

(No Model.)

2 Sheets—Sheet 1.

F. GILES.
PROPELLER FOR BOATS.

No. 487,012.

Patented Nov. 29, 1892.

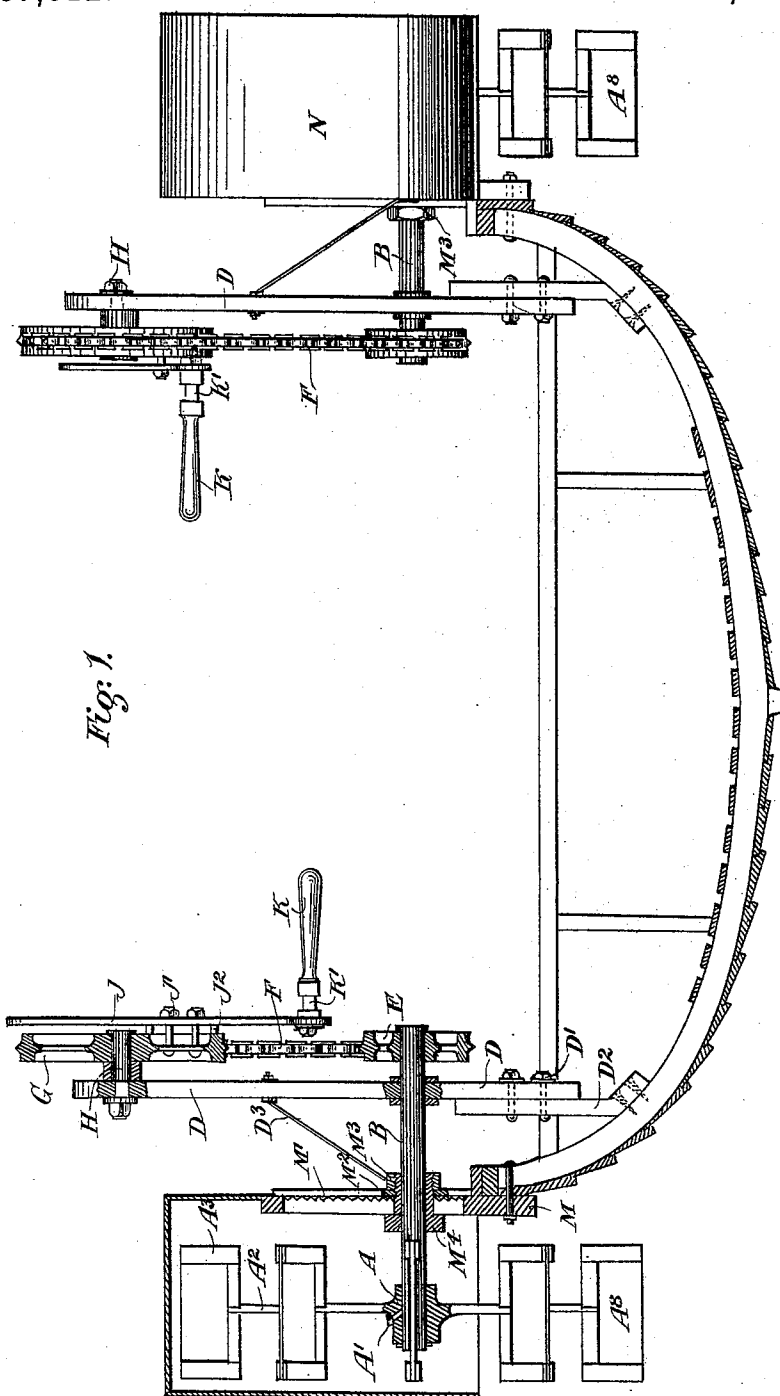


Fig. 1.

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2 Sheets—Sheet 2.

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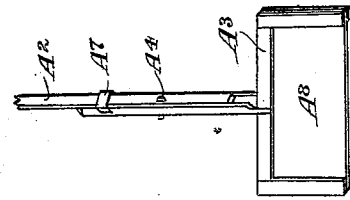


Fig. 4.

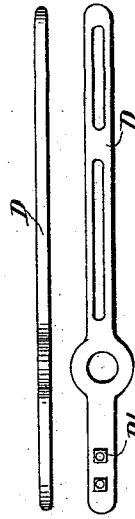
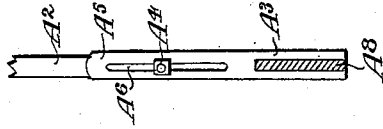


Fig. 5.

