

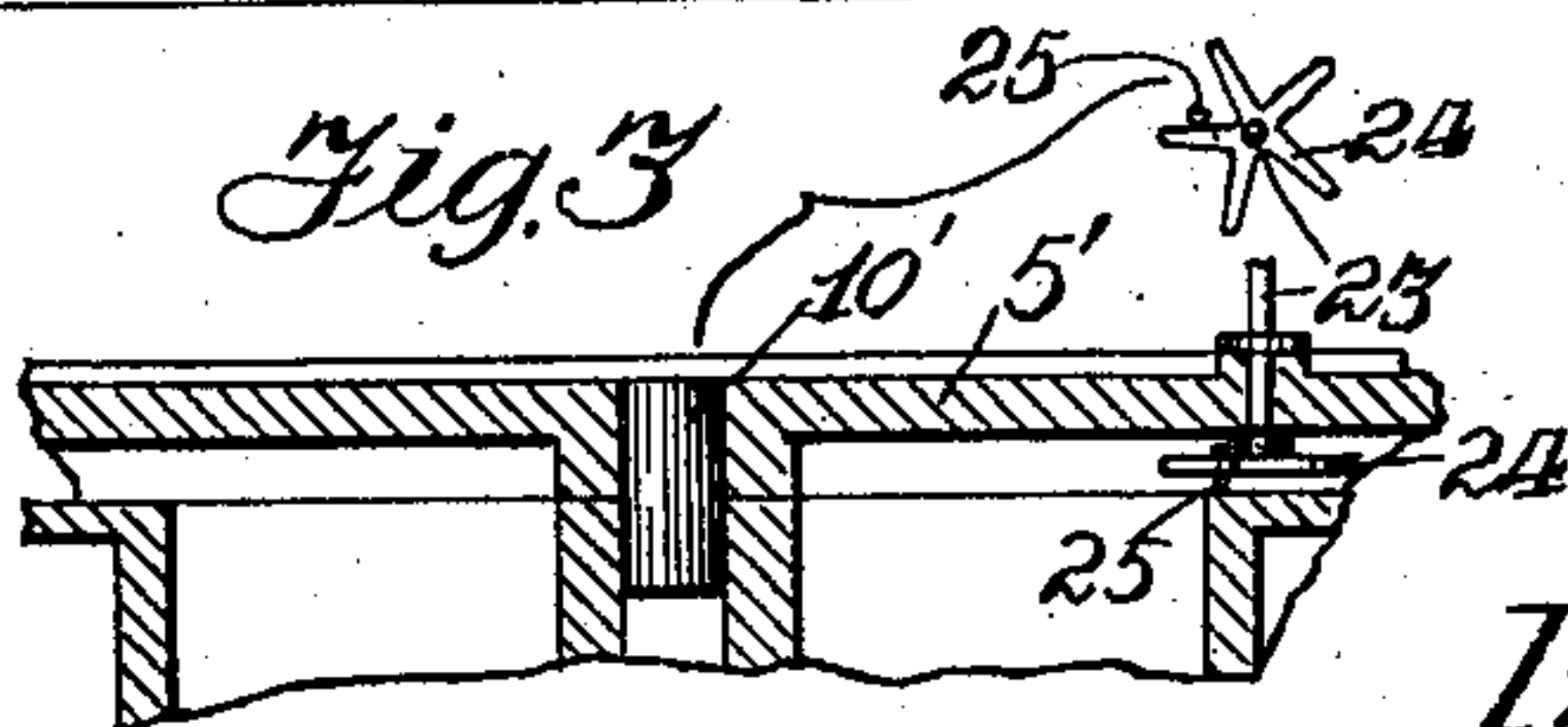
