

No. 667,496.

Patented Feb. 5, 1901.

J. W. CAFFEY.
BOAT PROPELLER.

(Application filed Sept. 17, 1900.)

(No Model.)

2 Sheets—Sheet 1.

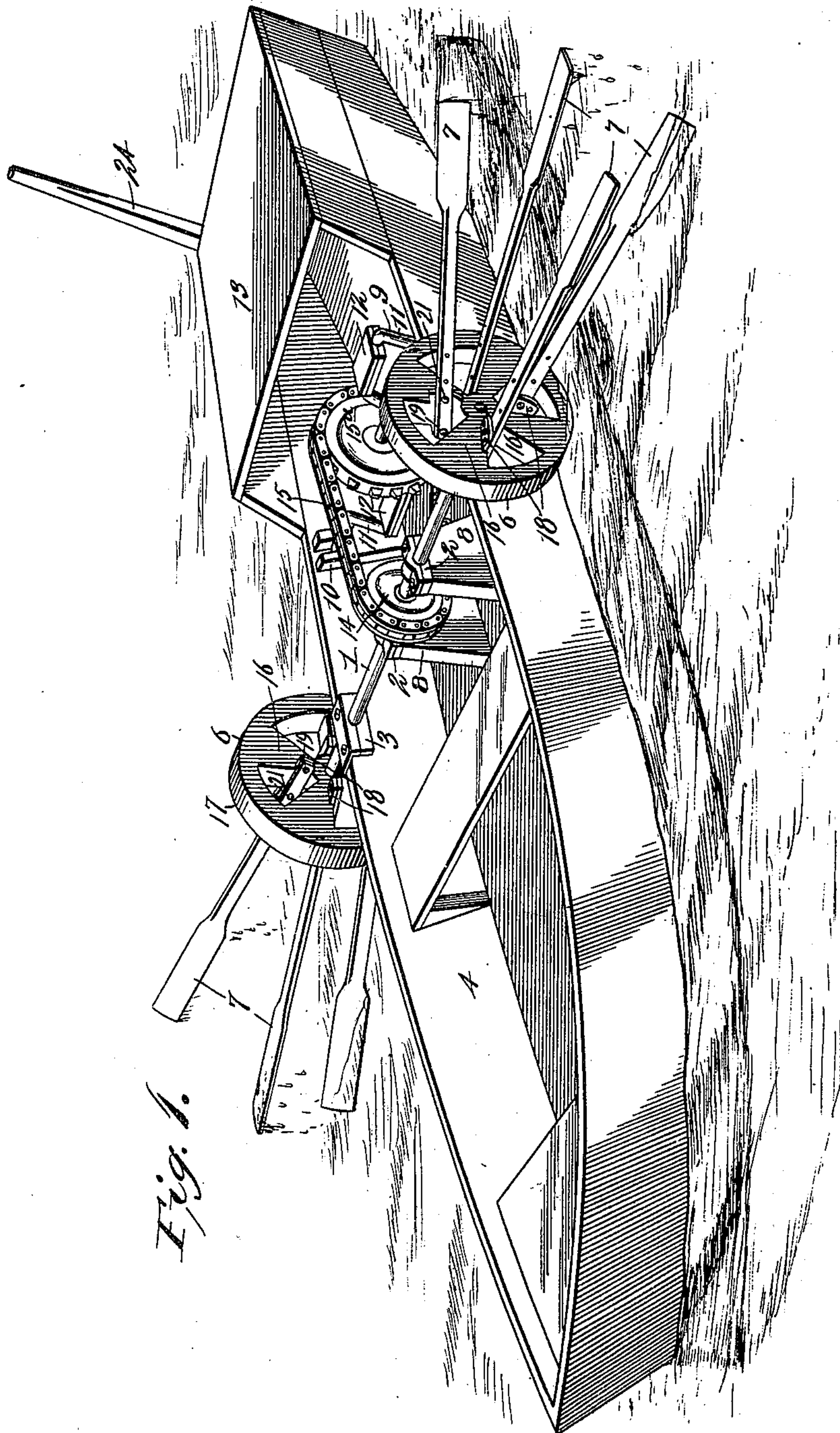


Fig. 1.

