

No. 674,901.

**Patented May 28, 1901.**

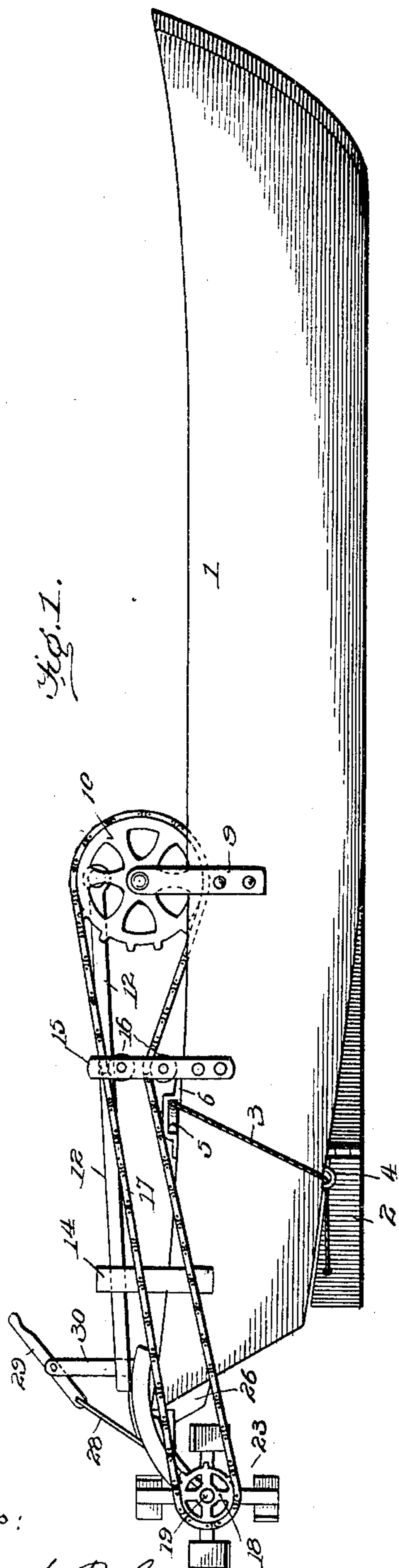
**G. F. BRYAN.**

## PROPELLING MECHANISM FOR BOATS.

(Application filed Nov. 5, 1900.)

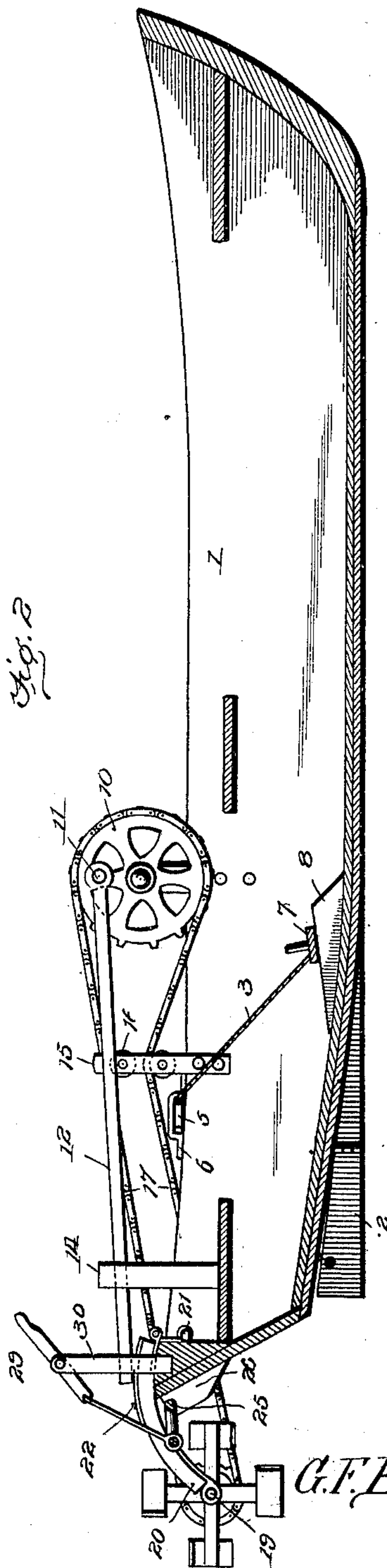
(No Model.)

