

No. 645,807.

Patented Mar. 20, 1900.

H. D. GUFFEY.
BOAT PROPELLER.

(Application filed July 5, 1899.)

(No Model.)

2 Sheets—Sheet 1.

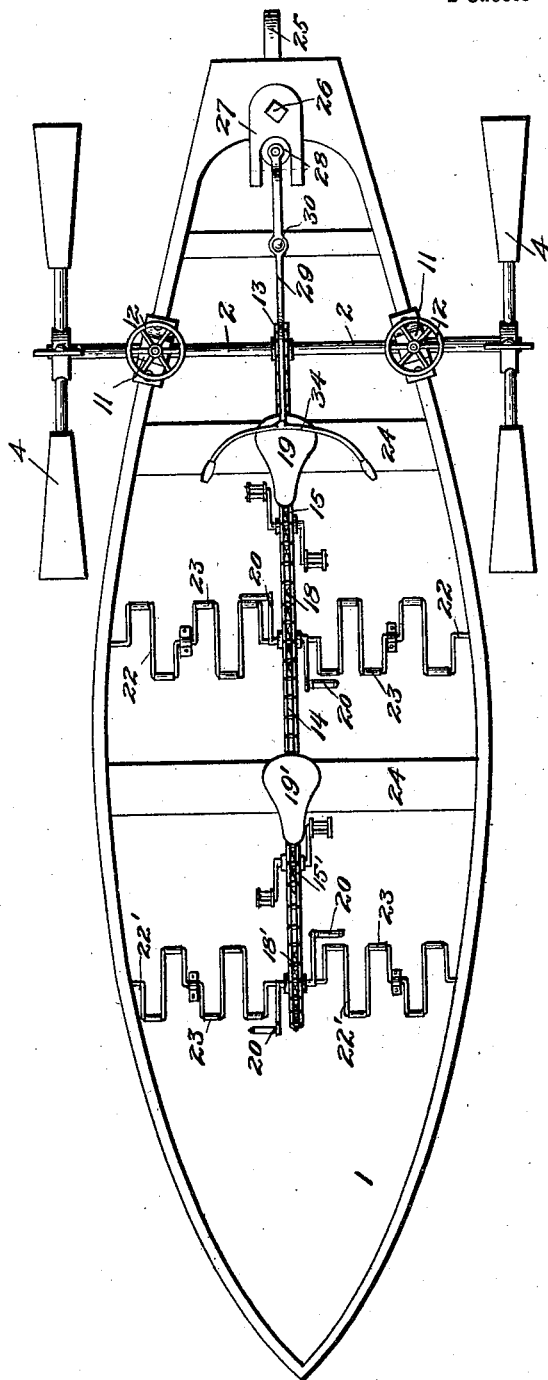


Fig. 1.

Inventor

Witnesses

E. H. Hunt
J. Wilson

H. D. Guffey
by A. B. Wilson & Co

Attorneys

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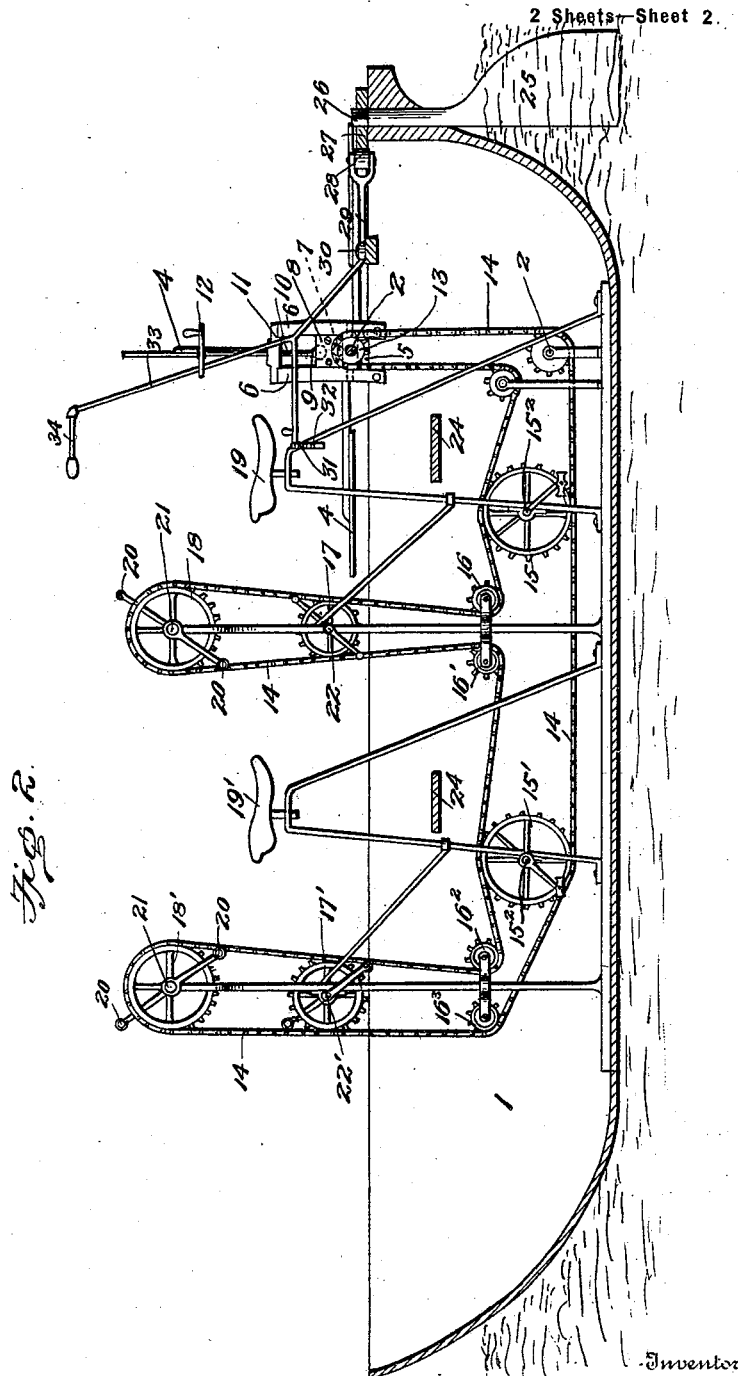


Fig. 2.