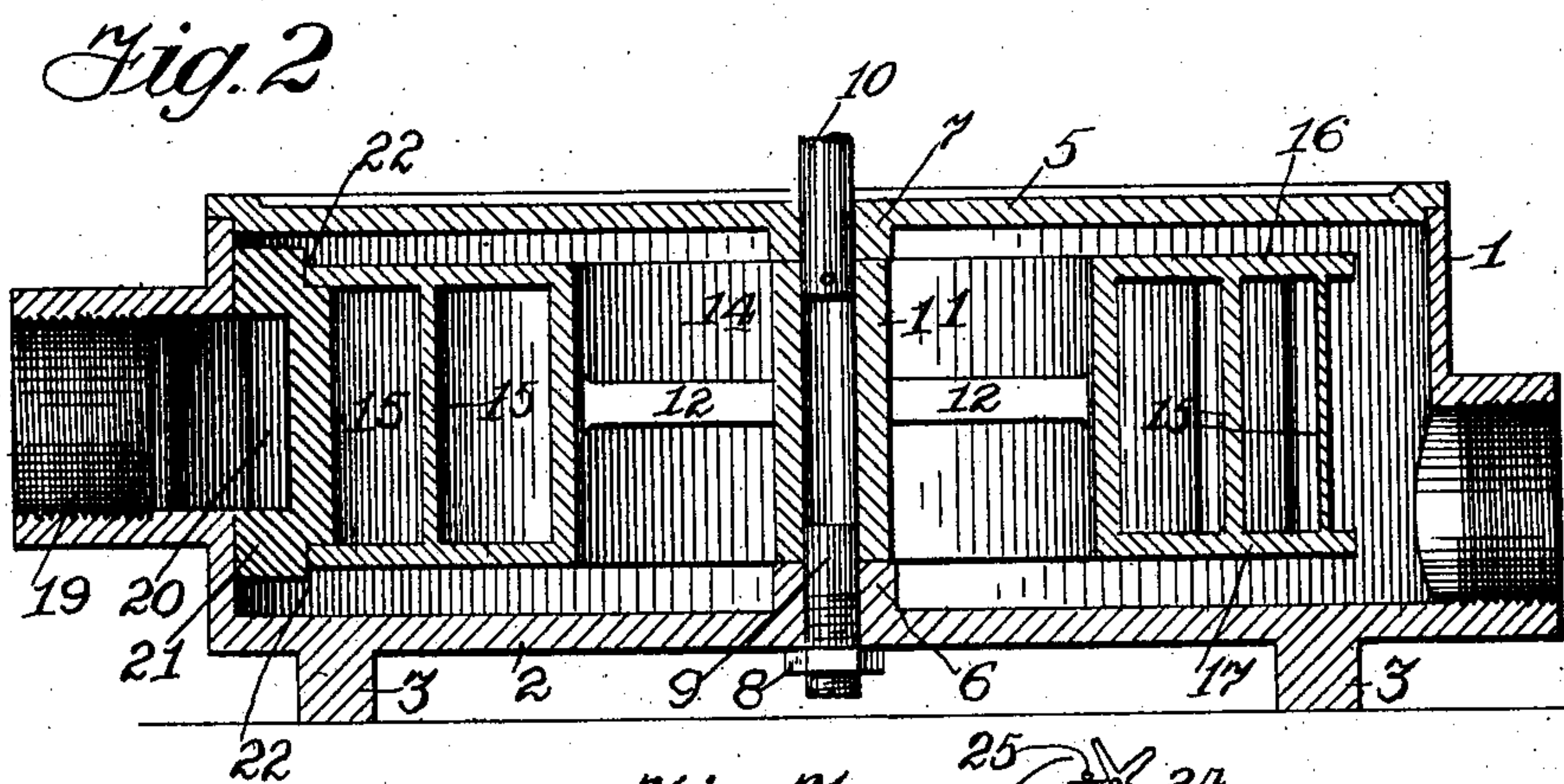