**2 Sheets—Sheet 1.**



Witnesses :

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Inventor

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Attorney

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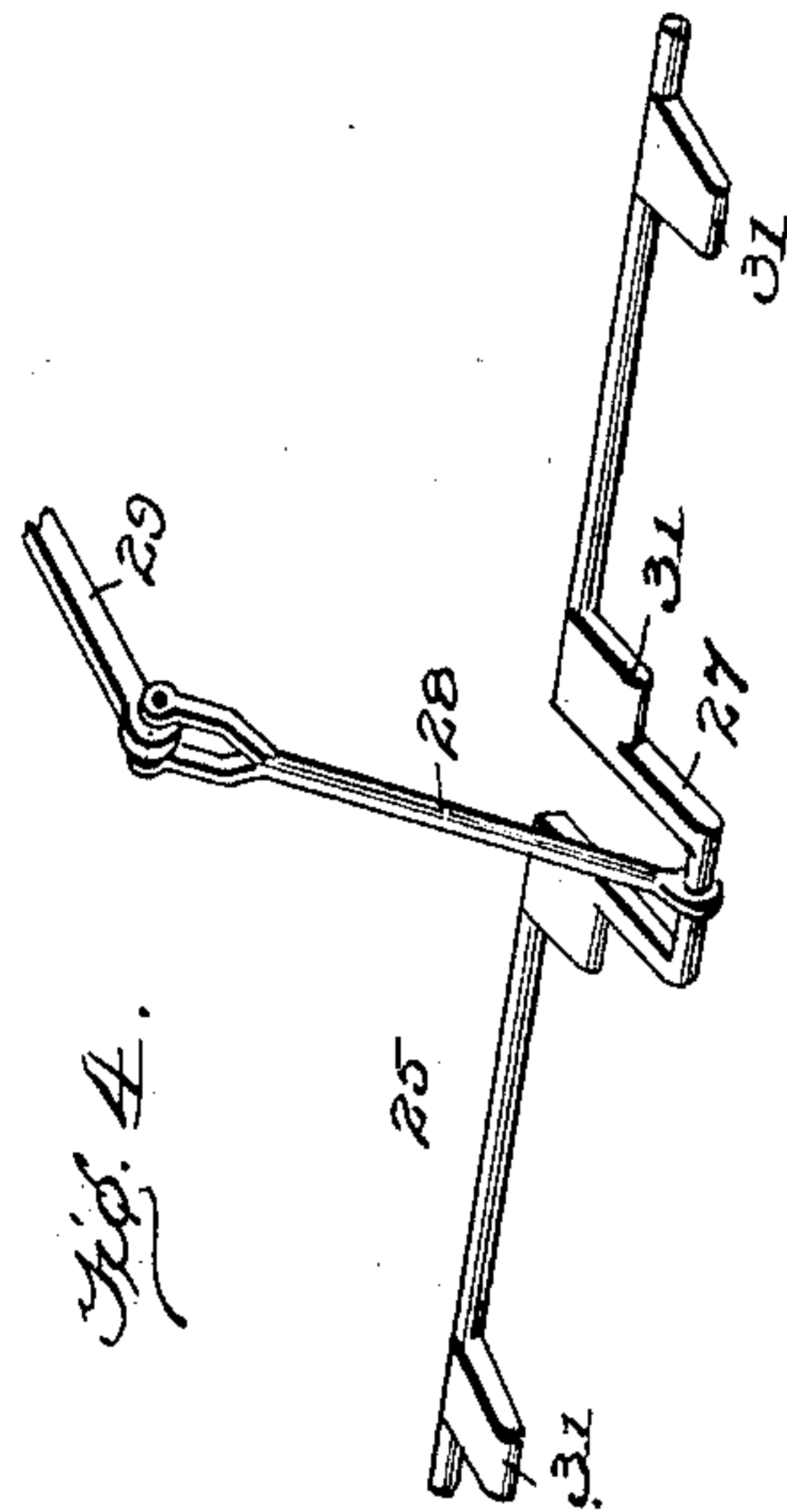
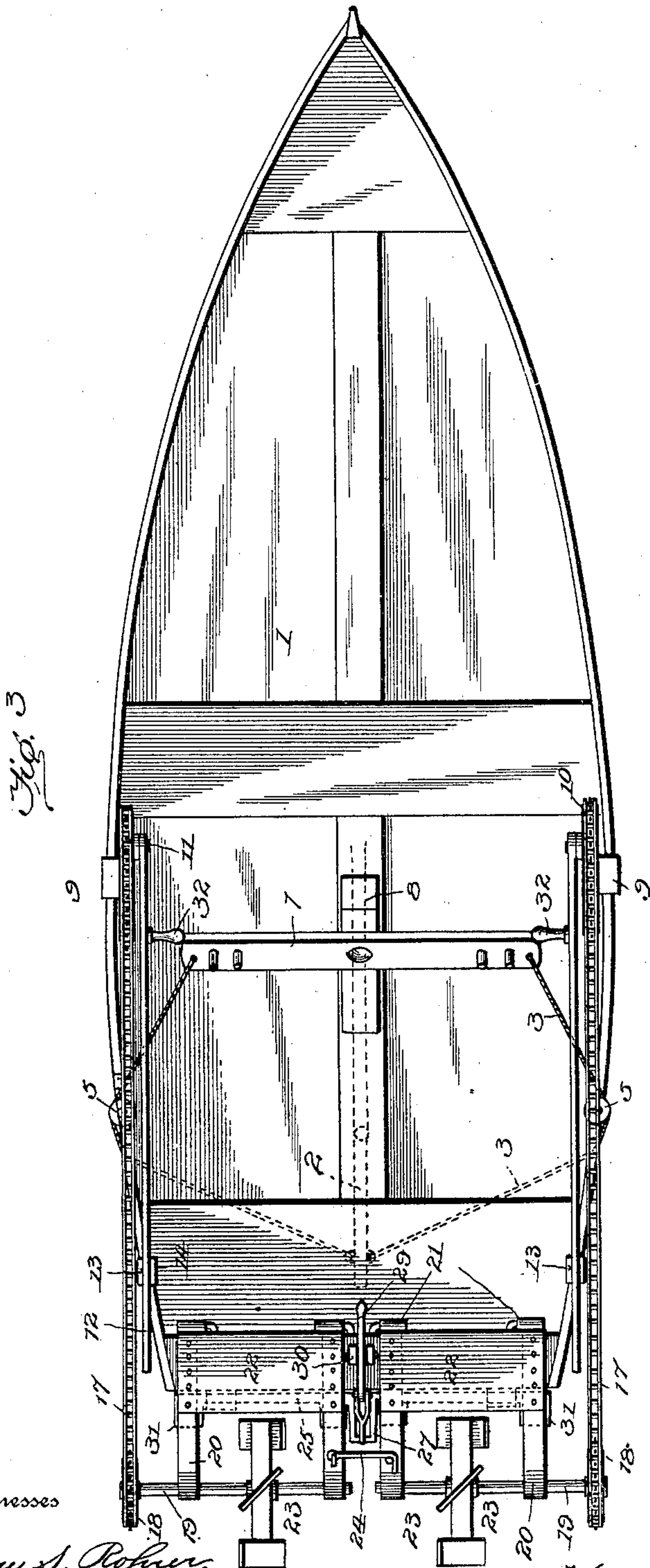
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PROPELLING MECHANISM FOR BOATS.