Inventor

H. D. Guffey

Witnesses
C. Hunt
J. Wilson

by A. B. Wilson & Co

Attorneys

UNITED STATES PATENT OFFICE.

HAMILTON DAVIS GUFFEY, OF ELKO, MISSOURI.

BOAT-PROPELLER.

SPECIFICATION forming part of Letters Patent No. 645,807, dated March 20, 1900.

Application filed July 5, 1899. Serial No. 722,881. (No model.)

To all whom it may concern:

Be it known that I, HAMILTON DAVIS GUFFEY, a citizen of the United States, residing at Elko, in the county of Putnam and State of Missouri, have invented certain new and useful Improvements in Boat-Propellers; 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 boat-propellers, and more particularly to that class in which the paddle-wheels are rotated by a system of sprocket wheel and chain gearing operated by hand and foot levers somewhat analogous to that employed on bicycles.

The object of the invention is to provide a simple, effective, and convenient device for this purpose.

To this end the invention consists in certain features of construction and combination of parts, which will be hereinafter more fully described and claimed.

In the accompanying drawings the same reference characters indicate the same parts of the invention.

Figure 1 is a top plan view of a boat provided with my improved propelling mechanism. Fig. 2 is a side elevation, partly in section, of the same.

1 denotes the boat, which may be of any suitable size, shape, and draft to correspond to the waters in which it is used.

2 designates the paddle-wheel shaft, on the ends of which are fixed paddle-wheels 4 4, which may be of any approved form to correspond to the boat or vessel. This shaft has a bearing in the pillow-blocks 5 5, which have a sliding engagement with the frame 6 6, and the upper end of each block is formed with a knob 7, encompassed by a clamp 8, which also encompasses a similar knob 9, formed on the lower end of an elevating-screw 10, having a threaded engagement with a cross-bar 11 of the frame 6 6. The upper ends of these elevating-screws 10 10 terminate in the hand-wheels 12 12, by means of which the shaft 2 may be raised or lowered to increase or diminish the dip of the wheels or raise them out of the water, as occasion requires.

13 denotes a sprocket-wheel fixed on the paddle-shaft, and 14 a sprocket-chain encom-

passing the same, the upper member of which passes over a pedal-gear 15, thence under an idler 16, thence engaging one side of the sprocket-wheel 17, and oversprocket 18 downward, engaging the opposite side of the wheel 17, and under the idler 16', thence horizontally forward, engaging the upper edge of the pedal-sprocket 15', thence under the idler 16² and vertically upward, engaging the rear edge of the sprocket 17', thence around the sprocket 18' and downward, engaging the forward edge of the sprocket 17', and around the idler 16³ and horizontally rearward, engaging the lower edges of the pedal-gears 15' and 15, to the starting-point.

The sprocket-gears 15 15' are each mounted on a crank-shaft 15², provided with the usual pedals propelled by riders on the saddle-seats 19 19', who also manipulate the crank-handles 20 20 on the crank-shafts 21 21, carrying the sprocket-wheels 18 18'.

22 22' denote multiple crank-shafts journaled in suitable bearings and provided with loose hand-grips 23, which may be conveniently reached by persons on the fixed seats 24 24 to assist in propelling the craft.

25 denotes the rudder, the post 26 of which is provided with a bifurcated tiller 27 to receive the friction-roller 28 on the rear arm of the steering-lever 29, fulcrumed on the bolt 30, and its forward end terminates in a toe 31, which has a spring engagement with a notched rack 32, arranged in the rear of the seat 19 and within convenient reach of the person occupying said seat.

An auxiliary arm 33 extends upward and forward from the steering-lever, and it terminates in a horizontally-curved brace or bracket 34, which forms a back-rest for the rider on the rear seat and which also enables him to steer the boat without the use of his hands, for by pressing the rest 34 upward with his back the toe 31 is lifted out of the rack 32, and the rider by swaying his body to the right or left causes the rudder to alter the course of the boat.

I do not herein claim the steering mechanism, as that will form the subject-matter of a separate application.

The accompanying drawings show my invention in the best form now known to me; but many changes in the details might be

made within the skill of a good mechanic without departing from the spirit of my invention as set forth in the claim at the end of this specification.

5 Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

10 The combination with the boat, the pillow-blocks, 5 5, formed with the knobs, 7 7, the elevating-screws, 10 10, mounted in stationary blocks fixed to the boat, the clamps, 8 8, connecting the pillow-block knobs, and elevating-screws, the paddle-wheel shaft journaled in said pillow-blocks, a sprocket-wheel

fixed on said shaft, a series of crank-shafts 15 and sprocket-wheels, and an endless sprocket-chain connecting said wheels, hand and foot cranks fixed to said wheels and adapted to impart a rotary motion to said paddle-wheel shaft, substantially as and for the purpose set 20 forth.

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

HAMILTON DAVIS GUFFEY.

Witnesses:

JOHN A. HELFERSTINE,
NEAL B. MARSHALL.