

E. D. PARROTT.

PROPELLER.

APPLICATION FILED NOV. 3, 1908.

930,220.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.

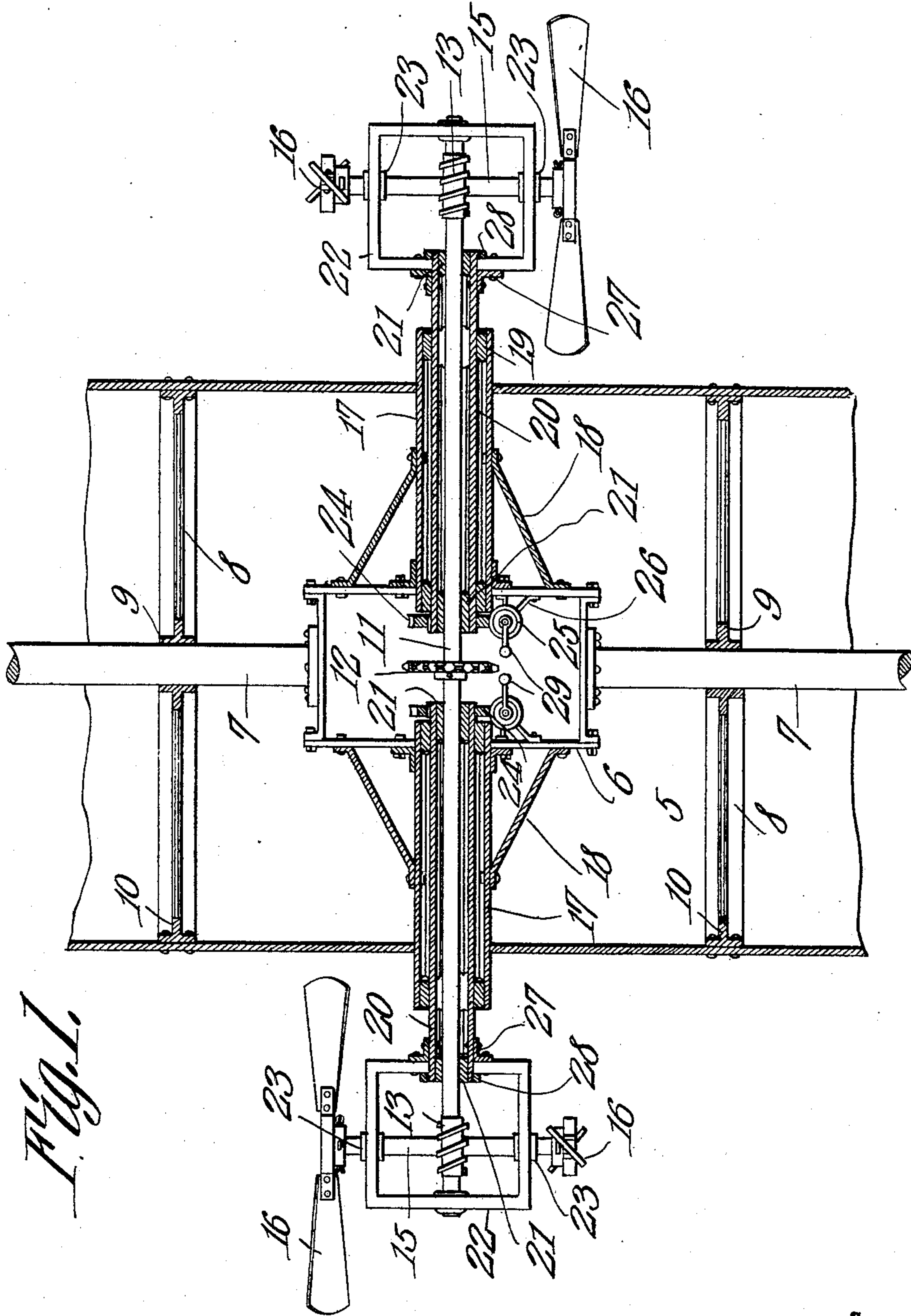


Fig. 1.

