

F. A. CREED.  
MOTOR POWER FOR BOATS.  
APPLICATION FILED MAR. 25, 1902.

NO MODEL.

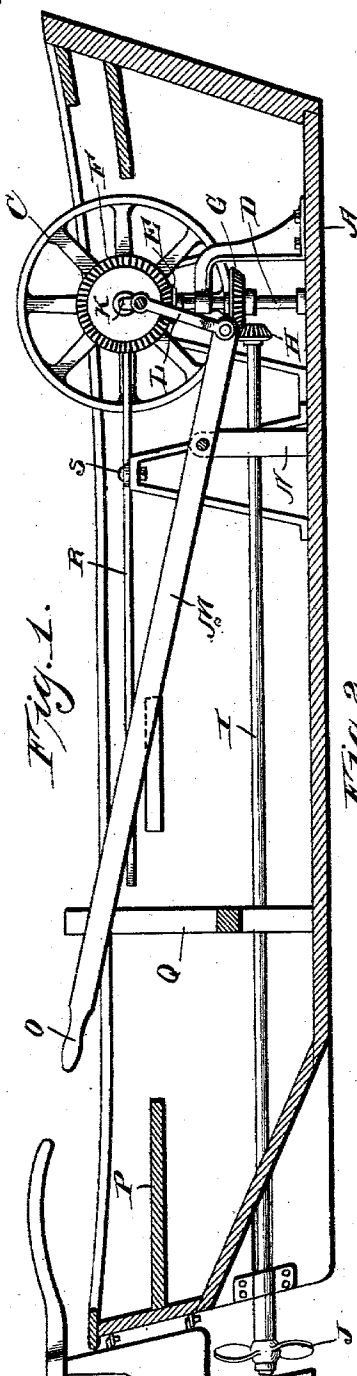


Fig. 1.

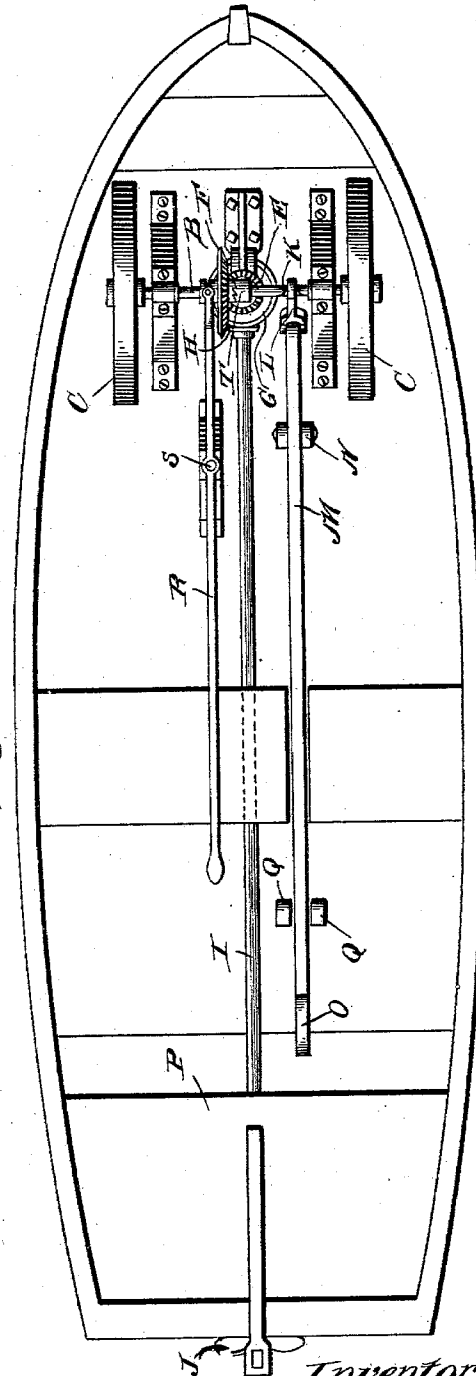


Fig. 2.

Witnesses:

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# UNITED STATES PATENT OFFICE.

FRED A. CREED, OF WHATCOM, WASHINGTON.

## MOTOR-POWER FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 720,897, dated February 17, 1903.

Application filed March 25, 1902. Serial No. 99,854. (No model.)

*To all whom it may concern:*

Be it known that I, FRED A. CREED, a citizen of the United States, residing at Whatcom, county of Whatcom, and State of Washington, have invented a certain new and useful Improvement in Motor-Power for Boats, of which the following is a specification.

My invention relates to a new and useful improvement in motor-power for boats, and is especially designed for use upon small boats, such as row-boats, and has for its object to provide a motor-power which will drive the boat at a greater speed than could be accomplished by oars and at a less expenditure of energy upon the part of the operator.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a longitudinal vertical section of a boat with my invention applied thereto; Fig. 2, a plan view of the same.

