

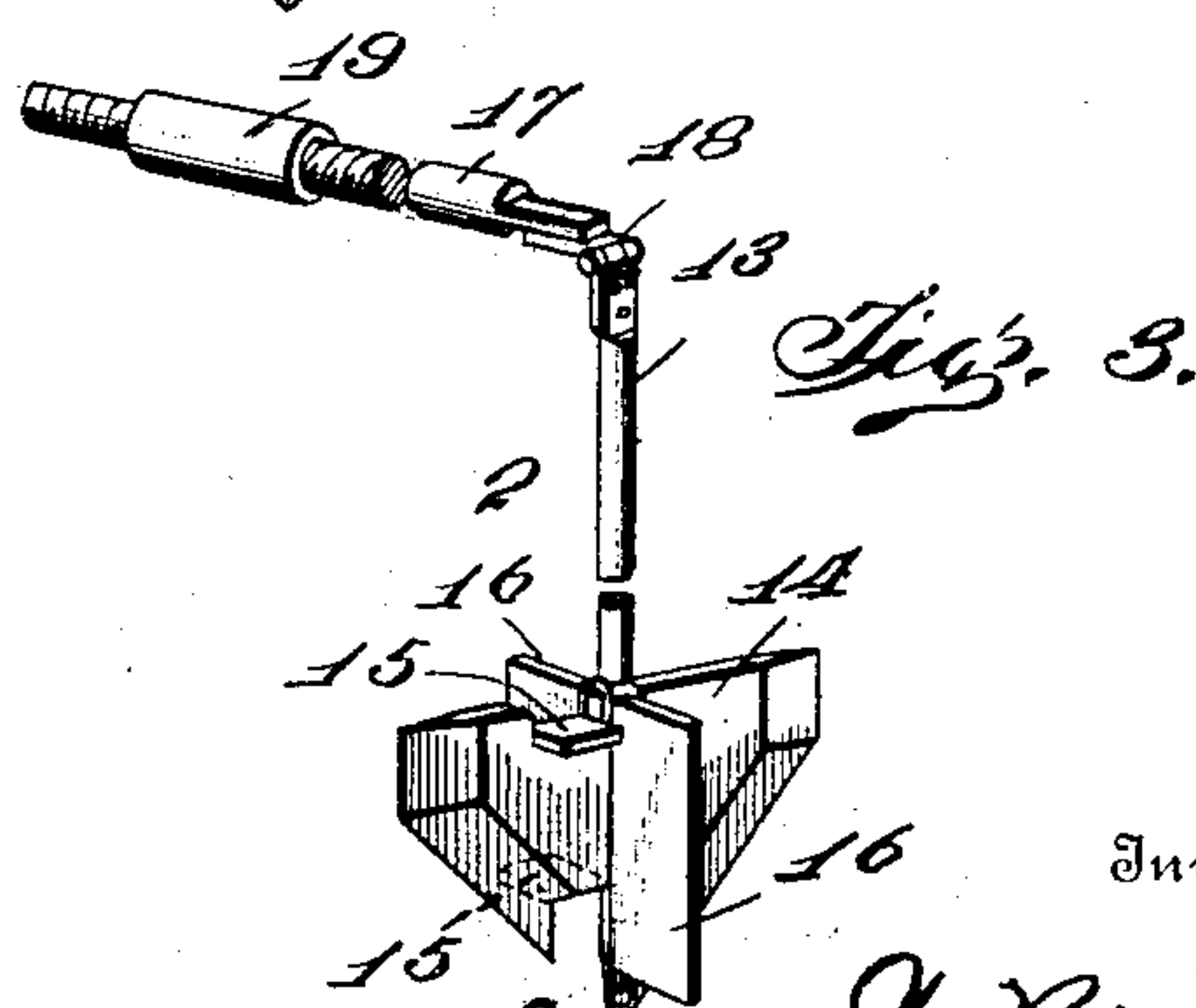