Witnesses

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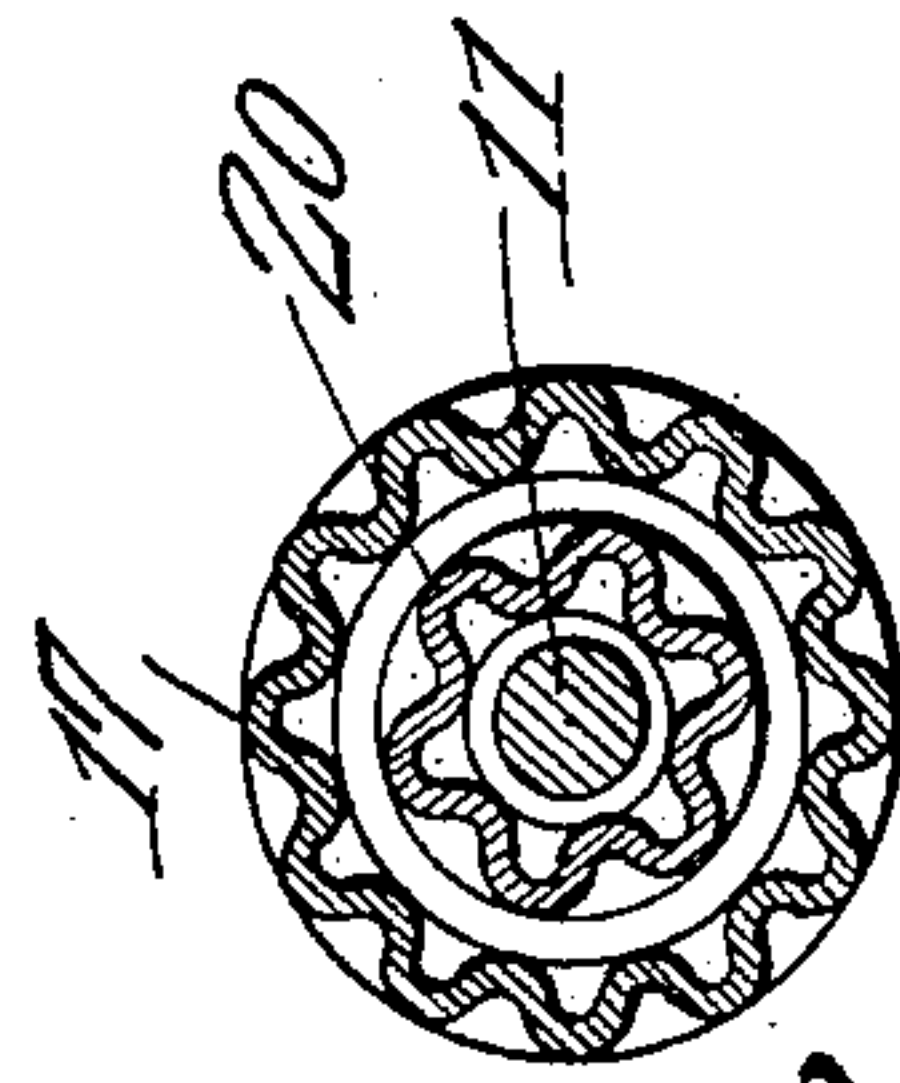
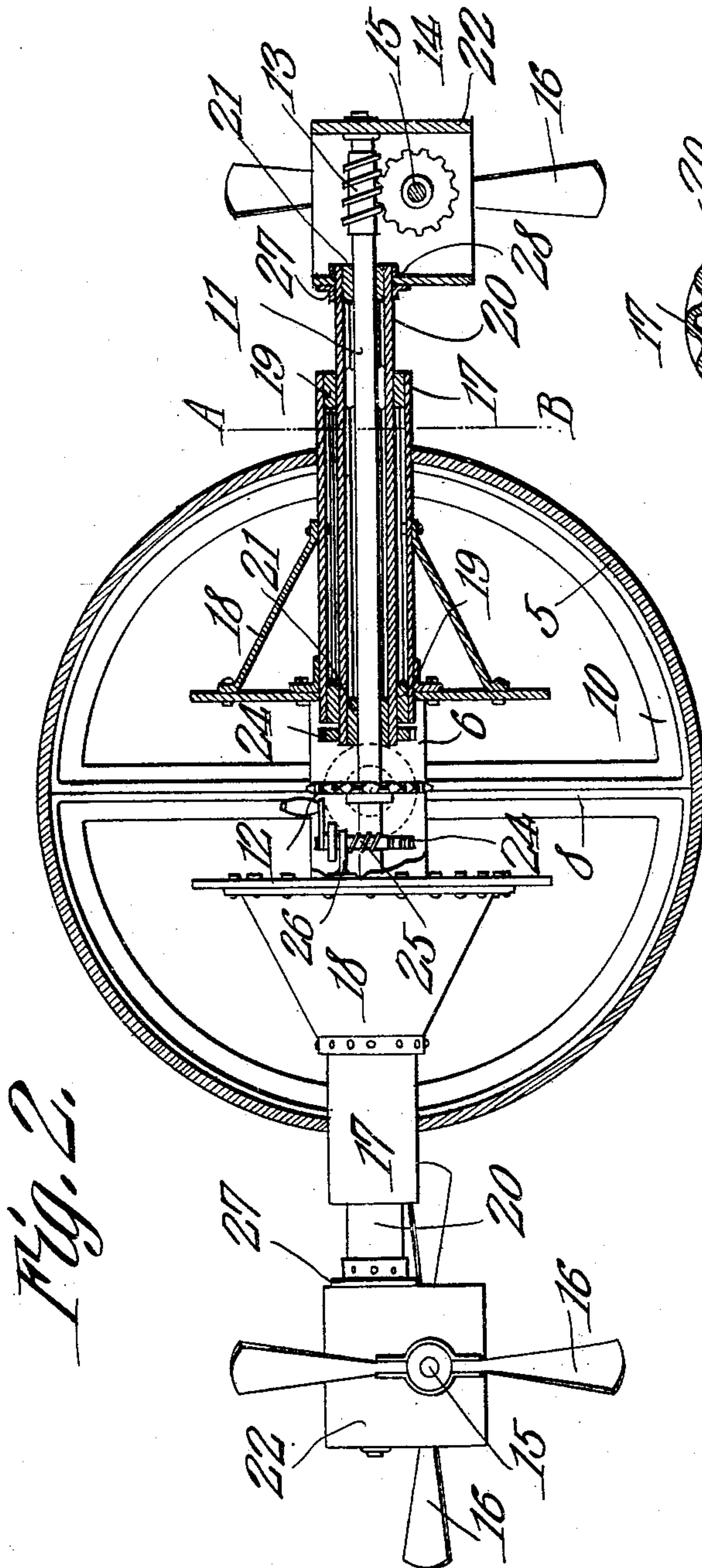


Fig. 2.