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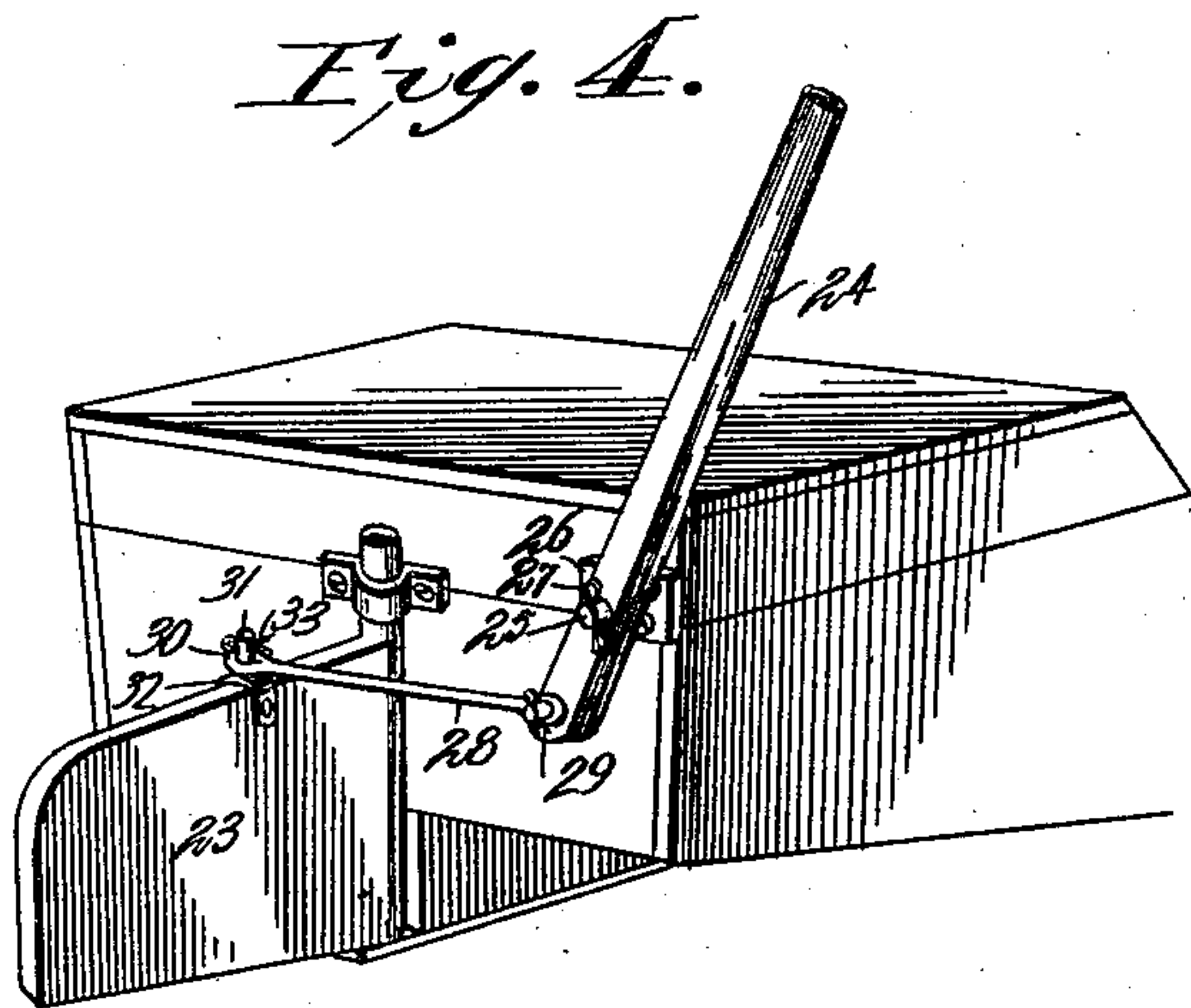
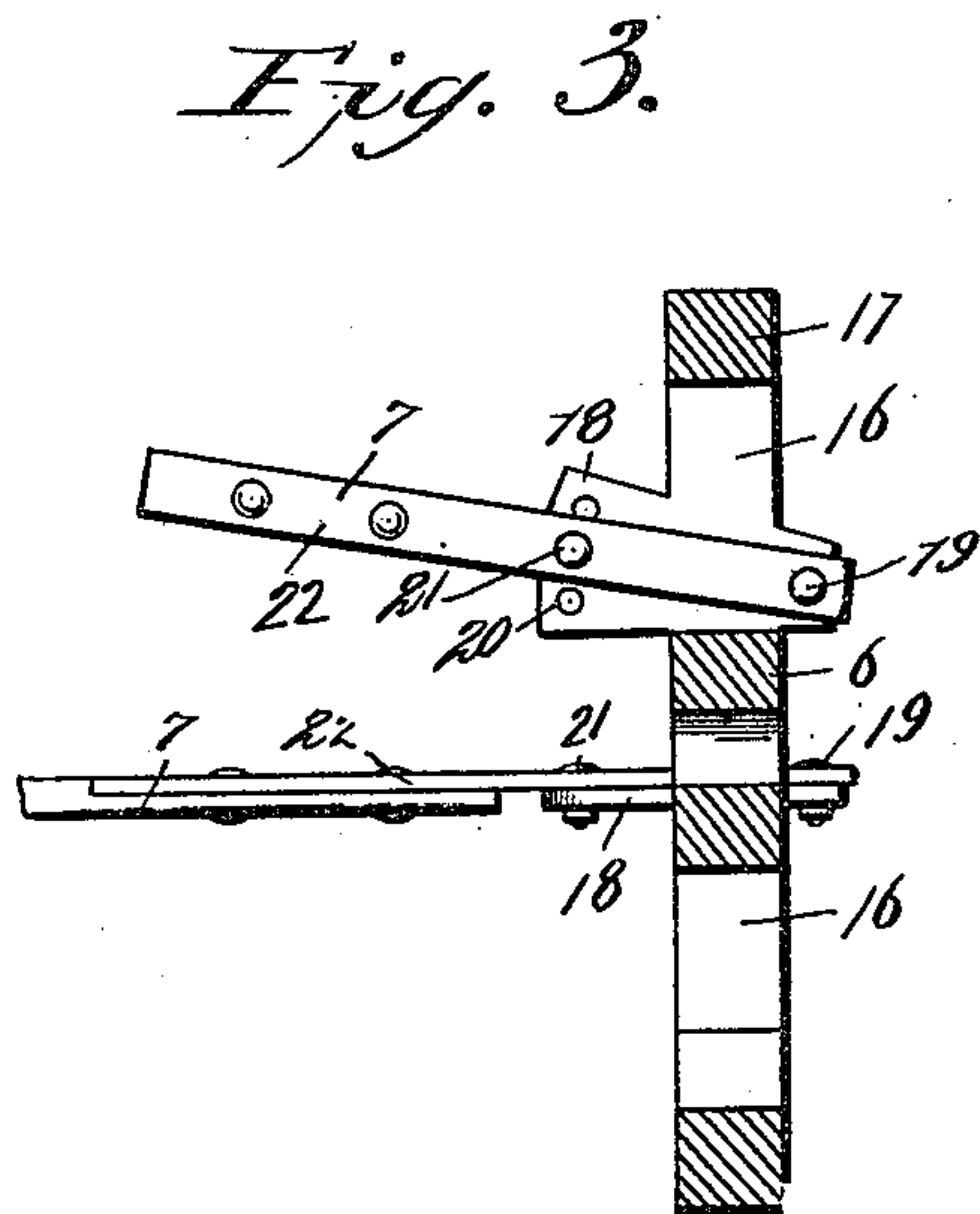
