

No. 750,450.

PATENTED JAN. 26, 1904.

O. GILTNER.
VENTILATING FAN.

APPLICATION FILED MAR. 10, 1903.

2 SHEETS—SHEET 1.

NO MODEL.

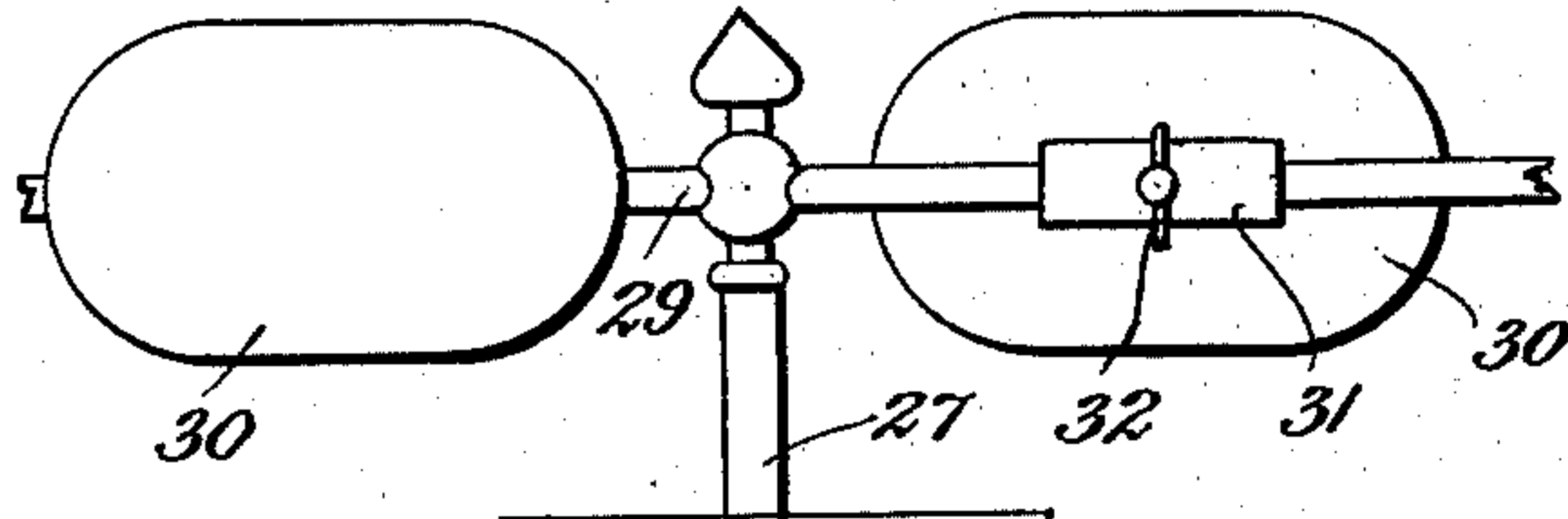
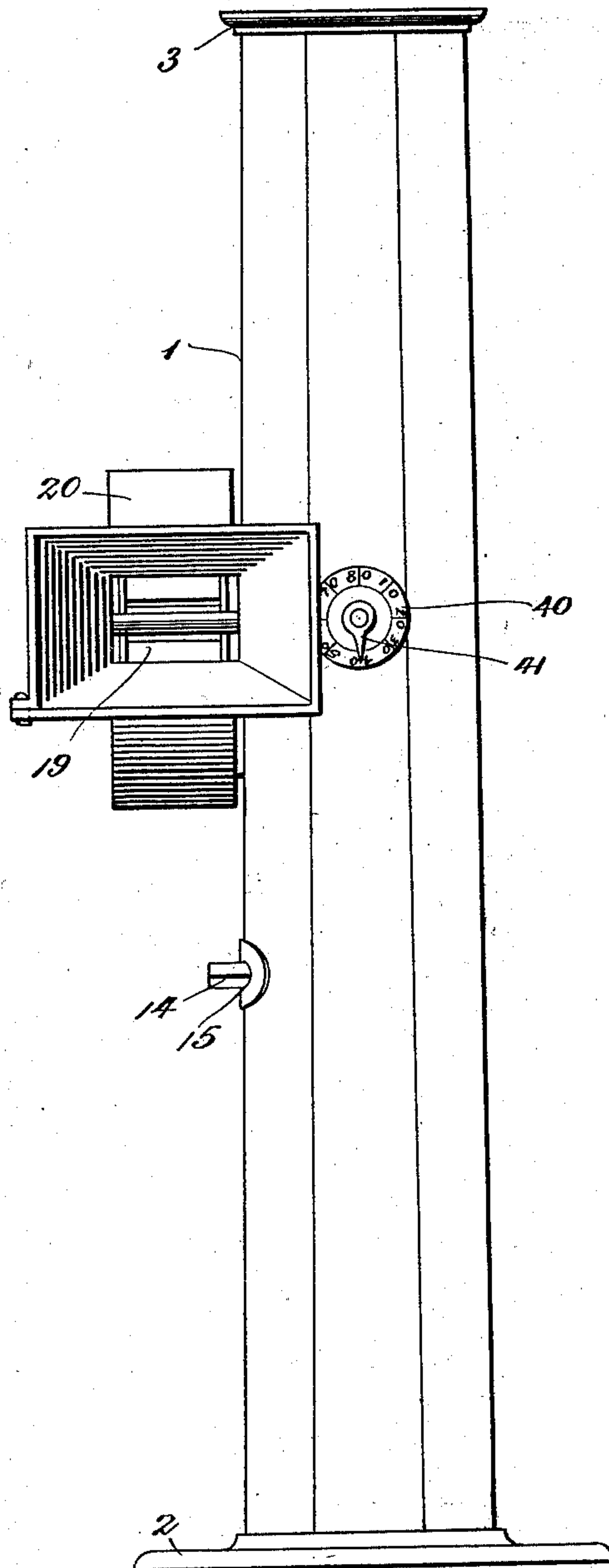


