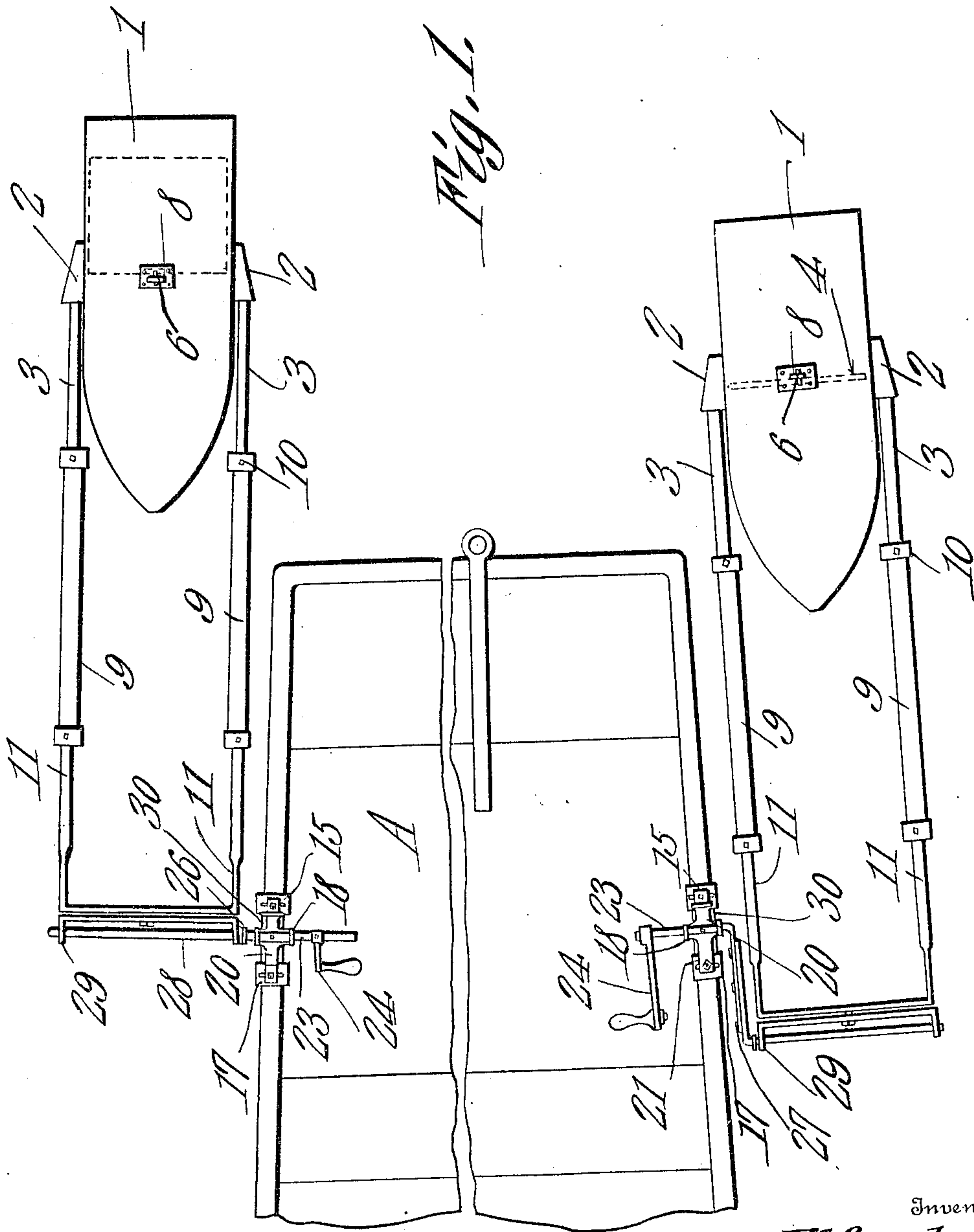


F. P. McELFRESH.
BOAT PROPELLER.
APPLICATION FILED AUG. 16, 1909.

Patented Dec. 21, 1909.
2 SHEETS—SHEET 1.

943,839.



Inventor

Franklin P. McElfresh.