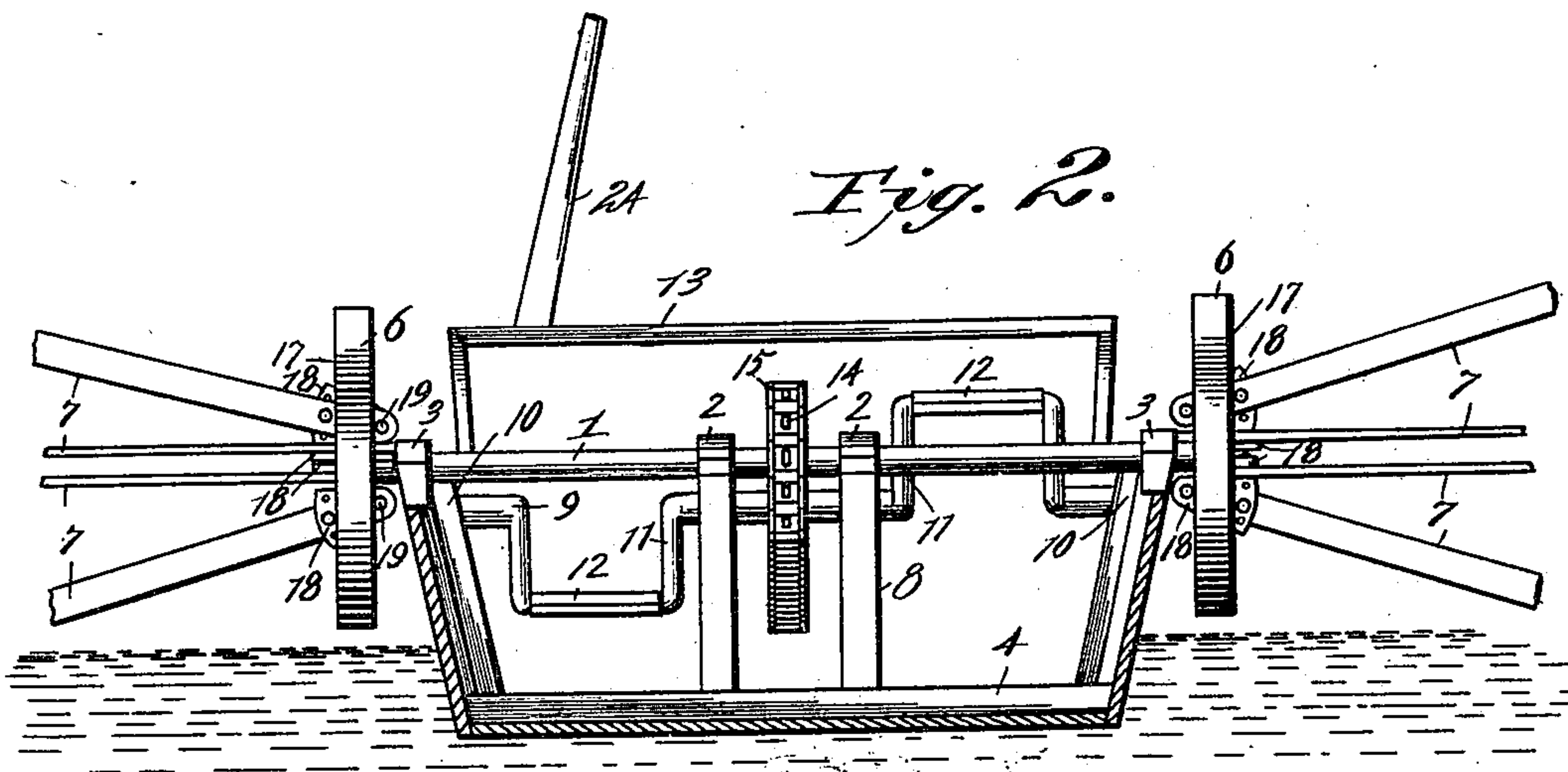
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UNITED STATES PATENT OFFICE.