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(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

GEORGE F. BRYAN, OF MEGGETT, SOUTH CAROLINA.

## PROPELLING MECHANISM FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 674,901, dated May 28, 1901.

Application filed November 5, 1900. Serial No. 35,551. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE F. BRYAN, a citizen of the United States, residing at Meggett, in the county of Colleton and State of South Carolina, have invented certain new and useful Improvements in Propelling Mechanism for Boats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in propelling mechanism for boats; and its primary object is to provide a device the propellers of which may be readily adjusted from or toward the water and which are provided with means whereby they may be readily revolved by a person sitting within the boat to which the mechanism is attached.

A further object is to provide means of novel construction whereby the boat may be readily steered.

With these and other objects in view the invention consists in providing sprockets which are mounted at each side of the boat and to which are pivoted horizontal strips having suitably arranged grips thereon. These sprockets are engaged by chains which pass back to shafts supported upon frames which are hinged to the stern of the boat. Means are provided whereby these shafts may be raised from the water in unison. Said shafts are so mounted that the same may be operated independently of each other.

The invention also consists in certain novel features of construction and combination of parts, which will be hereinafter fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, and in which—

Figure 1 is a side elevation of the device. Fig. 2 is a longitudinal section. Fig. 3 is a plan view. Fig. 4 is a detail view of the means for lifting the propellers and their frames.

Referring to the figures of the drawings by numerals of reference, 1 is a boat having a rudder 2, to opposite sides of which are connected ropes or cables 3. These ropes pass through suitably-disposed eyes 4, arranged upon the bottom of the boat, and over pulleys

5, mounted within brackets 6, which are secured to the gunwales of the boat. The remaining ends of these ropes are secured at the opposite ends of a strip 7, which is pivoted at its center upon an inclined block 8, fastened within the boat at the bottom thereof. It will be seen that by this construction the rudder may be readily turned in either direction by swinging the strip 7 upon its pivot. This strip is so located that the same may be readily operated by the feet of a person sitting within the boat.

A standard 9 is secured to each side of the boat, and journaled upon the inner face thereof is a sprocket 10, having a wrist-pin 11, upon which is mounted the end of a sliding rod 12. The free end of this rod is supported by and slidable within a slot 13, formed within the top of a standard 14, secured to the side of the boat adjacent to the stern.

