No. 629,271. Patented July 18, 1899.

A. REYNOLDS.

LATERAL MOTION REVERSIBLE MARINE PROPELLER.

(Application filed Nov. 26, 1897.)

(No Model.)

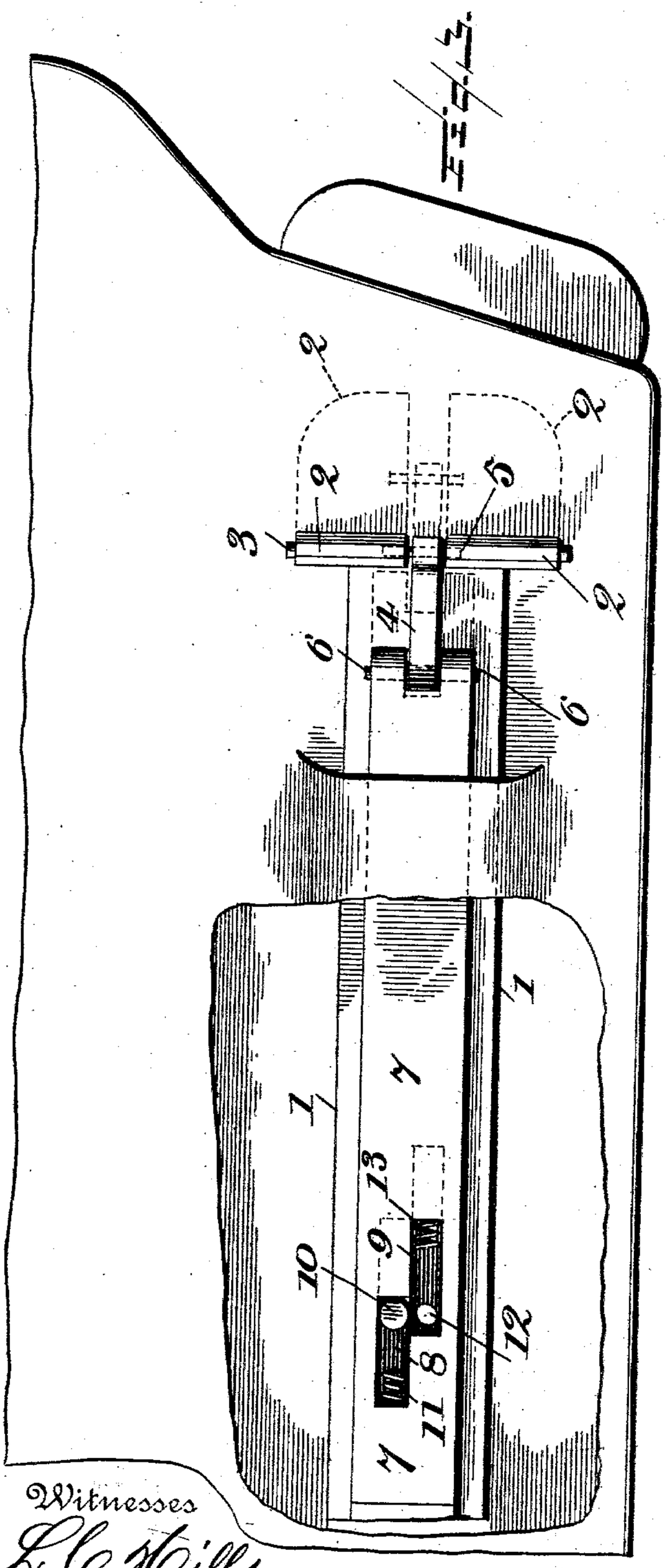

FIG. 1.

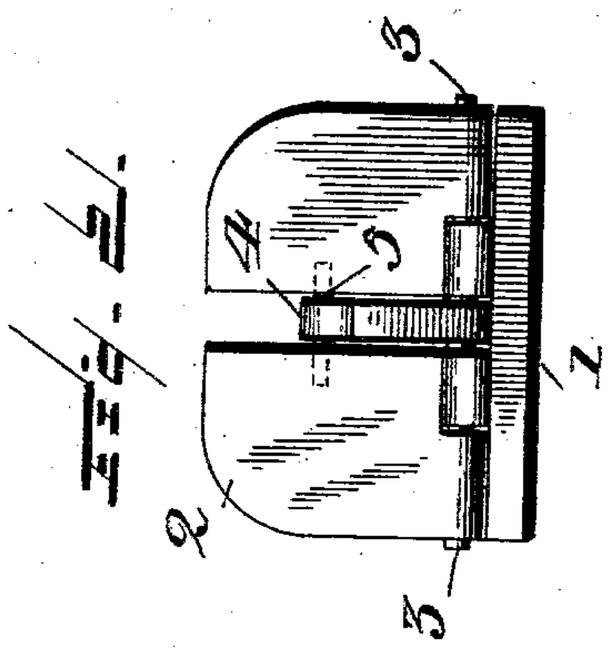

FIG. 2.