JOHN W. CAFFEY, OF BASTROP, TEXAS.

BOAT-PROPELLER.

SPECIFICATION forming part of Letters Patent No. 667,496, dated February 5, 1901.

Application filed September 17, 1900. Serial No. 30,332. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. CAFFEY, a citizen of the United States, residing at Bastrop, in the county of Bastrop and State of Texas, have invented a new and useful Boat-Propeller, of which the following is a specification.

The invention relates to improvements in boat-propellers.

One object of the present invention is to improve the construction of boat-propellers and to provide a simple and comparatively inexpensive one adapted to be readily applied to small boats and capable of being easily operated to propel a boat rapidly.

A further object of the invention is to provide a propeller of this character adapted to move a boat backward or forward and capable of operating a plurality of oars and of enabling the same to be readily adjusted for entering the water to the desired depth.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a boat provided with a propeller constructed in accordance with this invention. Fig. 2 is a transverse sectional view. Fig. 3 is a detail view illustrating the manner of adjustably mounting the oars on the side wheels. Fig. 4 is a perspective view of the stern of the boat, illustrating the manner of mounting the rudder and the lever for operating the same.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a transverse shaft journaled in suitable bearings 2 and 3 of a boat 4 and extended beyond the sides thereof and having exterior side wheels 6 fixed to its ends and arranged, as illustrated in Fig. 1 of the accompanying drawings, for carrying a plurality of oars or paddles 7. The inner bearings 2, which are located at opposite sides of the center of the boat, are mounted upon short posts or supports 8, rising from the bottom of the boat, and the outer bearings 3 are suitably mounted on the sides of the boat at the upper edges thereof.