Fig. 1.

Fig. 2.



Witnesses:
W. S. Duwall.
S. M. Kendig.

Inventor:
Oliver Giltner;
by John Raum
Attorney

No. 750,450.

PATENTED JAN. 26, 1904.

O. GILTNER.
VENTILATING FAN.

APPLICATION FILED MAR. 10, 1903.

2 SHEETS—SHEET 2.

NO MODEL.

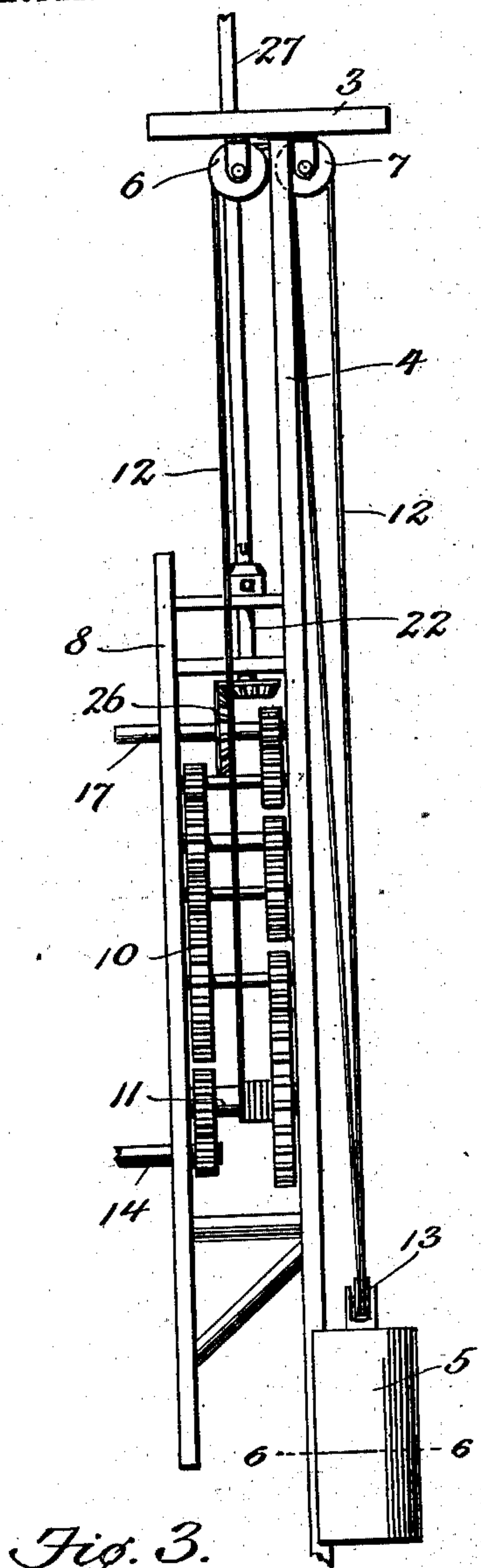


Fig. 3.

