

No. 667,036.

Patented Jan. 29, 1901.

C. B. PROVINS.
CYCLE BOAT.

(Application filed Oct. 30, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

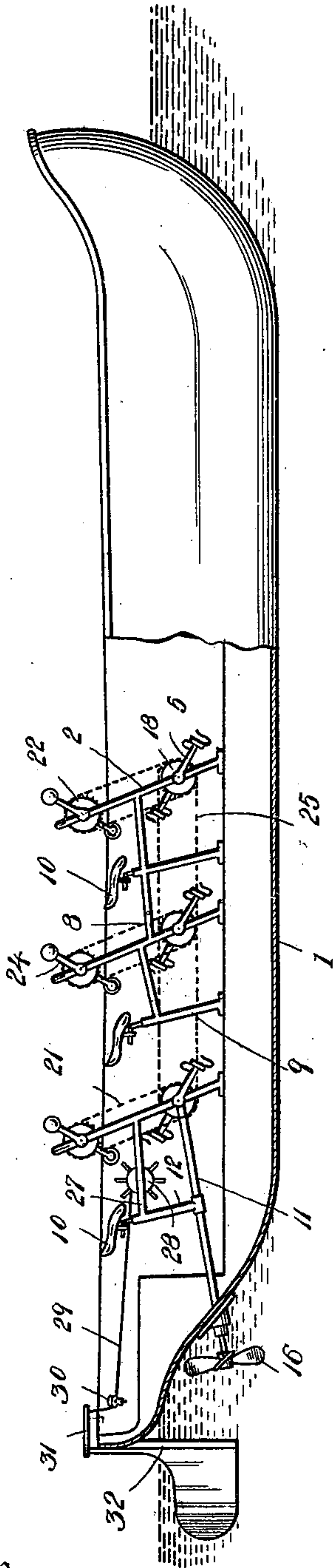
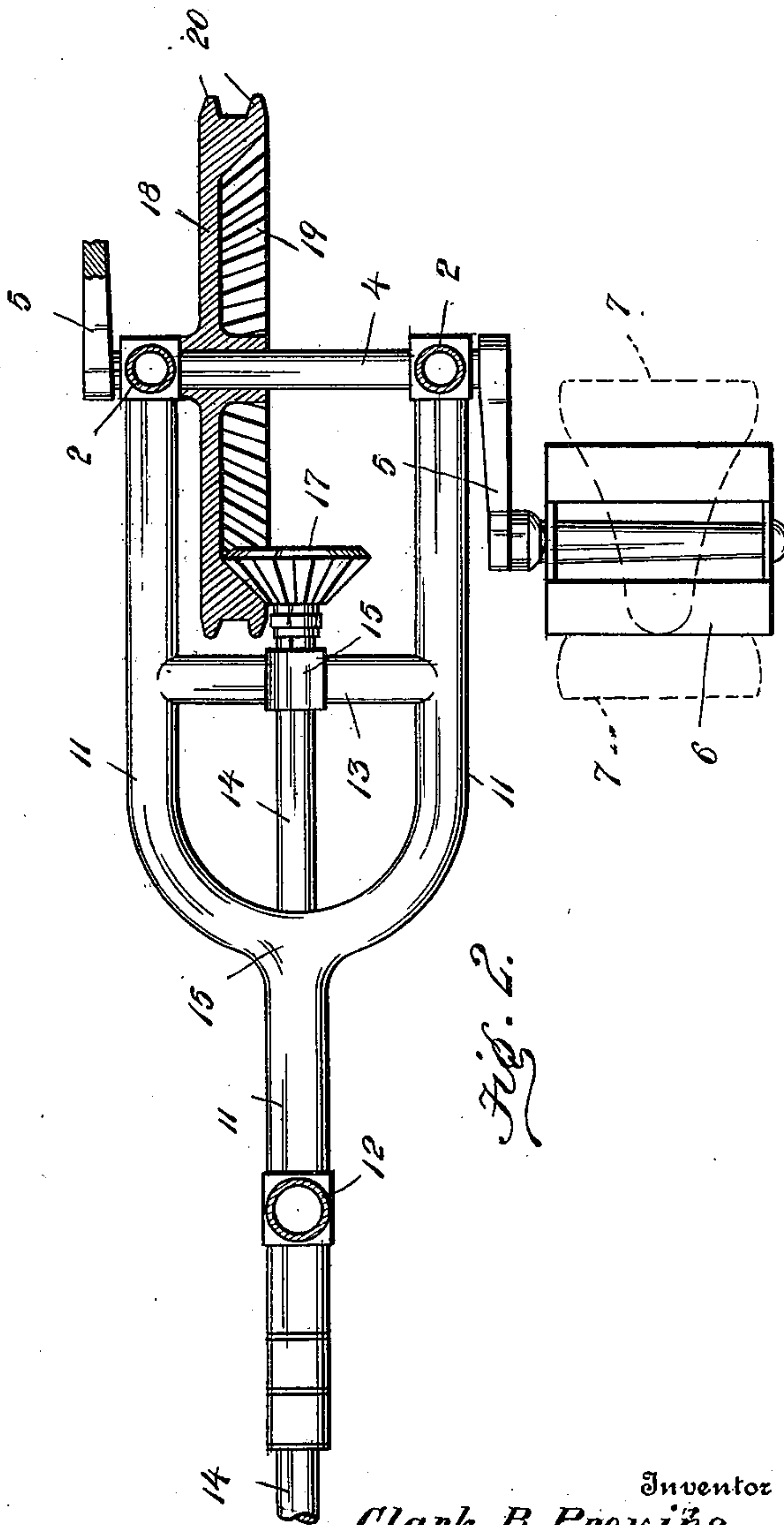