The main transverse shaft 1 is connected by sprocket-gearing with a transverse crank-shaft 9, located in rear of the shaft 1 and journaled at its ends in suitable bearings 10, located at opposite sides of the boat at the inner faces of the said sides and consisting of blocks or pieces provided with bearing-recesses. The crank-shaft is provided at opposite sides of its center with crank-bends 11, and it has suitable pedals 12 mounted on the crank-bends and adapted to be operated by the feet of a person seated upon the stern-seat 13 of the boat. The main shaft is provided between the inner bearings with a sprocket-pinion 14, receiving an endless sprocket-chain 15, which is also arranged upon a sprocket-wheel 15, fixed to the center of the crank-shaft. The sprocket-pinion and the sprocket-wheel may be varied in size to obtain the desired speed, and the form of the gearing for connecting the shafts may be varied, if desired.

The side wheels are provided with spokes 16, gradually increasing in size toward the rim 17 to locate the greatest weight at the periphery of the wheels, and each spoke is provided with a tapering transverse support 18, which is substantially sector-shaped and which extends beyond the inner and outer faces of the wheel. The inner end of the support is at the inner face of the wheel and is smaller than the outer end and is also provided with a perforation for a pivot 19 for adjustably mounting the oar or paddle on the wheel. The outer enlarged end of the tapering support is provided with a series of perforations 20 for the reception of a fastening device 21, whereby the oars or paddles may be arranged at different angles for causing them to enter the water to the desired depth to adapt the propelling mechanism to the load and to secure the necessary speed. The oars may be made continuous; but they are preferably provided at their inner ends with shanks or bars 22, bolted or otherwise secured to the oars, as clearly shown in Fig. 3. When the propelling mechanism is operated, the oars or paddles are successively dipped into the water and caused to propel the boat, and by providing a plurality of oars or paddles for each wheel a substantially continuous stroke is effected, and the propelling mech-

anism is adapted to drive the boat rapidly through the water at the expenditure of a minimum amount of power. The arrangement of the adjusting devices at points beyond the outer faces of the wheels enables access to be readily had to them for changing the angles of the oars or paddles.

The boat is provided with a rudder 23, which is operated by a lever 24, fulcrumed between its ends on the stern of the boat, at one side thereof, and arranged to oscillate in a vertical plane laterally to swing the rudder in either direction. The lever is fulcrumed on a horizontal pin or pivot 25 of a plate 26 and is detachably secured to the same by means of a key 27, and its lower end is connected by a link 28 with the rudder at a point in rear of the pivot thereof. The outer end of the link is provided with an eye and is secured by a pin or key 29 to a pivot of the lower end of the lever, and the inner end of the link is provided with an eye 30, secured on a pivot 31 of a yoke 32 by means of a key 33 or other suitable fastening device. The yoke 32 straddles the upper edge of the rudder and may be readily secured to the same at the desired point. The lever is adapted to be oscillated in either direction, and it is located in convenient position at one side of the stern of the boat, so that it may be readily grasped by the operator without interfering with the operation of the propelling mechanism, and by this arrangement the operator may propel the boat and guide the same from his position on the seat at the stern of the boat.

It will be seen that the propelling mechanism is simple and comparatively inexpensive in construction, that it is adapted to be readily applied to a boat, and that it will enable the same to be rapidly driven through the water. It will also be seen that the oars or paddles are mounted in convenient position and that their angle or inclination may be readily changed to adapt the propelling mechanism to the load of the boat, so that the oars or paddles will enter the water the desired depth.

What I claim is—

1. In a device of the class described, the combination of a wheel provided with transversely-disposed supports arranged at intervals and projecting from the inner and outer faces of the wheel, the blades or paddles extending through the wheel and pivoted to the supports at the inner ends thereof, and fastening devices mounted on the supports at the outer ends thereof, and adjustably securing the blades or paddles to the same, substantially as and for the purpose described.

2. In a device of the class described, the combination of a wheel provided at intervals with spokes and having transversely-disposed supports arranged at the spokes and projecting from the inner and outer faces of the wheel, the oars or paddles extending through the spaces between the spokes and pivoted at their inner ends to the inner ends of the supports, and fastening devices passing through the outer ends of the supports and through the oars or paddles, said supports being provided at their outer ends with perforations arranged at intervals to enable the angle of the oars or paddles to be changed, substantially as described.

3. In a device of the class described, the combination with a boat, of a transverse shaft journaled in suitable bearings thereof and projecting beyond the sides of the same, the wheels mounted on the ends of the shaft at the exterior of the boat and provided at intervals with tapering spokes having laterally-projecting supports, the oars or paddles pivotally mounted on the inner ends of the supports and capable of adjustment to change their angle or inclination, a transverse crank-shaft having pedals, and gearing connecting the shafts, substantially as described.

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

JOHN W. CAFFEY.

Witnesses:

J. B. PRICE,

R. A. BROOKS.