Witnesses

Edw. H. Hunt
Charles Wilson

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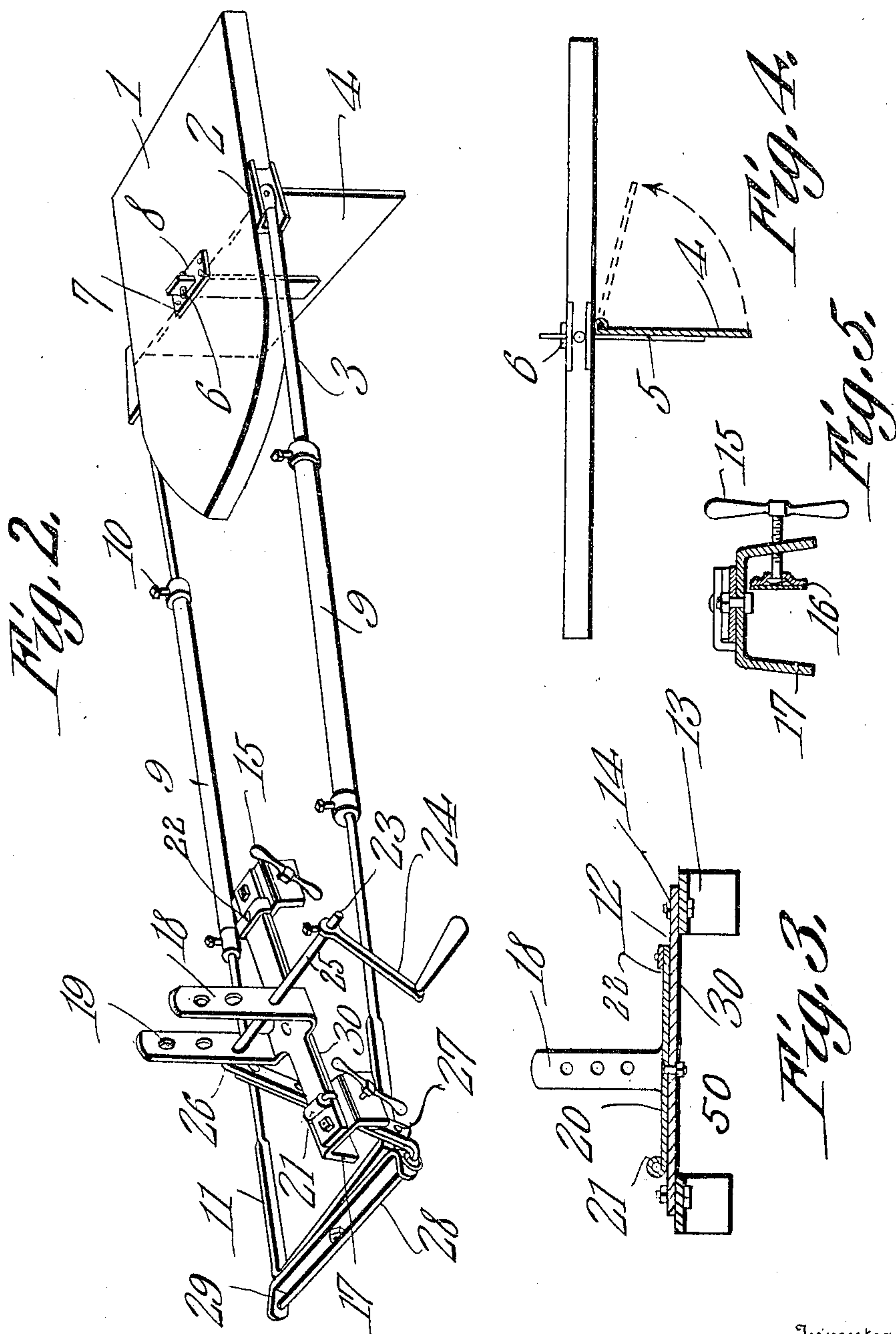
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UNITED STATES PATENT OFFICE.

FRANKLIN P. McELFRESH, OF SHELBY COUNTY, IOWA.

BOAT-PROPELLER.

943,839.

Specification of Letters Patent.

Patented Dec. 21, 1909.

Application filed August 16, 1909. Serial No. 513,055.