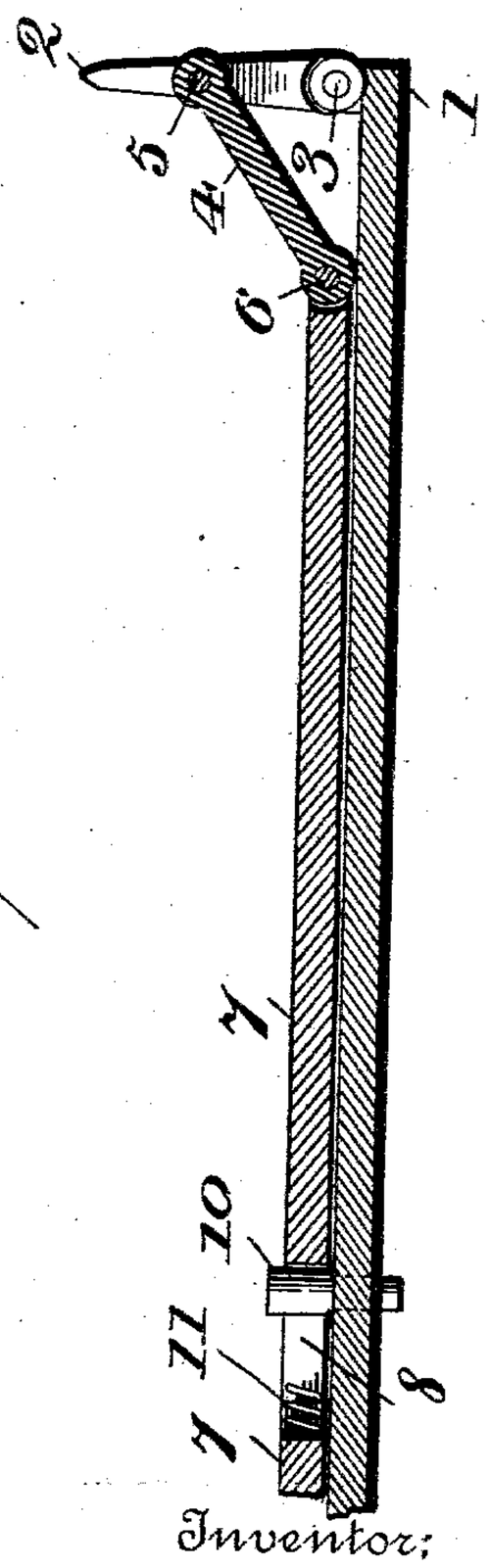

FIG. 7.

Witnesses
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UNITED STATES PATENT OFFICE.

ALFRED REYNOLDS, OF DUNEDIN, NEW ZEALAND.

LATERAL-MOTION REVERSIBLE MARINE PROPELLER.

SPECIFICATION forming part of Letters Patent No. 629,271, dated July 18, 1899.

Application filed November 26, 1897. Serial No. 659,865. (No model.)

To all whom it may concern:

Be it known that I, ALFRED REYNOLDS, accountant, a subject of the Queen of Great Britain, residing at 31 Moray Place, in the city of Dunedin, in the British Colony of New Zealand, have invented a new and useful Lateral-Motion Reversible Marine Propeller, of which the following is a specification.

The object of this invention is to provide an improved and simple construction of propeller for ships or boats to be propelled by power; and the invention consists in the features of construction and novel combination of parts in a lateral-motion reversible marine propeller, as hereinafter described and claimed.

Referring to the accompanying drawings, illustrating the invention, Figure 1 is a sectional plan of my improved propeller. Fig. 2 is an end view of the same with the hinged propeller blade or blades standing open. Fig. 3 is a side elevation of the propeller with the blade or blades standing open and showing in dotted lines the position of the blades for the return stroke.

The reference-numeral 1 designates a reciprocating main working bar, which is to be operated from an engine in any suitable or convenient manner. The rear end of this bar is to project from the hull of a boat or vessel on either side at or near the stern. To the rear projecting end of this main reciprocating bar 1 there will be pivoted a propeller blade or blades 2 by means of any suitable hinge-joint 3, such as shown.

A lever-rod 4 has one end connected by means of a pivot 5 with the blade or blades 2 at or about the center thereof, as shown. The other end of this lever-rod 4 is connected by a pivot 6 with the rear end of an auxiliary reciprocating bar 7, that is parallel with the main working bar and operated therefrom. This auxiliary bar 7 works generally with the bar 1, but with a different length of stroke, and is intended to control the change of motions and positions of the blades.

In the bar 7 there are two slots 8 and 9, Fig. 3, located in different planes and at different distances from the end of the said bar. The main working bar 1 is provided with a removable pin 10 to engage in either of said slots for regulating the difference of stroke between the bars 1 and 7 and for causing forward or reverse movement of the vessel, as required. In Figs. 1 and 4 the pin 10 is shown as occupying a position in the rear end of the slot 8. Obviously as the bar 1 is moved inward bar 7 will not start until the pin 10 has traveled the length of the slot 8 or until it strikes a cushioning-spring 11, that may be arranged at the inner end of said slot. For reversing the movement of the vessel the pin 10 may be inserted into a hole 12, Fig. 3, so as to operate in the slot 9, which may have a cushioning-spring 13 at one end.

The main reciprocating bar 1 and auxiliary reciprocating bar 7 and the pivotally-attached propeller-blades are preferably arranged longitudinally on both sides of the stern of a vessel, and through the operation of these bars the propeller-blades are made to stand out at right angles to expose the larger surface of said blades to the resistances of the water in propelling the vessel and are then brought flatwise into line with the operating-bars to offer the least resistance to progress through the water. In moving the boat or ship in a reverse direction these motions are reversed, so that the vessel will be propelled the reverse way.

What I claim as my invention is—

In a propeller, the combination of the reciprocating bars 1 and 7 arranged in the longitudinal axis of a ship, one of said bars being provided with slots 8 and 9 each having a spring in one end and the other bar having a removable pin 10 in sliding engagement with one of said slots, the propeller blade or blades 2 hinged to the rear end of the bar 1, and the lever-rod 4 hinged to the rear end of bar 7 and also hinged to a central portion of the said blade or blades, substantially as described.

ALFRED REYNOLDS.

Witnesses:
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