Fig. 3.

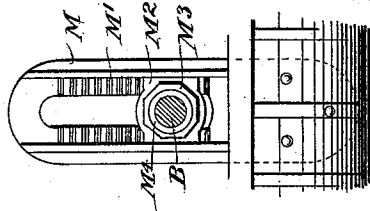
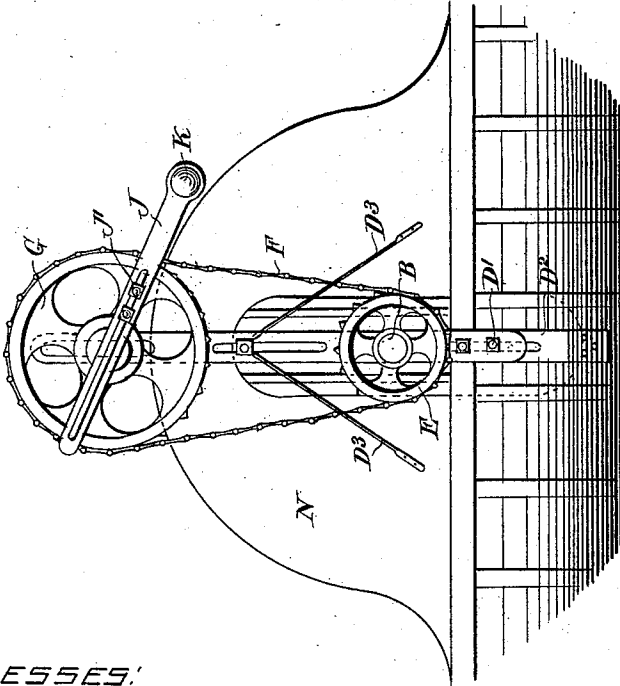


Fig. 6.



Fig. 2.



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UNITED STATES PATENT OFFICE.

FREDERICK GILES, OF SOUTH YARRA, NEAR MELBOURNE, VICTORIA.

PROPELLER FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 487,012, dated November 29, 1892.

Application filed May 23, 1892. Serial No. 433,974. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK GILES, engineer, a citizen of Melbourne, and a subject of the Queen of Great Britain, and a resident of Fawknor Street, South Yarra, near Melbourne, aforesaid, in the Colony of Victoria, Australia, have invented a certain new, useful, and Improved Apparatus for Propelling Boats by Hand-Power, of which the following is a specification.

This invention has been devised for the purpose of affording the public a convenient, cheap, and effective apparatus for propelling boats—such, for instance, as ordinary river and pleasure boats. In practice it is found that the pulling of boats by means of oars is a very laborious operation, particularly so to women or people of weak muscles on account of the strain on the arms, which it is necessary to exert in feathering and pulling paddles or oars. The use of my invention overcomes these objectionable features, and in addition the person propelling the boat may sit facing the direction in which the boat is proceeding. There being no through-shaft and each paddle having its own mechanism complete, the necessity of a rudder is obviated, and the boat may be steered by simply slackening or reversing one of the paddles. The apparatus may be amplified to suit any number of people in the boat. I would also point out that the labor exerted in the return or back stroke of oars is lost and that a boat so pulled proceeds on its course in a jerky or jumpy manner, whereas by my apparatus a boat can be made to travel at a steady and continuous speed. I am aware that paddle-wheels have been before used for propelling boats, but not in the peculiar manner in which mine are driven.

In order to explain my invention, I will now refer to the drawings, in which—

Figure 1 shows a cross-section of a boat fitted with my propelling apparatus, half of the said apparatus being in section and half in elevation; Fig. 2, a view of the apparatus from the interior of the boat, while Figs. 3, 4, 5, and 6 show detached views of some of the details of Figs. 1 and 2.

In the drawings, A is a paddle-wheel, which is set and fastened on a shaft B by means of a set-screw pin A'. The arms A² and blade-frames A³ of the wheel A are specially con-

structed to admit of their extension or shortening, as required, and the details of which will be seen on Fig. 4, in which A² is a spoke of the wheel, specially shaped to engage by means of a through-bolt A⁴ with a sliding box A⁵. This latter has an extended slot A⁶ along a portion of its length, which receives the said bolt A⁴ for the adjustment of the length of the paddle-arm.