To all whom it may concern:

Be it known that I, FRANKLIN P. McELFRESH, a citizen of the United States, residing in the county of Shelby and State of Iowa, have invented a new and useful Boat-Propeller, of which the following is a specification.

This invention relates to new and useful improvements in boat propellers and is designed to construct a propeller which may be attached to all sizes of boats to be manually or mechanically operated.

It contemplates the construction of a propeller of this type and character which is adjustable in reference to the length of stroke to be taken thereby to permit the operator to face the bow in a manually propelled boat.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts, all as hereinafter fully described, specifically claimed and illustrated in the accompanying drawings, wherein,—

Figure 1 is a top plan of the stern of a boat adapted to be manually propelled by my improved device, showing the propellers in two positions. Fig. 2 is a detail perspective of a propeller constructed after the present invention. Fig. 3 is a central longitudinal section of the clamping apparatus. Fig. 4 is a side elevation of the float showing the paddle and the stop for the same. Fig. 5 is a transverse section of the clamping member.

Reference being had to the drawings A indicates in general the stern of a row boat supplied with my improved propellers. These propellers involve in their organization, a float, carrying on its under face a pivotal paddle blade, and a pair of arms secured thereto which, through the instrumentality of a swivel attached to a crank arm clamped to the gunwale of a boat, are reciprocated. This float 1 may be constructed of wood or a like substance and is in its general contour, in the shape of a boat, the bow thereof extending in the direction of the course of travel, while the stern is approximately rectangular. A pair of angular centrally disposed channel plates 2 are carried on each longitudinal side of the float and are so constructed that they retain the float 1 in an approximately rigid position in relation to the operating arms 3, the rear terminals of which are secured therein.

Pivoted on the under face of this float by any suitable means, adjacent these angular plates 2 is the transverse paddle blade 4 adapted to bear against the stop 5 when in its operative or propelling position. This stop is so situated that the same is adapted to be placed to bear on either the forward or aft face of the paddle blade thus serving as a brace when the blade is in an operative position. This stop comprises a bar having an orifice at its upper extremity in which is inserted a stationary or split pin 6, said pin preventing any displacement thereof by bearing against the reinforcing plate 7 about the orifice 8 in the float 1.

The arms 3 are secured at their forward terminals in the sleeves 9 by the set screws 10 passing through said sleeves and bearing against the arms, while a U formed similarly constructed bar 11 is secured in a similar manner in the opposite extremities of the sleeves and forms a means whereby the float and paddle may be reciprocated through the instrumentality of a crank and crank arm carried on the gunwale of a boat.

A pair of U shaped clamps 13 arranged to span the gunwale are connected by the longitudinally extending bar 12 adapted to bear against the upper edge of said gunwale and are secured to the latter by the thumb-screws 15 carried by one arm of each clamp and operating the bearing plate 16, the gunwale of a boat engaging between said bearing plate 16 and the oppositely disposed arm 17. This longitudinally extending bar 12 carrying said clamps has rotatably secured thereto the crank supporting arms 18 having a series of registering openings 19 therein for the vertical adjustment of the crank 23. This journaling 18 for the crank shaft has a base plate 20 which, when the propeller is in operation is rigidly secured parallel to the longitudinal plate 12 by the pivotal lock 21 and is prevented from taking any outward swing by the angular stop 22 formed on the inner side thereof and which engages the bar 12. The rotation of this member 18 upon the pivot pin 50 permits the float and paddle when it is so desired, to be swung laterally into the boat and there retained, but is so constructed through the presence of the stop 22, that the same, when it is being replaced in the water, is unable to swing from the side of the boat thus eliminating any trouble or inconvenience which might occur.

The crank indicated in general as 23 is of the usual construction having the operating handle 24 on the end of the shaft 25 adjacent the operator and the crank arm 26 oppositely disposed thereto, said arm having a series of orifices 27 therein registering with a similar set of orifices in the co-acting member 28 carried by the swivel 29 at the forward extremity of the drive arms 11. Thus it will be seen that should it be desired to make the arm 26 of a longer construction it may be done by placing the upper extremity of the co-acting member 28 adjacent the lower extremity of said crank arm, thus forming a long arm which will in its operation take a long decisive stroke when the handle is oscillated through a small arc.