Fig. 2.



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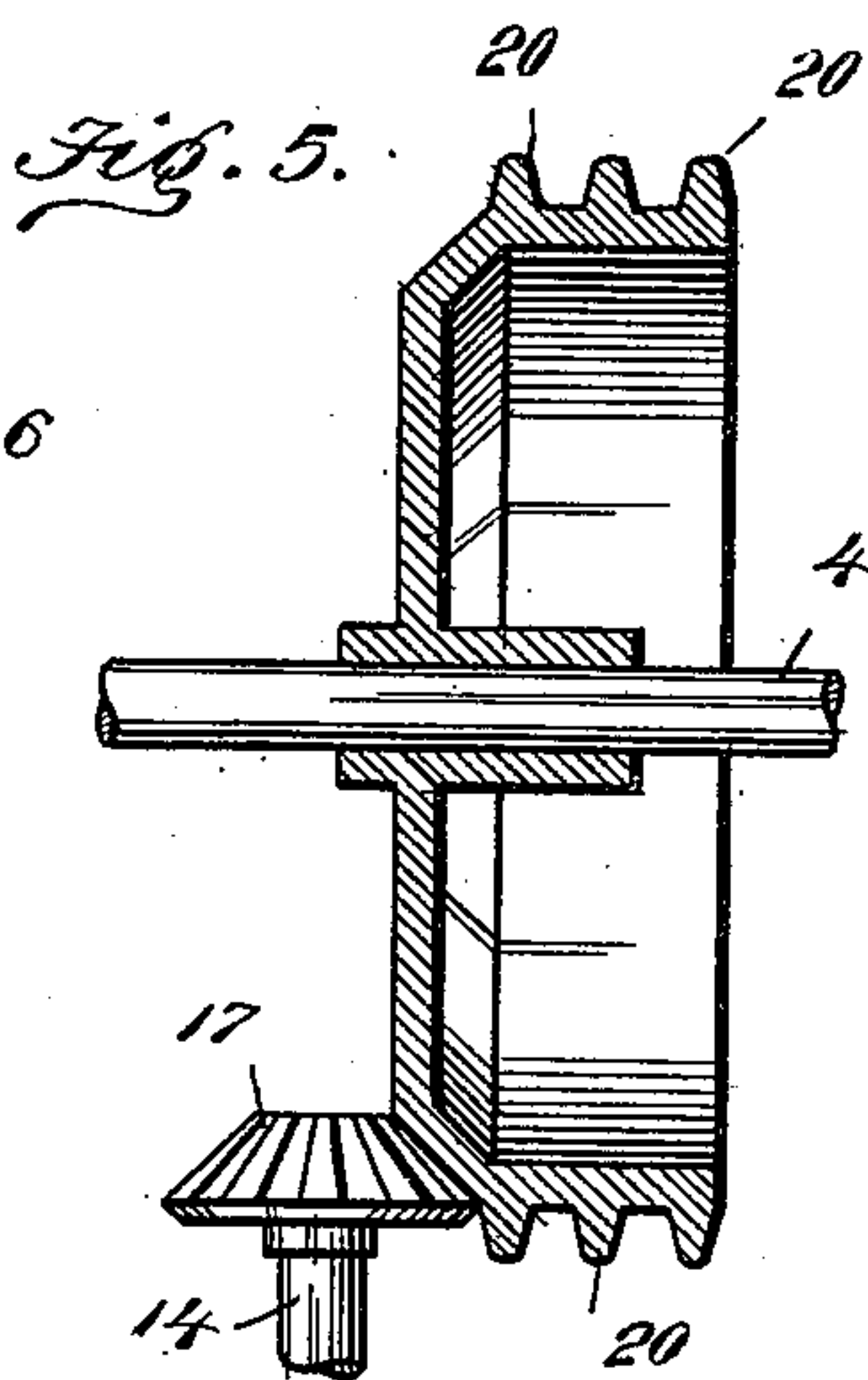
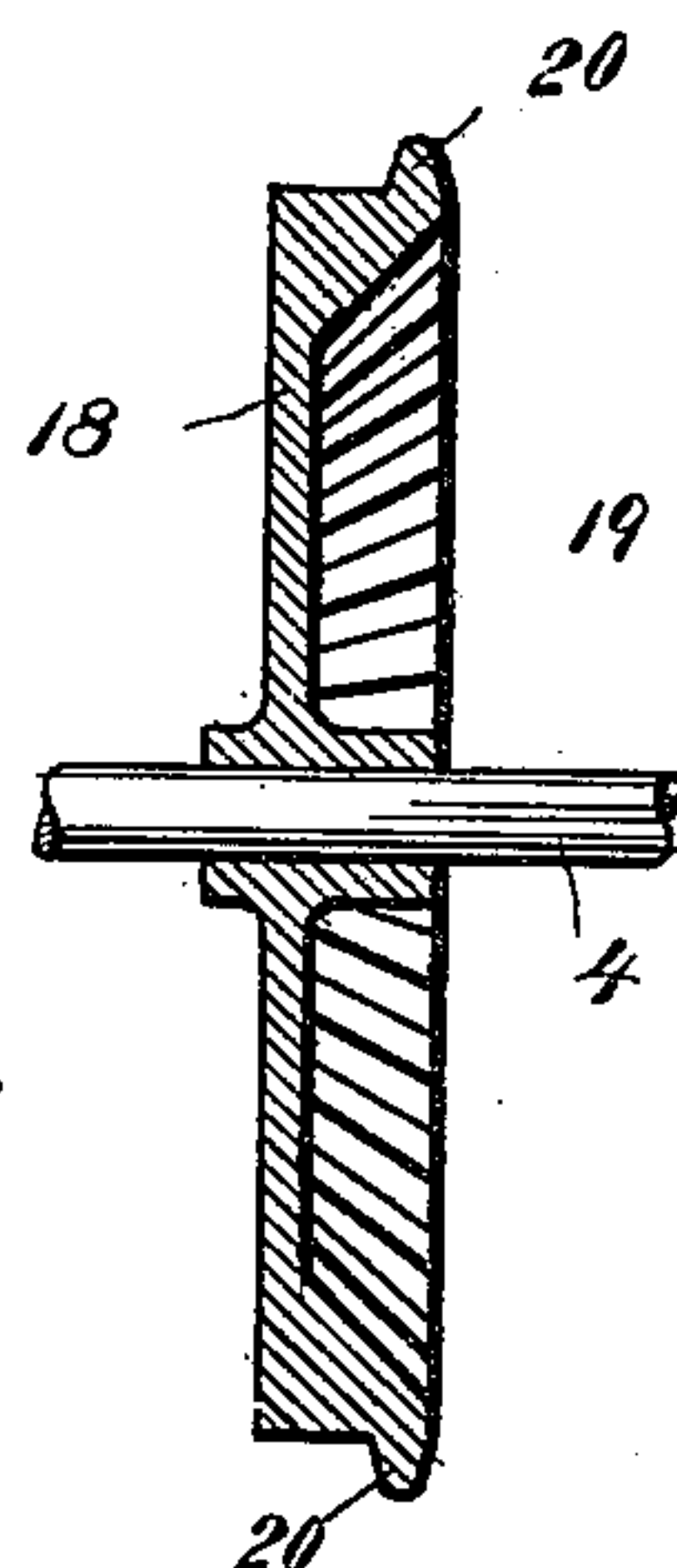
