

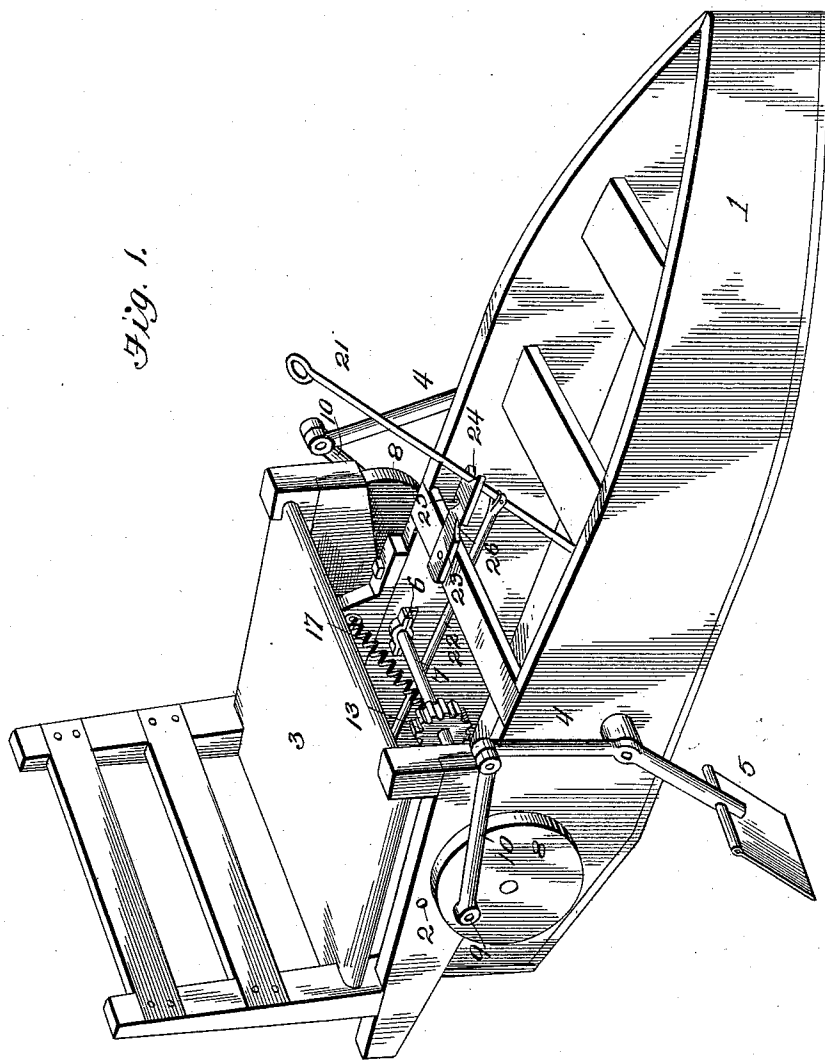
(No Model.)

2 Sheets—Sheet 1.

J. SMITH.
PROPELLING MECHANISM FOR BOATS.

No. 533,852.

Patented Feb. 5, 1895.



Inventor
John Smith.

Witnesses

For. G. Stack
[Signature]

By his Attorneys.

C. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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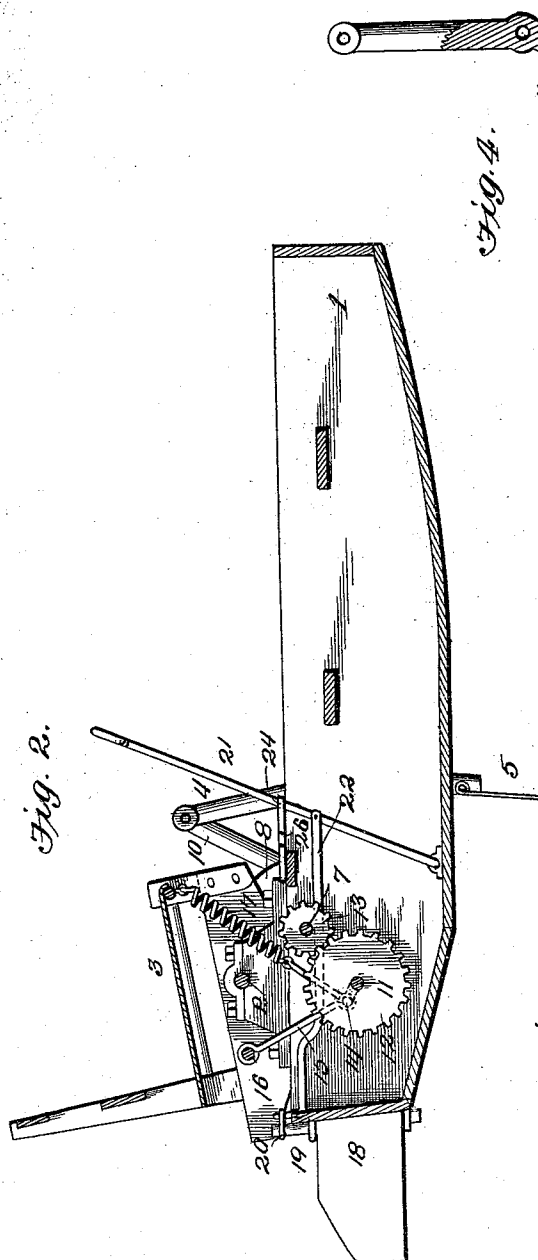


Fig. 4.

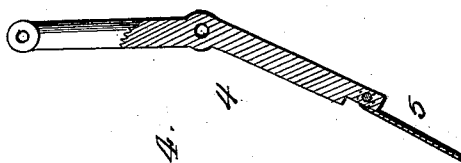
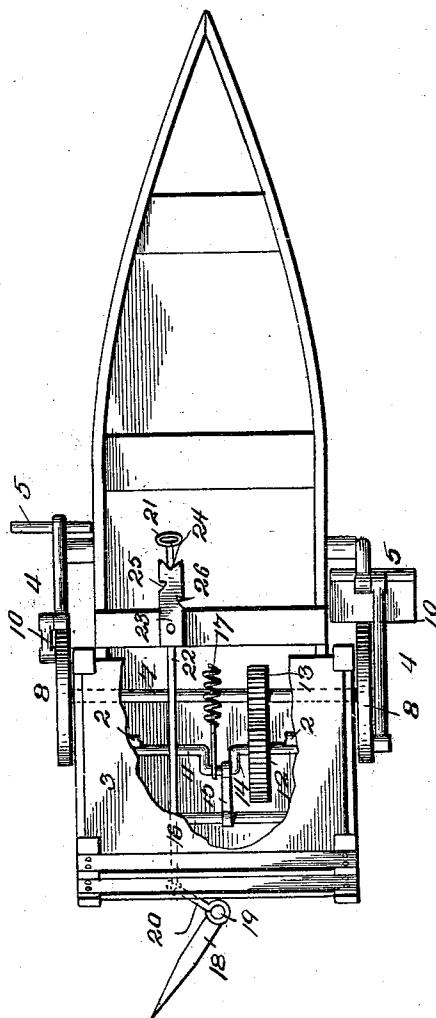


Fig. 3.



Inventor
John Smith

Witnesses

Jos. C. Stack.
[Signature]

By Two Attorneys.

Chas. H. Co.

UNITED STATES PATENT OFFICE.

JOHN SMITH, OF AURELIAN SPRINGS, ASSIGNOR TO EDWARD T. CLARK, OF
WELDON, NORTH CAROLINA.

PROPELLING MECHANISM FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 533,852, dated February 5, 1895.

Application filed July 27, 1894. Serial No. 518,766. (No model.)

To all whom it may concern:

Be it known that I, JOHN SMITH, a citizen of the United States, residing at Aurelian Springs, in the county of Halifax and State of North Carolina, have invented a new and useful Motor for Boats, of which the following is a specification.

My invention relates to motors for operating boats adapted for use by fishermen, pleasure-seekers, and others in which it is desirable that the hands of the operator shall be left free; and it has for its object to provide a motor adapted to be operated by an oscillatory lever, preferably in the form of a seat.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings:—Figure 1 is a perspective view of a boat provided with a motor constructed in accordance with my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a plan view, partly broken away to show the mechanism for communicating the motion of the operating lever to the paddles. Fig. 4 is a detail view of one of the paddles.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the boat proper, which may be of any suitable or preferred construction, and mounted thereon by means of a rock-shaft 2 is the operating lever 3, which in the construction illustrated in the drawings consists of a seat for the operator.