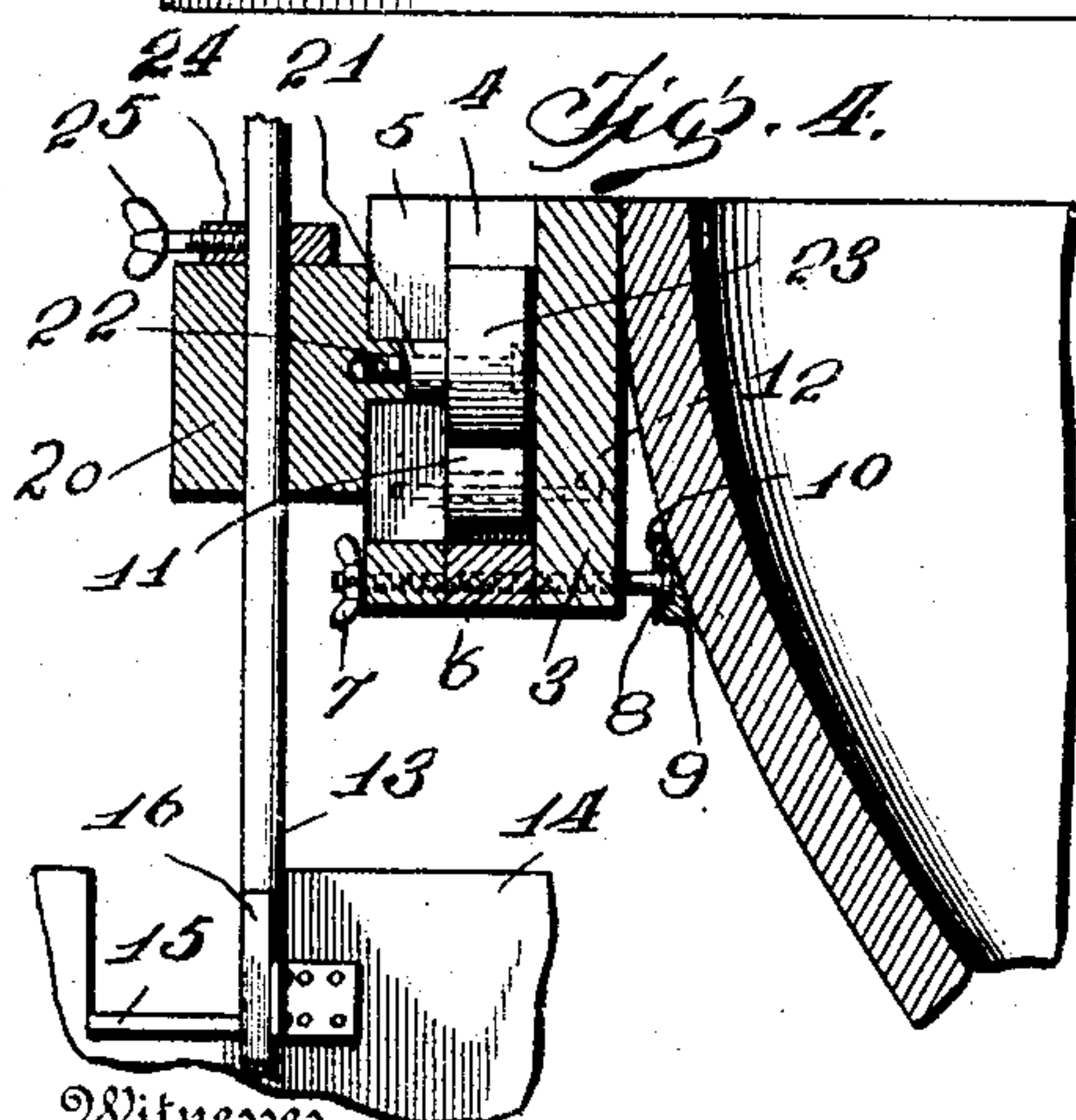