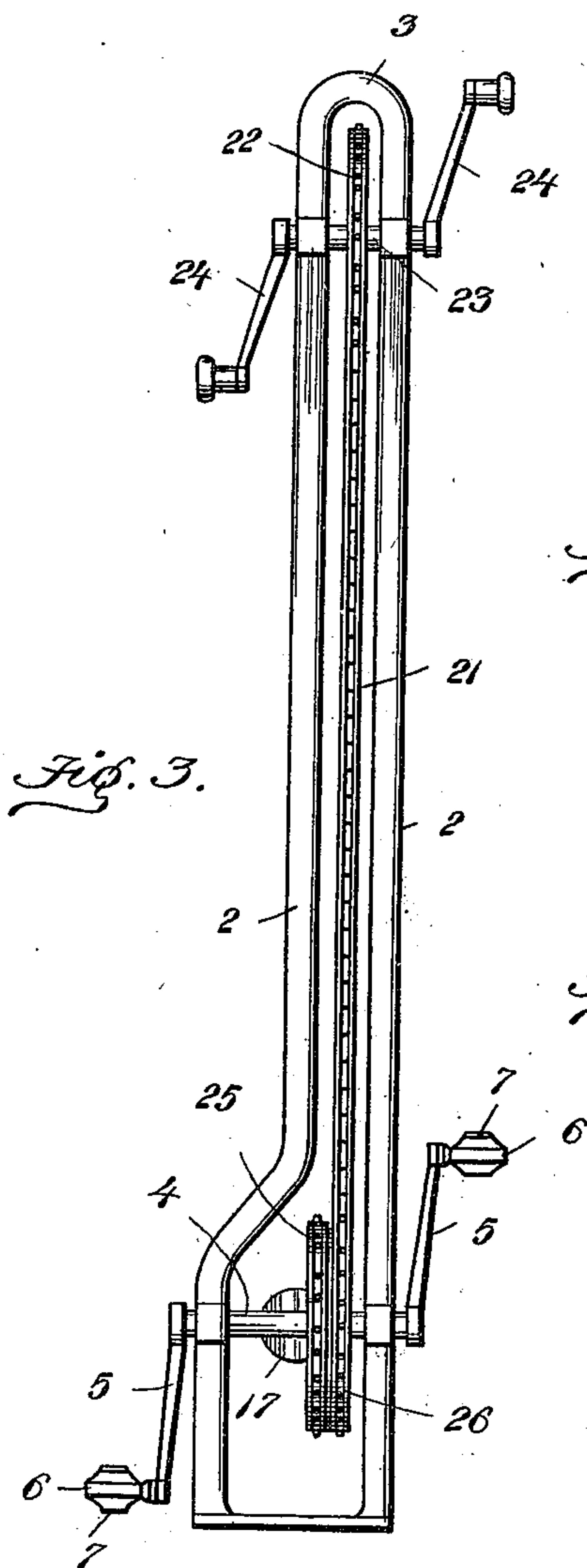
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UNITED STATES PATENT OFFICE.

