouled by seaweeds, grasses or the like.

Another object of my invention is to provide a device of the character described which can be adjusted with relation to the surface of the water or secured in adjusted position entirely out of the water in a simple and expeditious manner.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a partial elevation of a boat or the like having my device applied thereto, and

Figure 2, a plan of the same.

In the drawings reference character 10 indicates the body of a boat or analogous structure, the water line being indicated at 11. At each side of the boat is a driving unit comprising in each instance a pair of triangular frames 12 preferably made in the shape of a scalene triangle shown in Figure 1 having a short side 13, a long side 14 and an intermediate side 15. The intermediate side 15 is preferably adjacent the water and the frames are pivoted at 16 at the angle opposite said intermediate side. The frames of each unit are spaced apart by cleats 17 rigidly secured to each of them. Between the frames of each unit at each corner of the triangles formed thereby these are located sprockets 18. The sprocket at the upper corner is fixed to the driving shaft which forms the pivot 16 of the frame but the other two sprockets are merely idlers and it will be evident that their shape is immaterial since they have only a guiding function. The sprockets have trained thereabout a pair of belts consisting of endless chains 19 with blades or paddles 20 extending from one of the chains to the other the blades being fastened edgewise to the chain belts in such a way as normally to stand perpendicular to the plane of the belt. It will be evident that in some instances the form of the endless driving means may be changed as also that of the sprockets about which they are trained.

In the present embodiment of the invention I have shown a shaft 21 driven by any suitable source of power which is connected to two shafts 16 by any suitable gearing, or if desired a lever may take the place of the shaft 21, such lever being connected in any suitable way to the transverse shafts for driving the same by hand. The gearing connecting the shafts 21 and 16 is concealed in and protected by a gear casing 22.

For rendering one or both of the propellers inoperative or for adjusting them to vary their driving action I have mounted the frames pivotally at 16 as above described and have provided near the rear end of each unit a handle 23 pivoted at the lower end to the adjacent frame and adapted to raise or lower its unit. Each of the handles has a transverse slot to provide a hand hold and a longitudinal slot through which passes a bolt 24 so that after the position of the propeller has been adjusted the handle can be secured in place for holding the propeller in adjusted position by merely tightening the nut on the bolt 24. It will be seen that by adjusting the propellers to different heights at opposite sides of the boat they may be caused to steer it automatically to some extent so as to counteract the effect of adverse winds or currents and thus to reduce the labor of the steersman.

It will be evident to those skilled in the art that various changes may be made in my device without departing from the spirit of the invention and therefore I do not limit myself to the specific embodiment shown in the drawings and described in the specification, but only as indicated in the appended claims.

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

1. The combination with a boat, of propelling units pivoted at each side of the boat comprising in duplicate a triangular frame with an endless chain mounted to travel longitudinally thereof, and angular paddles

extending across and connecting said chains, substantially as set forth.

2. In a propeller for boats and the like, a propelling unit at each side of the boat, each unit comprising a pair of triangular frames spaced from each other and having one side parallel to the surface of the water, a shaft at the angle remote from the water forming a pivot for said frames, a sprocket on said shaft, means for driving said sprocket, guides at the other angles of the triangular frame, a sprocket chain passing over said sprocket and said guides, and blades extending transversely of the chain, substantially as set forth.

3. In a propeller for boats and the like, a propelling unit at each side of the boat, each unit comprising a pair of triangular frames spaced from each other and having one side parallel to the surface of the water, a shaft at the angle remote from the water forming a pivot for said frame, a sprocket on said shaft, means for driving said sprocket, guides at the other angles of the triangular frame, a sprocket chain passing over said sprocket and said guides, blades extending transversely of the chain, and means for holding the frames in adjusted position relatively to said pivot, substantially as set forth.

4. The combination with a boat, of propelling units pivoted at each side of the boat on power supplying means each of said propelling units comprising in duplicate a triangular frame with an endless chain mounted to travel longitudinally thereof, and angular paddles extending across and connecting said chains, substantially as set forth.

5. In a propeller for boats and the like, a propelling unit at each side of the boat, each unit comprising a pair of frames spaced from each other, sprockets supported by said frames, a chain belt passing over said sprockets, blades extending transversely of said belt, means for driving one of said sprockets, and means for securing the units in a position with their blades out of contact with the water or with the blades on one run of the respective chain belts in the water, substantially as set forth.

6. A propeller comprising a pair of frames shaped as scalene triangles having their sides of intermediate length next to the water, said frames being pivoted at the angle opposite said side, paddles on the frames for engaging the water, means for driving said paddles, and means for adjusting the propeller relatively to the surface of the water, substantially as set forth.

7. The combination with a boat, of propelling units at each side of the boat each unit comprising a pair of triangular frames having one side parallel to the surface of the water and a pair of endless chains mounted therein to travel longitudinally thereof, angular paddles extending across and connecting said chains, a driven shaft at the angle remote from the water for driving said chains said shaft forming a pivot for said frames, and means for adjusting the propelling units relatively to the surface of the water, substantially as set forth.

8. The combination with a boat, of propelling units at each side of the boat each unit comprising a pair of triangular frames having one side parallel to the surface of the water and a pair of endless chains mounted therein to travel longitudinally thereof, angular paddles extending across and connecting said chains, a driven shaft at the angle remote from the water for driving said chains said shaft forming a pivot for said frames, and a lever attached to the side of said frame adjacent said pivot for adjusting the propeller relatively to the surface of the water, substantially as set forth.

In witness whereof, I have hereunto set my hand and seal at Coatesville, Indiana, this 30th day of June, A. D. nineteen hundred and twenty-three.

JOSEPH ALCORN. [L. S.]

Witnesses:
JAMES ALCORN,
EDWARD E. MCVAY.