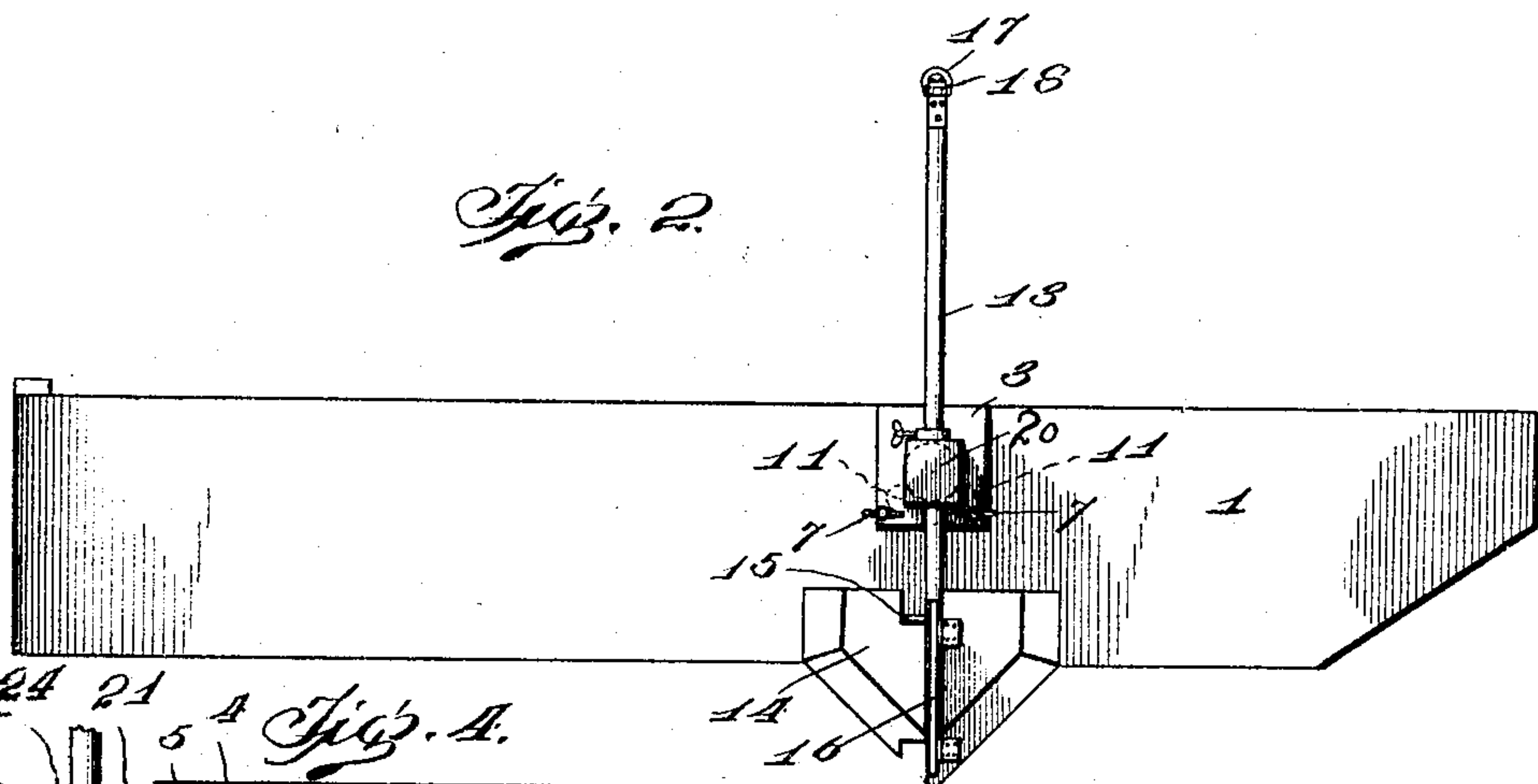