CLARK B. PROVINS, OF OTTAWA, ILLINOIS.

CYCLE-BOAT.

SPECIFICATION forming part of Letters Patent No. 667,036, dated January 29, 1901.

Application filed October 30, 1899. Serial No. 735,220. (No model.)

To all whom it may concern:

Be it known that I, CLARK B. PROVINS, a citizen of the United States, residing at Ottawa, in La Salle county, in the State of Illinois, have invented a machine and named it the "Provin's Cycle-Boat," of which the following is a specification.

This invention relates to new and useful improvements in cycle-boats; and its primary object is to provide a device of this character having means of peculiar construction whereby the same may be readily propelled upon the water.

To these ends the invention consists in providing one or more frames within the boat, each of which contains a sprocket which is geared to a propeller-shaft suitably journaled within the boat. This sprocket is also engaged by a chain which is adapted to be driven by a second sprocket secured to the frame, and which is provided with cranks which are adapted to be turned by hand.

The invention also consists in providing a frame of peculiar construction and novel gearing, whereby motion may be imparted directly from one of the sprockets to the propeller-shaft.

The invention also consists in the further novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a section through a portion of a boat, showing the driving mechanism in position therein. Fig. 2 is a detail view of that portion of the driving mechanism which is geared with the propeller-shaft. Fig. 3 is a front elevation of the propelling mechanism, and Figs. 4 and 5 are sections through modified forms of sprockets for use upon the rear portion of the driving mechanism.