On the sliding box A⁵ is also mounted a limitation-strap A⁷. At the extremity of the said box the paddles are attached and consist of the frame A³, shaped to receive the paddle-blades A³, which are secured by means of a small screw. The shaft B passes through an adjustable bearing, thence through an upright adjustable frame D, and terminates in a small band and sprocket-wheel E. (See Figs. 1 and 2.) This wheel E is rotated through the medium of a chain F by a larger and somewhat-similar wheel G. This latter wheel G is centered and rotated on a peculiarly-constructed pin-shaft H, which may be moved up or down for setting at any level on the said upright frame D.

To the wheel G is attached an adjustable slotted bar J, Figs. 1 and 2, by means of through-bolts J', and stop-pins J² are provided for screwing against, the said slotted bar terminating in a specially-constructed handle K, on a portion of which said handle is a groove or space K', the use of which will be explained hereinafter. The frame D is supported in its upward position by means of bolts D' and lower standard-frame D². This said lower frame D² is also provided with an extended slot for use when lowering or raising the apparatus. Stay-rods D³ are provided for imparting rigidity to the frame D. A forked rod L (see Fig. 6) is also provided, which is for use when a number of people are on, say, a pleasure excursion and are desirous of assisting the person propelling the boat, the fork L' fitting in the recess K', Fig. 1, the operator exerting power at the handle L².

I will now proceed to explain the details of the apparatus for raising or lowering of the parts, in order that they may be adjusted to the drafts of different boats.

Referring particularly to Figs. 1 and 3, M is a framework of metal, which is affixed to the side of the boat by bolts or screws and

in which a large vertical slot is formed. On the inner side of the frame is arranged a vertical set of teeth M', in which a corresponding set of teeth engage. These latter teeth
5 are formed in a block-washer M², the said washer being kept in position by the strain of a nut M³.

M⁴ is a block or bush of metal, which flanges outside of the frame M and proceeds through
10 the slot in M and block-washer M², where it engages with a screw and nut M³. Provision is also made to permit the adjustment of the frame D and its parts, (see Figs. 1, 2, and 5), in which it will be seen that slots are provided
15 for adjusting the top pin-shaft H and the stay-rods D³. Shield-boxes N are provided to prevent any splash-water coming into the boat.

The *modus operandi* of my invention is as follows: Rotary motion is imparted to the
20 handles K by the operator. This will rotate the top wheels G and (by reason of the chains F) the lower wheels E, shafts B, and paddles A. Should the boat require steering, the operator may accelerate the motion of one of
25 the paddles, and, if necessary, at the same time reverse the action of the other. Should he desire assistance from one or more people in the boat, the rods L (see Fig. 6) may be nicked into their places at K' and the rods L
30 worked from other parts of the boat, any splash-water from the action of the paddles being prevented by the shield-boxes N. Presume that it is desirable to give the paddles less
35 depth of immersion in the water, owing to the boat being heavily laden, or from any other cause, the screws D', stay-bolt D³, and the large nut M³ are loosened. This will disengage the teeth in the rack M' and washer M²
40 and permit the raising of the whole apparatus to the required height, at which the nuts may be again tightened and the apparatus is ready for use. Should it be desirable to al-

ter the radius at which the handle K is set, the bolts J' may be loosened and the slotted rod J altered as required. Oil-holes are conveniently arranged at the required parts for the purpose of lubrication.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, 50 I declare that what I claim is—

1. In a propeller for boats, the combination, with a vertically-adjustable bearing, of a propeller-shaft journaled therein, longitudinally-adjustable spokes secured on the shaft and carrying paddles, a sprocket-wheel on the shaft, a frame carrying a vertically-adjustable stud, a sprocket-wheel on the stud, and a sprocket-chain connecting the two wheels, as set forth. 60

2. In a propeller for boats, the combination, with the side or gunwale thereof, of a frame secured thereto having a plurality of serrations, a block having serrations adapted to be clamped into engagement with the serrations of the frame, a propeller-shaft journaled in the block and carrying a series of longitudinally-adjustable spokes provided with paddles, a sprocket-wheel on the shaft, a standard carrying a vertically-adjustable stud, a sprocket-wheel on the stud, a sprocket-chain connecting the two wheels, and a crank carried by the sprocket-wheel on the stud, said crank being axially adjustable, as set forth. 70

In witness whereof I hereunto set my hand in presence of two witnesses.

FREDERICK GILES.

Witnesses:

A. O. SACHSE,
C. E., Melbourne.

C. W. WADE.
C. E., Melbourne.