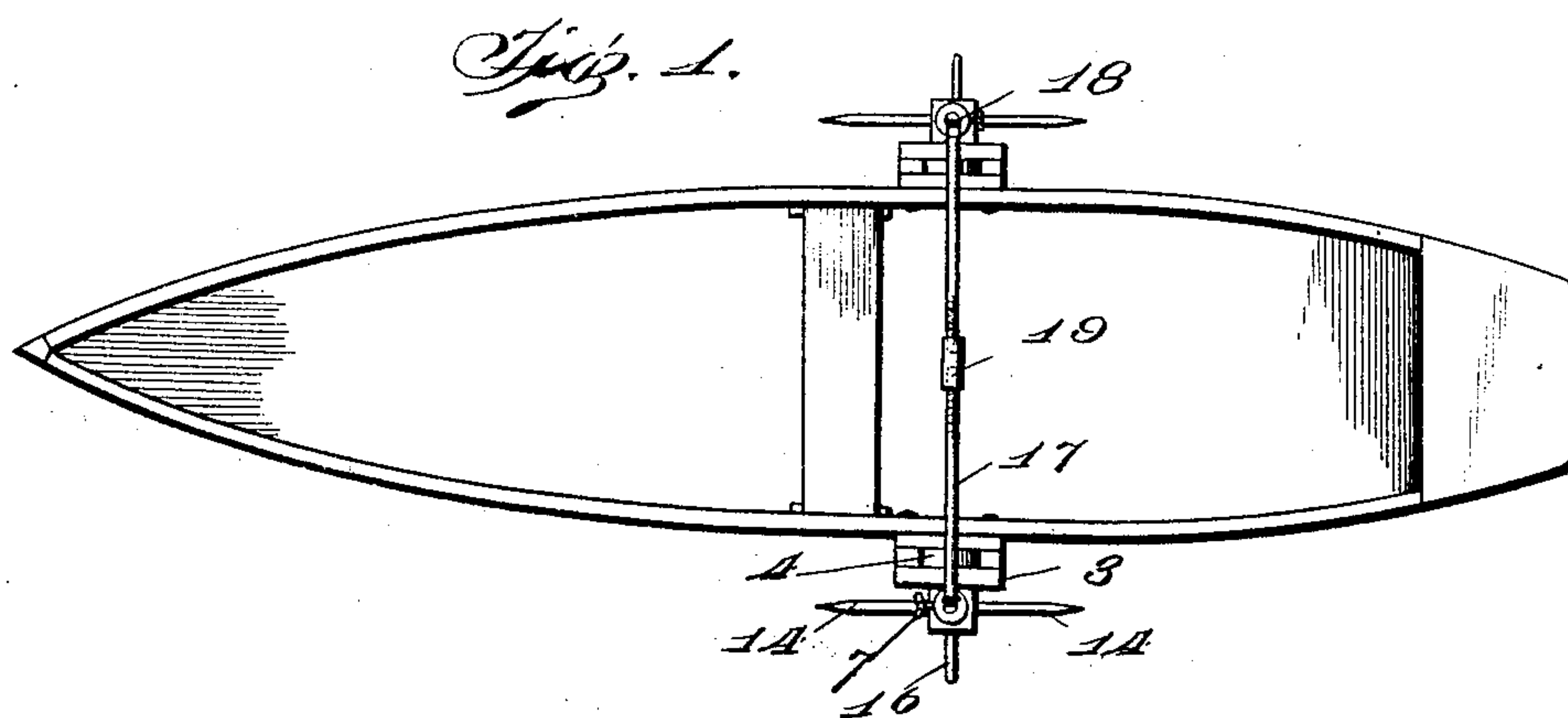
No. 764,958.