From the foregoing it may be seen that in the construction shown in Fig. 2 that upon giving a rocking motion to the handle 24 the float, through the instrumentality of the swivel 29 and the arms 3—11 will be reciprocated. Upon the forward motion of the handle 24 the paddle blade 4 will take the position indicated by the dotted lines in Fig. 4 through the arc likewise indicated. By returning the handle to its normal position, by exerting a pull thereon, the water forces the blade 4 against the stop 5, thus presenting a flat surface against which the water will bear, exerting a push upon the boat. This form of motive power will not only give the boat a great deal of momentum, but will, when the operator is recovering to take another stroke furnish little resistance to the water, the blade 4 being feathered, and as a result in no way impeding the progress of the craft.

Having thus described my invention what I claim as new and desire to protect by Letters Patent is:—

1. In a boat-propeller of the class described, the combination with a crank, of a pair of longitudinally adjustable arms secured to said crank, a float interposed between the terminals of said arms, and a paddle carried on the under face of said float and adapted to be propelled by the reciprocation thereof.

2. In a boat-propelling mechanism of the class described, the combination with a crank, of a pair of adjustable rearwardly extending arms, swiveled to said crank, a float rigidly interposed between the terminals of the said arms, a paddle pivoted to the under surface of said float, and adapted to be alternately retained in an operative and in an inoperative position, and means whereby the entire device may be swung into the boat.

3. In a boat-propeller of the class described, the combination with gunwale engaging means, of a clevis pivotally secured to said means, a shaft journaled in said clevis, having an adjustable crank arm at

one extremity, and a handle at the other, and a pair of longitudinally adjustable rearwardly extending operating arms swiveled to said crank arm, a float rigidly interposed between the operating arms and having a blade pivotally secured to the under surface thereof, and means whereby said clevis may be retained in a rigid position.

4. In a boat-propeller of the class described, the combination with gunwale engaging means, of a clevis pivotally secured to said means, a shaft journaled in said clevis, having an adjustable crank arm at one extremity, and a handle at the other, and a pair of longitudinally adjustable rearwardly extending operating arms swiveled to said crank arm, a float rigidly interposed between the operating arms and having a paddle pivotally secured to the under surface thereof, and means whereby the clevis may be retained in an operative position, comprising a pivoted lock at the forward extremity thereof.

5. In a boat-propeller of the class described, the combination with gunwale engaging means, of a clevis pivotally secured to said means, a shaft journaled in said clevis, having an adjustable crank arm at one extremity, and a handle at the other, and a pair of longitudinally adjustable rearwardly extending operating arms swiveled to said crank arm, a float rigidly interposed between the operating arms and having a paddle pivotally secured to the under surface thereof, whereby the propelling motion thereof may be reversed.

6. In a boat-propeller of the class described, the combination with gunwale engaging means, of a clevis pivotally secured to said means, a shaft journaled in said clevis, having an adjustable crank arm at one extremity, and a handle at the other, and a pair of longitudinally adjustable rearwardly extending operating arms swiveled to said crank arm, a float rigidly interposed between the operating arms and having a paddle pivotally secured to the under surface thereof.

7. In a boat-propeller of the class described, the combination with gunwale engaging means, of a clevis pivotally secured to said means, a shaft journaled in said clevis, having an adjustable crank arm at one extremity, and a handle at the other, and a pair of longitudinally adjustable rearwardly extending operating arms swiveled to said crank arm, a float rigidly interposed between the operating arms and having a paddle pivotally secured to the other surface thereof, and means whereby the propelling motion may be reversed, comprising a stop carried in said float, which may be brought to bear against either the forward or aft faces of the blade.

8. In a boat-propelling mechanism of the

class described, the combination of an adjustable crank arm rotatably carried by the gunwale of the boat, of a pair of bipartite rearwardly extending arms each having an adjustable sleeve connecting its parts, a float interposed between the terminals of the last named arms and rigidly secured thereto, a paddle pivoted to the under surface of said float and adapted to furnish no resistance on the recovery, means whereby the motion

may be reversed, and means for effecting a swivel connection between the crank arm and the other arms.

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

FRANKLIN P. McELFRESH.

Witnesses:

PETER NYLEK,
M. CHRISTENSEN.