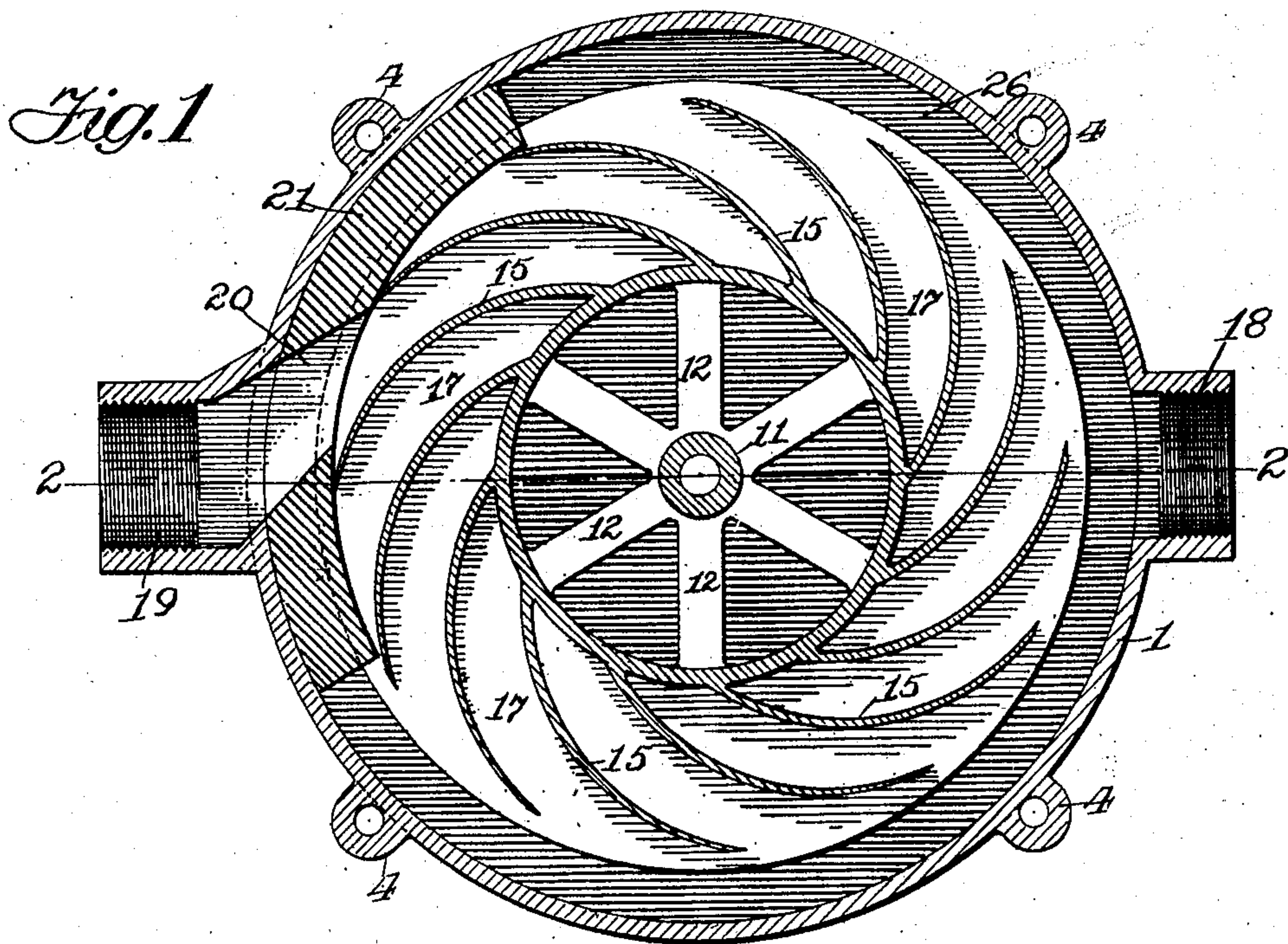
No. 751,326.