PATENTED JULY 12, 1904.

J. W. RAINE.
BOAT PROPELLER.

APPLICATION FILED OCT. 28, 1903.

NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN W. RAINE, OF SEATTLE, WASHINGTON.

BOAT-PROPELLER.

SPECIFICATION forming part of Letters Patent No. 764,958, dated July 12, 1904.

Application filed October 28, 1903. Serial No. 178,923. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. RAINE, a subject of the King of Great Britain, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Boat-Propellers; 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 improvements in propelling mechanism for marine vessels.

The object of the invention is to provide means upon each side of a vessel which is simultaneously actuated for propelling the same.

Another object of the invention is to provide means which is removably secured to the sides of a vessel and is adapted to be reciprocated for the purpose of imparting motion to said vessel.

A further object of the invention is the providing of a plurality of propellers upon a vessel which are formed with means extending at an angle to said propellers when the same are reciprocated, and thereby provide means for imparting motion to said vessel.

With these and further objects in view the invention consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a top plan view of my invention attached to a vessel. Fig. 2 represents a side elevation of the invention applied similarly to that shown in Fig. 1. Fig. 3 is a detail perspective view of one of the propellers. Fig. 4 is a sectional fragmentary view of one of the propellers mounted upon a vessel.

Referring to the drawings by reference-numerals, 1 designates a vessel upon which is mounted a plurality of propellers 2, which are removably secured upon said vessel 1 by means of a bracket 3, said bracket 3 comprising a recessed or hollow portion 4 and also being provided with a vertical slot 5. The brackets 3 are secured to the vessel or boat by any suitable means, and if the said bracket is mounted upon a boat having a curved or

rounded bottom, as shown in Fig. 4, I preferably provide the said bracket with a screw-threaded shaft or bolt 6, which is provided with means 7, which is engaged by the hand for rotating the said shaft or bolt 6. Upon the inner end of the said member 6 is formed a suitable annular head 8, which is secured within a rectangular block 9, secured to the sides of the vessel. As shown in Fig. 4, I preferably provide said block 9, which may be formed with a curved surface adjacent to the hollow of the vessel, with a removable plate or cover 10, which is provided upon said block or plate 9 for the purpose of retaining the same in an assembled position with the bolt 6. Rotatably mounted within the hollow or slotted portion 4 of the bracket 3 is a plurality of rollers 11, which are journaled upon suitable shafts 12, secured upon the said brackets 3.

If the hull of the vessel, as illustrated in Fig. 1, is perpendicular in form, it will not be necessary to provide the brackets 3 with a bolt 6, as the adjustment of said brackets to a vertical vessel will not be necessary, owing to the construction of the hull.

In constructing the propellers I provide the shafts 13 with bevel-edged blades or plates 14, said edges of the blades or plates 14 being formed for the purpose of facilitating the operation of said propellers. Extensions 15 are formed upon the blades 14 by slitting a portion thereof and bending the slitted portion at an angle to the said plate or blade 14. Hinged upon said blades or plates 14 is a plurality of flukes or wings 16. Said wings or flukes 16 are arranged in a parallel position upon said blades or plates 14. When the propellers are forced forwardly by the operator, the wings or flukes 16 close against the blades or plates 14, and as the said propellers are moved rearwardly the flukes or wings open and press against the angular extensions 15, formed upon the blades or plates 14. A handle 17 is hinged to the shaft 13 at 18, and said handle is provided at its outer end with screw-threads, which are adapted to receive a tubular connecting or locking member 19. When the propellers 2 are secured upon the sides of the vessel and the hinged portion of the handles

are secured by means of the sleeve or locking member 19, the said propellers may be simultaneously actuated by the operator grasping the handle-section of either of the propellers.

5 To retain the said propellers 2 in a removable position upon the sides of the vessel, a suitable sleeve or block 20 is provided with an extension 21, which is formed with a grooved or recessed portion for the reception of a bolt
10 22, upon which is mounted a roller or member 23, which is normally retained within the hollow or recessed portion 4 of the brackets 3. The said block or member 23 is adapted to bear against the rollers 11 when in an assembled position with said brackets. The shafts 13 are vertically adjustable within the sleeves 20 and are retained in a fixed position within said sleeves by means of a casing or annular member 24, which is mounted upon
20 the shaft above the blocks 20. Said member 24 is provided with a locking thumb-screw 25, which normally engages the periphery of the propeller-shaft 13 for the purpose of locking the same in an adjusted position.

25 If it is desired to reverse the position of the propellers 2, and thereby enable the operator to propel the vessel in an opposite direction, it is only necessary to remove the locking member 19 from engagement with
30 one of the hinged portions of one of the handles of the propellers and pivot the shaft 13 of the propellers upon the block 20 until the handles 17 of the propellers are entirely reversed.

35 If it is desired to use the propellers as a brake mechanism, this function can easily be obtained by moving the handle portion 17 of the propellers into a parallel position with the sides of the vessel.