A represents the body of the boat; B, a shaft extending transversely of the boat and journaled in bearings arising from the bottom of the boat. This shaft has secured to it near each end the balance or fly wheel C. In the center of the forward end of the boat, directly underneath the shaft B, is journaled a vertical shaft D, which carries on its upper end a small beveled pinion E, which is adapted to mesh with the larger beveled wheel F, journaled upon the horizontal shaft B.

G is a beveled wheel also secured upon and near the lower end of the vertical shaft D, and this beveled wheel is in mesh with a smaller beveled pinion H, which is secured upon the forward end of a shaft I, extending longitudinally of the boat, through the rear end thereof, and has secured upon the rear end, outside of the boat, the screw-propeller J. Thus it will be seen that if the shaft B is rotated the motion will be communicated through the several beveled gears to the propeller J, which will propel the boat forward.

For the purpose of communicating rotary motion to the shaft B, I provide said shaft with a crank K. To the wrist-pin is connected a short pitman or link L, the other end of which is connected to the forward end of a lever M. Said lever is pivoted to the upper end of a standard N, which forms a fulcrum, and from this point the lever extends rearward and terminates in a handle O within easy reach of the operator seated upon the rear seat P. By forcing the lever M upward and downward rotary motion will be communicated to the shaft B through the crank K.

Q represents guides for guiding the handle in its vertical movements.

For the purpose of disconnecting the power from the propeller I journal the large gear-wheel F loosely upon the shaft D, and in the hub of this gear-wheel I form a groove in which rests a pin secured to the end of a lever R, which is pivoted at the point S between its two ends, so that said lever will have a horizontal movement, and the handle of the lever is within easy reach of the operator, so that by moving the lever the gear-wheel F will be moved along the shaft B without interfering with its rotary movement. Thus the gear-wheel F can be thrown in or out of gear with the small gear-wheel E for the purpose of connecting or disconnecting the power. For the purpose of causing the bevel-wheel F to rotate with the shaft B when it is thrown in gear with the small bevel-wheel E, I secure to the shaft B rigidly a collar T, which has clutch-teeth formed upon its face. The bevel-wheel F also carries clutch-teeth adapted to engage the clutch-teeth upon the collar T when the bevel-wheel F is thrown into gear with the bevel-wheel E. Thus in starting the boat the lever M may be forced up and down quickly, so as to cause the fly-wheel C to revolve at a great rate of speed, and after a sufficient momentum has been created the gear-wheel F can be thrown into gear with the small gear-wheel E and also in clutch with the clutch T, so as to start the propeller easily.

It is a well-known fact that in row-boats the distance between the oar-locks of the oar is greater from said fulcrum to the outer end of the oar than it is from the fulcrum to the handle of the oar. Therefore the lever-

age is against the rower of the boat, and another loss of power is that the oars after they have completed their movements in the water have to be lifted out of the water and returned to their first position before power can again be applied to force the boat forward. With my invention the leverage is all in favor of the operator, as the lever is much longer from the fulcrum to the handle than it is from the fulcrum to the link L, connected to the crank, and by the use of this invention a continuous movement is maintained, as the power is applied continually, and a further advantage is that the lever can be operated with one hand, if necessary, leaving the other hand free to steer the boat or for any other purpose. This feature would make a boat equipped with this apparatus very valuable as a life-saving boat.

If desired, the lever M could be connected to a small motor and be operated in that way instead of by hand-power.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is—

1. In a motor-power for boats, a longitudinal propeller-shaft, a vertical shaft, beveled gears located upon each of these shafts in mesh with one another, a horizontal transverse shaft, a beveled gear secured to said transverse shaft, a beveled gear secured to the upper end of the vertical shaft in mesh with the beveled gear upon the transverse shaft, fly-

wheels located upon each end of the transverse horizontal shaft, a crank located upon the transverse shaft, a lever and link connected to said crank so as to cause the revolution of the transverse shaft as the lever is oscillated vertically, a clutch located upon the transverse shaft, a lever connected to said clutch and extending to the rear of the boat, as and for the purpose specified.

2. In a motor-power for boats, a longitudinal propeller-shaft extending from the rear to the bow of the boat, a transverse horizontal shaft journaled in suitable bearings in the bow of the boat, suitable gearing for transmitting rotary motion to the propeller-shaft when the horizontal shaft is rotated, a crank located upon the horizontal shaft, a link connected at one end to said crank, a lever connected at one end to the other end of the link, said lever pivoted to the boat at a point intermediate of its ends, the upper end of the lever extending to the rear of the boat, flywheels located upon the horizontal shaft, suitable clutch mechanism for throwing the propeller-shaft in or out of action while the horizontal shaft is rotating, and a lever extending to the rear of the boat for operating said clutch mechanism, as specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

FRED A. CREED.

Witnesses:

RICHARD FENTON,  
CARRIE DIBBLE.