PATENTED FEB. 2, 1904.

S. L. McADAMS.
STEAM MOTOR.

APPLICATION FILED MAY 7, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

SYLVESTER L. McADAMS, OF BEAVERFALLS, PENNSYLVANIA.

STEAM-MOTOR.

SPECIFICATION forming part of Letters Patent No. 751,326, dated February 2, 1904.

Application filed May 7, 1903. Serial No. 156,087. (No model.)

To all whom it may concern:

Be it known that I, SYLVESTER L. McADAMS, a citizen of the United States of America, residing at Beaverfalls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Rotary Steam-Motors, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in rotary motors, such as are employed to be actuated or driven by steam-power, water-power, air-pressure, or other suitable means; and the primary object of the invention is to simplify and perfect the construction of a rotary motor in a manner whereby the greatest possible efficiency may be obtained therefrom.

The motor involved in the present invention is adapted, as stated, for use as a steam-motor, though it may also be employed as a motor for operating water-meters or other registering device.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a horizontal sectional view of my improved motor. Fig. 2 is a transverse vertical sectional view thereof, taken on the line 2 2 of Fig. 1. Fig. 3 is a horizontal sectional view of a part of the motor as employed in connection with registering mechanism.

My improved motor comprises an annular shell 1, preferably cast integral with the base-plate 2, and where the motor is to be employed in connection with a registering device this base-plate will preferably be provided with feet or supports 3. The annular shell is provided with perforated lugs 4, adapted to receive fastening-bolts (not shown) for securing the opposite side plate 5 to the shell. The side plate 2 of the shell is provided centrally of its inner face with a bushing 6, and the side plate 5 will have a like bushing 7. In the bushing 6 and secured by a nut 8 is a stub-shaft 9, and in the bushing 7 is a drive-shaft 10. Secured to this shaft 10, whereby the shaft will rotate therewith, is a hub-sleeve 11,

having radially-arranged spokes 12, connecting the same with the annular rim 14. The annular rim 14, the spokes 12, and the hub-sleeve 11 are preferably made integral, and cast integral therewith are the vanes or blades 15, made on a curve, as best seen in Fig. 1 of the drawings, and the pockets between these vanes or blades are closed on the upper and lower faces by the integral plates 16 17, respectively.

18 indicates the outlet and 19 the inlet, the steam, water, or other motive agent being projected from the inlet through inclined passage 20, whereby it will be projected against the concave face of the blades or vanes. The passage 20 is extended through an abutment 21, provided on the inner circumference of the annular shell 1 and extending for some distance on each side of the said passage 20. This abutment is provided with shoulders 22, on which the top and bottom plates 16 17 engage where they project beyond the ends of the vanes.

When the motor is to be used in connection with a meter or other registering device, the top plate 5 will carry a stub-shaft 10', which will not of necessity need to be extended beyond the side plate, and in this plate 5 is journaled a shaft 23, which carries a wheel 24, to be engaged by the pin 25, carried by the rotating wheel within the shell. The shaft 23, it will be understood, is adapted to be connected to the meter or registering mechanism.

I desire to call attention to the fact that as the blades or vanes engage with the flat part or end of the abutment 21 one of these blades or vanes will come into engagement with the end of the abutment just prior to the time of the preceding vanes or blades passing out of engagement at the point of the passage 21, and on the other side of said passage one of the blades or vanes will always be in engagement with the said abutment. I also desire to call attention to the fact that immediately upon the vanes or blades leaving engagement with the abutments 21 the clearance-space 26 between the inner circumference of the shell 1 and the periphery of the annular plates 16 17 will give a quick exhaust to the fluid, all pressure against the blades or vanes being removed immediately upon the blade or

vane being shifted to such position that the effective formed of the motor fluid has been expended.

It will be obvious that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In a motor, the combination with a shell having an inlet and an outlet, of a rotator or piston within the shell and comprising an integral hub, spokes, annular rim and a series of curved blades or vanes connected at their one ends to the annular rim, abutments on one side of the annular shell on the inner face thereof and having an inclined passage there-through, shoulders on said abutments, and upper and lower plates cast integral with the blades or vanes and having their projecting periphery engaging on the shoulders of the

abutments, said abutments extending on each side of the air-inlet passage an equal distance slightly in excess of the distance between the ends of the curved veins, substantially as described.

2. In a motor of the type described, an annular shell having an inlet and outlet with an inclined passage communicating with the inlet and extending through a shouldered abutment on the inner surface of the shell, a rotary piston formed with side plates and vanes journaled within the annular shell concentric thereto and of less diameter than the shell, said side plates extending beyond the face of said abutment and embracing the sides thereof, substantially as described.

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

SYLVESTER L. McADAMS.

Witnesses:

J. B. McGOUN,

SUSIE W. ROUZER.