40 If it is desired to employ the propellers as a guiding mechanism, it is only necessary to separate the hinged portion forming the handles of the propeller and move one of said propellers, so as to cause the blade thereof
45 to extend at an angle from the hull of the vessel.

The hinges which are secured upon the blades 14 and retain the flukes in an assembled position therewith do not permit the said flukes to
50 entirely close against the blades. The advantage of this construction is that the positive actuation of the wings or flukes 16 is thereby insured, as the water will press against a portion of the members 16 and will throw the same
55 at an angle to the blades 14. One of the advantages of this construction is that the blades are retained vertically at all times under the surface of the water and also the fulcrum of the shafts 13 may be adjusted, owing to the desired leverage which may be required in propelling the vessel. In the ordinary construction of a boat provided with oars the fulcrum-point is near the operator's hands, and the actuation or propelling of the boat requires a
60 greater amount of strength than is necessary

in a boat provided with the construction disclosed in the foregoing description and the accompanying drawings.

Although I have described the preferred form of my invention in the foregoing description and have illustrated the same in the accompanying drawings, it will be obvious that certain modifications and changes may be made within the scope of the invention, and I therefore reserve the right to make such
75 changes and modifications.

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

1. A propeller comprising a shaft, a hinged
80 handle secured to said shaft at one end thereof, a beveled blade secured to said shaft at the opposite end, integral extensions projecting at right angles from said blade, hinged flukes secured to said blade and adapted to engage
85 said extensions formed upon said blade when in an opened position.

2. In a device of the character described, the combination with a vessel, or the like, of a plurality of brackets adjustably mounted
90 upon the sides of said vessel, said brackets provided with bearings, a sleeve removably mounted upon said brackets, a propeller-shaft removably mounted within said sleeve, means for retaining said propeller-shaft in an ad-
95 justed position within said sleeve.

3. In a device of the character described, the combination with a boat, of a recessed adjustable bracket secured upon the side thereof, a sleeve secured within said bracket, a pro-
100 peller-shaft secured within said sleeve, a removable locking member carried upon said propeller-shaft and above said sleeve, and means carried by said locking member for retaining the propeller in an adjusted position.
105

4. In a device of the character described, the combination with a boat, of a plurality of adjustable brackets secured to the sides thereof, said brackets provided with adjustable bolts
110 engaging blocks secured to the hull of said boat, rollers mounted upon said brackets, sleeves provided with extensions adapted to engage said rollers, and means carried by said sleeves for adjustably securing the propeller-shafts in an assembled position with said
115 sleeves and brackets.

5. In a device of the character described, the combination with a boat, of brackets secured to the sides thereof, means carried by said brackets for retaining the same in an approxi-
120 mately vertical position, propeller-shafts adjustably mounted upon said brackets, said propeller-shafts provided with hinged handles, and adjustable means for retaining said handles in an assembled position.
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6. In a device of the character described, the combination with a boat, of adjustable propeller-supports secured to the sides of said boat comprising a recessed bracket having an open-
130 ing formed in the side thereof, adjusting

means secured to the lower portion of said bracket for retaining the same in approximately a vertical position, bearings mounted within said recessed bracket, a sleeve provided
5 with an extension, said extension provided with rotary means journaled thereon, said sleeve and extension removably mounted upon said bracket, and annular locking means adapted to engage said sleeve for retaining a propeller-shaft in an adjusted position within said
10 sleeve.

7. A propeller comprising a plurality of hinged sections, a blade secured integrally to one of said sections, said blade having beveled
15 edges, integral extensions formed upon said blade near the upper and lower edges thereof, and hinged flukes carried by said blade adapted to engage said extensions.

8. In a device of the character described, the combination with a vessel, of a bracket secured thereto, said bracket having a recessed portion, bearings journaled within said bracket, adjustable bolts journaled within the lower portion of said bracket and adapted to engage the sides of the vessel, a sleeve re-
25 movably mounted upon said bracket, and means removably mounted above said sleeve for retaining the propeller-shaft in an adjusted position within said sleeve.

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

JOHN W. RAINE.

Witnesses:

G. WARD KEMP,
C. C. PHILLIPS.