A standard 15 is secured to the boat at a point between each of the standards 9 and 14 before referred to, and within each standard 15 are journaled rollers or pulleys 16, which are arranged one above the other. These pulleys are adapted to support a chain 17, which is mounted upon and engages the sprocket 10 and a preferably smaller sprocket 18, which is secured to a shaft 19, arranged transversely of the boat in rear thereof. This shaft is journaled within the outer ends of strips 20, the opposite ends of which are extended over the stern of the boat and are hinged thereto, as shown at 21. It will be understood that two shafts 19 are employed, one for each of the sprockets 10, and these shafts are of such length as to extend from points adjacent to the sides of the boat to a point approximately in alinement with the center thereof. As before stated, preferably two strips 20 are provided for each shaft, and these strips are securely held in proper relation to each other in any suitable manner, as by means of braces 22.

A paddle-wheel or propeller 23 is secured to each shaft 19 at a point between its supporting-strips 20, and a hook 24 or other suitable securing means is provided, whereby the supports of the two shafts may be locked together when desired.

A shaft 25 is journaled within brackets 26, which are secured to the stern, and a crank



27 is arranged, preferably, at the center of this shaft, said crank being connected by means of a link 28 with a lever 29, which is pivoted upon a standard 30, extending upward from the stern at the center thereof. Stud 5 or plates 31 extend from the shaft 25 in alinement with the crank 27 thereof, and these plates are so arranged as to lie one beneath each of the supporting-strips 20. It 10 will thus be seen that when the lever 29 is depressed the plates 31 will swing upward and contact with the supporting-strips 20 and raise them, thereby lifting the propellers 23 therewith.

15 A grip or handle 32 extends inward from each of the sliding strips 12, and both of them are placed in close proximity to the seat occupied by the person propelling the boat.

When it is desired to operate the device, 20 the operator places his feet upon the pivoted strip 7 and sits in such a position that the grips 32 may be readily grasped. Said grips are then moved back and forth, and rotary motion is thus imparted to the sprockets 10. 25 This motion will be transmitted, through the chains 17, to the two small sprockets 18, secured to the propeller-shafts 19. Said propellers will thus be revolved within the water.

When it is desired to steer the boat, it is 30 merely necessary to swing the strip 7 in the proper direction upon its pivot, or, if desired, one of the propellers may be stopped while the operation of the remaining one is continued.

35 When for any reason it is desired to raise the propellers to points nearer the surface of the water, it is merely necessary to swing the lever 29 downward upon its pivot. This will cause the plates 31 to contact with the supporting-strips 20 and move the same upward. 40 Any suitable means may be provided for locking the lever in the position to which it is moved. For instance, an ordinary toothed segment and pawl may be employed for this 45 purpose. If desired, the hook 24 may be detached from one of the supporting-strips 20, and both of the propeller-shafts and their frames may then be swung upward out of the water forward into the boat.

50 By providing pulleys or rollers 16 within the standards 15 the chains 17 are so arranged as to have a tendency to swing the propellers and their frames downward into the water instead of upward therefrom. Moreover, said

rollers permit the chains to move easily and 55 smoothly.

In the foregoing description I have embodied the preferred form of my invention; but I do not wish to be understood as limiting myself thereto, as I am aware that modifica- 60 tions may be made therein without departing from the principle or sacrificing any of the advantages thereof, and I therefore reserve to myself the right to make such changes as fairly fall within the scope of my invention. 65

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. The combination with a boat; of a frame hinged thereto, a shaft journaled within the 70 frame, a propeller secured to said shaft, a sprocket mounted upon the boat, a sliding strip secured at one of its ends to the sprocket, a sprocket upon the propeller-shaft, a chain mounted upon the sprockets, and a grip to 75 the strip.

2. The combination with a boat; of a frame hinged thereto, a propeller within said frame, means for imparting motion thereto, a shaft 80 journaled below the frame, plates extending therefrom and adapted to contact with the frame, and means for revolving the shaft and raising the frame.

3. The combination with a boat; of frames hinged to the stern thereof, a shaft journaled 85 within each frame, a propeller to each shaft, means for imparting motion to the shafts independently of each other, a shaft journaled below the frames, plates extending therefrom, and means for revolving said shafts and 90 swinging the frames upward upon their hinges.

4. The combination with a boat; of frames hinged to the stern thereof, a shaft journaled 95 within each frame, a propeller to each shaft, means for locking the frames together, means for imparting motion to the shafts and their propellers, brackets below the frames, a shaft journaled therein, plates extending from the 100 shaft and contacting with the frames, and means for revolving the shaft and thereby raising the frames and their propellers.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE F. BRYAN.

Witnesses:

M. W. SIMMONS,  
G. E. LEGARE.