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

ELIJAH D. PARROTT, OF SEATTLE, WASHINGTON.

PROPELLER.

No. 930,220.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed November 3, 1908. Serial No. 460,892.

To all whom it may concern:

Be it known that I, ELIJAH D. PARROTT, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a new and useful Propeller, of which the following is a specification.

The propeller embodied in the present invention is designed more particularly for aerial or submarine vessels, and the object of the invention is to provide a propeller which is adjustable to extend at different angles with respect to the keel of the vessel, in order that the same may be raised or lowered, advanced horizontally, reversed, and steered in any direction, without reversing the engine or the drive-shaft. These objects are attained by the mechanism hereinafter described and claimed, and illustrated in the accompanying drawings in which—

Figure 1 is a top plan view partly in section. Fig. 2 is a side elevation partly in section. Fig. 3 is a section on the line A—B of Fig. 2.

In the drawings, 5 denotes the body of the vessel; 6, is a box frame for supporting the gearing and shafting to be hereinafter described; 7, is a center tube which is braced to the body of the vessel by braces 8, of which the inner ends are fastened to a collar 9 encircling the tube 7, and the other ends are fastened to a circular rib 10 secured to the body of the vessel.

11 denotes the drive-shaft which may be operatively connected to the motor or engine by any suitable form of gearing. I have shown a sprocket-wheel 12, which may be connected by a chain to a similar sprocket-wheel on the engine or motor drive-shaft. The drive-shaft 11 extends transversely through the vessel, and on the outside thereof is formed with a worm 13 which meshes with a worm-gear 14 on the shaft 15 of the propellers 16. Each end of the shaft 11 is equipped with a gearing and a pair of propellers, as herein described.

From each side of the vessel projects a tubular casing 17, which is mounted at its inner end in the box-frame 6 and braced by braces 18. On the inside of each casing are boxings 19 in which a tubular shaft 20 is journaled. On the inside of the tubular shaft are boxings

21 in which the drive-shaft 11 turns. The shafts 20 carry at their outer ends a box-frame 22 provided with bearings 23 for the propeller shafts 15. On the inner end of each shaft 20 is a worm-gear 24 which is in mesh with a worm 25 supported by a frame 26 secured to the boxing 6. Each of the shafts 20 is provided with the worm-gearing herein described so that each of said shafts may be turned independently. In order to stiffen the casings 17 and the shafts 20, they are corrugated longitudinally. The box frames 22 are secured to the shafts 20 by means of collars 27 and jam-nuts 28.

It will be seen that the shafts 20 extend at right angles to the propeller-shafts 15, and by turning the shafts 20 through the worm-gearing heretofore described, the propellers are turned bodily on an axis which extends at right angles to the axis of their rotation, whereby they are adjusted to extend at different angles to the keel of the vessel, and the latter may thus be raised or lowered, advanced horizontally, reversed, and steered in any direction, without reversing the engine or the drive-shaft. By mounting a propeller at each end of the box-frame 22, the weight is equally balanced and the adjustment of the propellers can therefore be more readily made. The worms 25 are provided with a handle 29 for turning them.

The herein described mechanism for adjusting the propellers is simple in structure, can be easily operated, and it effectually serves the purpose for which it is designed. The parts are strong, rigid, and well-balanced, and by providing a worm-gearing between the drive-shaft 11 and the propeller-shafts 15, a thrust-bearing for the former is dispensed with.

What is claimed is:

1. The combination with a vessel, of a tubular casing supported therein, and extending through the wall thereof, a tubular shaft mounted in said casing, a frame carried by said shaft on the outside of the vessel, a shaft mounted in said frame, propellers on said shaft at opposite ends of the frame, a drive-shaft geared to the propeller shaft, and means for rotating the tubular shaft on an axis extending at an angle to the axis of the propeller-shaft.

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2. The combination with a vessel, of a
corrugated tubular casing supported therein
and extending through the wall thereof, a
corrugated tubular shaft mounted in said
5 casing, a frame carried by said shaft on the
outside of the vessel, a shaft mounted in said
frame, propellers on said shaft at opposite
ends of the frame, a drive-shaft geared to the
propeller shaft, and means for rotating the

tubular shaft on an axis extending at an 10
angle to the axis of the propeller-shaft.

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

ELIJAH D. PARROTT.

Witnesses:

C. W. LEWIS,

WARREN H. LEWIS.