Pivotaly connected to the sides of the boat are the paddles 4 provided at their lower extremities with swinging-wings 5, which are adapted when the lower ends of the paddles are moving forward through the water to fold and move edgewise through the water, and when the lower ends of the paddles are moving toward the rear to be held in a position substantially perpendicular to the plane of the surface of the water, so as to give the desired impulse to the boat, after the manner of oars or other propelling devices.

Mounted in suitable bearings 6 and extending at its terminals beyond the side walls of the boat is a rotary shaft 7 carrying crank-

wheels 8, and the crank or wrist pins 9 on said crank-wheels are connected by means of pitmen 10 to the upper extremities of the paddles.

Mounted in suitable bearings adjacent to those of the shaft 7 is a driving-shaft 11 provided with a gear 12, which meshes with a pinion 13 on said shaft 7, and the driving-shaft is provided with a crank 14, which is connected by means of a pitman 15 to a cross-bar 16, forming a part of the operating lever. In the construction illustrated, this cross-bar 16 is arranged in rear of the rock-shaft upon which the operating lever oscillates, and therefore it will be seen that as the operating lever, or in this case the seat, is oscillated, motion is communicated by means of the pitman 15 to the crank of the driving-shaft, and thence through the intermediate gearing to the shaft 7, thus oscillating the paddles continuously during the movement of the operating lever. The pitmen by which motion is communicated from the crank-wheels of the shaft 7 to the upper extremities of the paddles, are preferably connected to the diametrically opposite points of the crank-wheels, whereby the paddles operate in opposite directions, one wing advancing during the backward movement of the other.

In order to return the parts of the motor to an initial position which is not on a dead-center when the operating lever is released, whereby when said operating lever is moved motion is communicated to the paddles without previously overcoming a dead center, I employ a contractile spring 17, preferably attached to the operating lever in advance of its fulcrum and connected in a suitable manner to the crank of the driving-shaft.

In connection with the above described mechanism I employ a rudder 18, the staff 19 of which is provided with a lateral arm 20, and connecting this lateral arm to a hand-lever 21 is a rod 22, said hand-lever being arranged in front of the seat or operating lever. I also provide means for holding this steering-lever in a fixed position, the same consisting of a pivotal catch 23 provided with a terminal notch 24 and lateral notches 25 and 26. When the steering lever is engaged with the notch 25 the rudder is arranged in direct lon-

gitudinal alignment with the boat to cause a movement of the latter in a straight line through the water. When said lever is engaged with the terminal notch 24 of the catch
5 the rudder is arranged in a deflected position to steer the boat toward the left or port side, and when said hand-lever is engaged with the notch 26, the rudder is adjusted in the opposite deflected position to steer the boat to the
10 right or to the starboard side.

In operation, the operating lever is oscillated to cause a movement similar to that of a rocking chair, and this motion is communicated by the intermediate connections above
15 described to the paddles, to cause a continuous oscillation thereof, thereby imparting a forward or progressive movement to the boat.

It will be understood that in practice various changes in the form, proportion, and
20 minor details of construction may be resorted to without departing from the spirit of the invention, or sacrificing any of the advantages thereof.

Having described my invention, what I
25 claim is—

The combination with a boat, of pivoted oscillatory paddles mounted upon opposite sides thereof and provided at their lower ends with swinging-blades, a crank-shaft mounted transversely in the boat and having terminal
30 crank-disks connected by pitmen with the paddles, an operating lever mounted for rocking movement above said crank-shaft, this operating lever being constructed in the form of a seat, a driving-shaft connected by intermediate
35 gearing with said crank-shaft, and provided with an intermediate crank, a pitman connecting said operating lever in rear of its fulcrum with the crank of the driving-shaft, and a contractile-spring connecting said
40 crank with the operating lever in front of its fulcrum, substantially as specified.

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

JOHN SMITH.

Witnesses:

G. W. BRIGGERSTAFF,
W. K. SMITH.