Referring to said figures by numerals of reference, 1 is a boat-bottom to which is secured an upwardly-inclined frame 2, formed of substantial parallel members which are joined at their upper ends, as at 3. A shaft 4 is journaled within these members near the lower ends thereof and is provided at opposite ends with the cranks 5, to which are secured pedals 6, preferably provided with toe-clips 8.

Braces 8 connect the inclined frames 2 of

the mechanism and serve also to support saddle-posts 9, which are secured to the bottom of the boat and are provided with suitable saddles 10. The rear frame 2 is secured to a forked frame 11, which extends rearward therefrom and is provided with an upwardly-extending portion 12, which serves as a saddle-post, as shown in Fig. 1. Within this fork 11 is secured a cross-strip 13, which serves as a bearing for the propeller-shaft, which shaft is journaled in suitable bearings 15 and is provided with a propeller 16.

The inner end of the propeller-shaft is provided with a beveled pinion 17, which projects into the concave face of a sprocket 18, which is secured to the shaft 4 of the rear frame 2, meshing with teeth 19 formed at the edge of said concave face. As shown in Fig. 2, this sprocket is provided with two sets of sprocket-teeth 20, one set of which is engaged by a chain 21, which extends upward to a sprocket-wheel 22, which is secured to a shaft 23. This shaft is journaled within the upper portion of the frame 2 and is provided at opposite ends with cranks 24, whereby the same may be revolved by hand. A second chain 25 extends forward from the remaining set of teeth upon the sprocket 18 and engages with teeth formed upon a sprocket 26, which is secured to the shaft 4 of the adjacent frame 2. This sprocket is of the ordinary construction, with the exception that more than one set of teeth are provided thereon, one of said sets being connected to the upper sprocket 22 by means of a chain 21, while another set is connected to a second pedal-sprocket, if one is employed.

The saddle post or stem 12 of the rear frame is connected, by means of a brace 27, to its frame 2, and journaled upon this brace is a reel 28, which is adapted to be turned by hand and to which are secured the ends of ropes or cables 29. These ropes extend over suitable pulleys 30 and are secured to the end of a cross-strip 31, which is fastened to the upper end of a rudder 32.

It will be understood that when it is desired to propel the boat the pedals 6 and the cranks 24 are turned and motion will obviously be imparted therefrom to a sprocket 18 of the rear frame 2. The teeth upon the concave face of this sprocket will revolve the gear 17,

and motion will thus be imparted to the propeller. When it is desired to guide the boat, it is merely necessary to turn the reel 28 backward or forward as ordinarily, causing the cross-strip 31 to swing upon its fulcrum.

In Figs. 4 and 5 I have shown modified forms of sprockets for the rear frame 2. The form shown in Fig. 4 is especially adapted for use where but a single frame 2 is employed. The sprocket shown in Fig. 5 employs outwardly - beveled teeth, which are adapted to mesh with the beveled pinion of the propeller-shaft and, as shown, contains three sets of sprocket-teeth. It is of course obvious that any desired number of sets of these teeth may be employed. Ball-bearings are provided for all of the shafts, whereby an easy movement of the driving mechanism may be secured.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations as fairly fall within the scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a boat, of a frame therein comprising parallel members, a forked extension thereto, a crank-shaft journaled within the parallel members, a cross-strip within the forked extension, a propeller-shaft journaled within said strip and the end of

the boat, a sprocket upon the crank-shaft, beveled teeth upon one of the faces of the sprocket, and a pinion upon the propeller-shaft engaging said teeth.

2. The combination with a boat, of a frame therein comprising parallel members, a forked extension thereto, a crank-shaft journaled within the parallel members, a cross-strip within the forked extension, a propeller-shaft journaled within said strip and the end of the boat, a sprocket upon the crank-shaft, a sprocket journaled within the upper portion of the parallel members, a chain connecting said sprocket and a sprocket upon the crank-shaft, cranks to the upper sprocket, beveled teeth upon the sprocket of the crank-shaft, and a pinion upon the propeller-shaft meshing with said teeth.

3. The combination with a boat, of a frame comprising upwardly-inclined sections, braces connecting said sections, a sprocket journaled within each section near the lower end thereof, a sprocket journaled within each section near the upper end thereof, a chain connection between the sprockets of each section, a chain connection between the lower sprockets of the sections, a concave face to the lower sprocket of the rear section, teeth upon the face, a propeller-shaft, a pinion thereon engaging with the teeth upon the face of the sprocket, and cranks to the shafts of the sprockets.

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