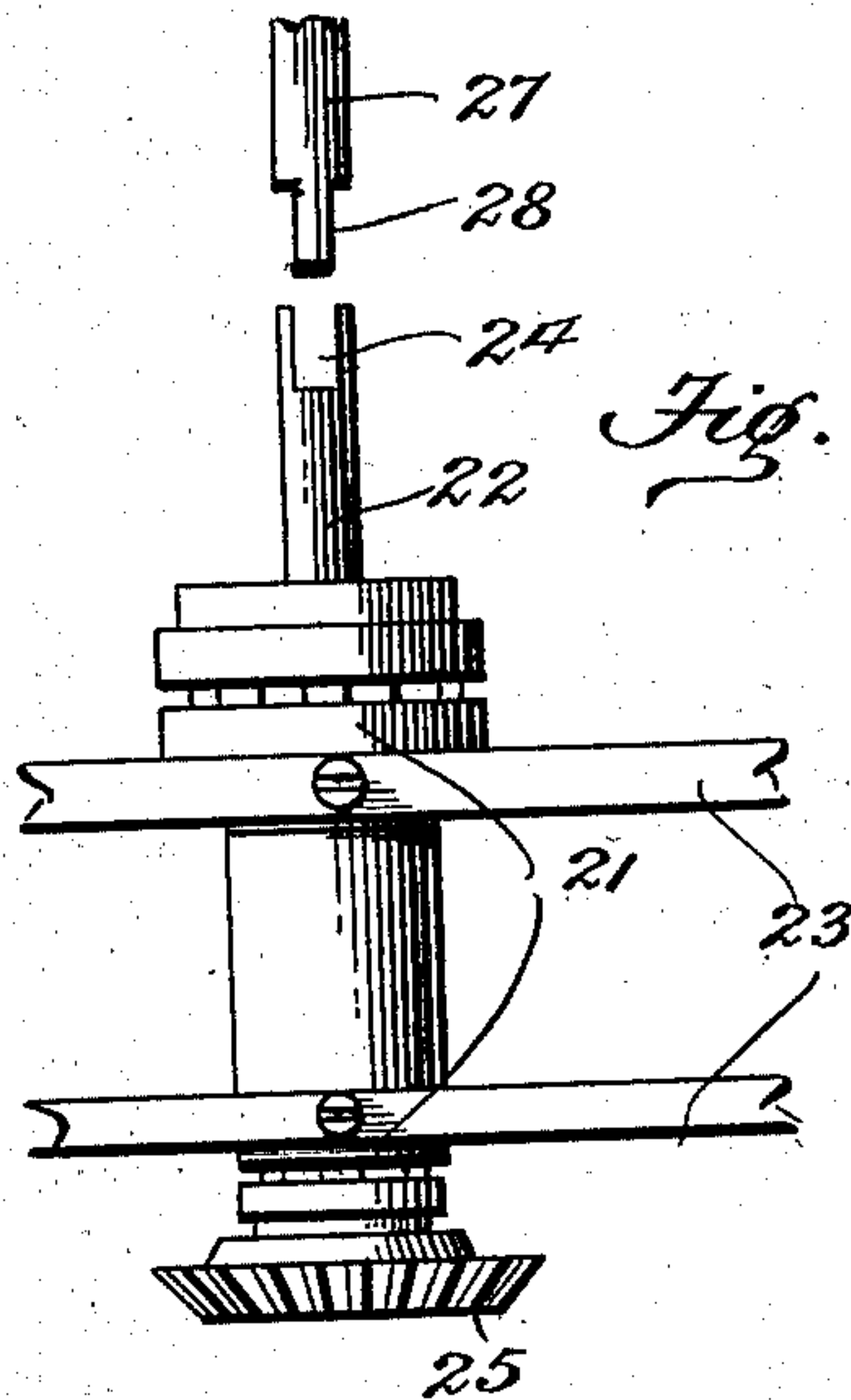


Fig. 4.

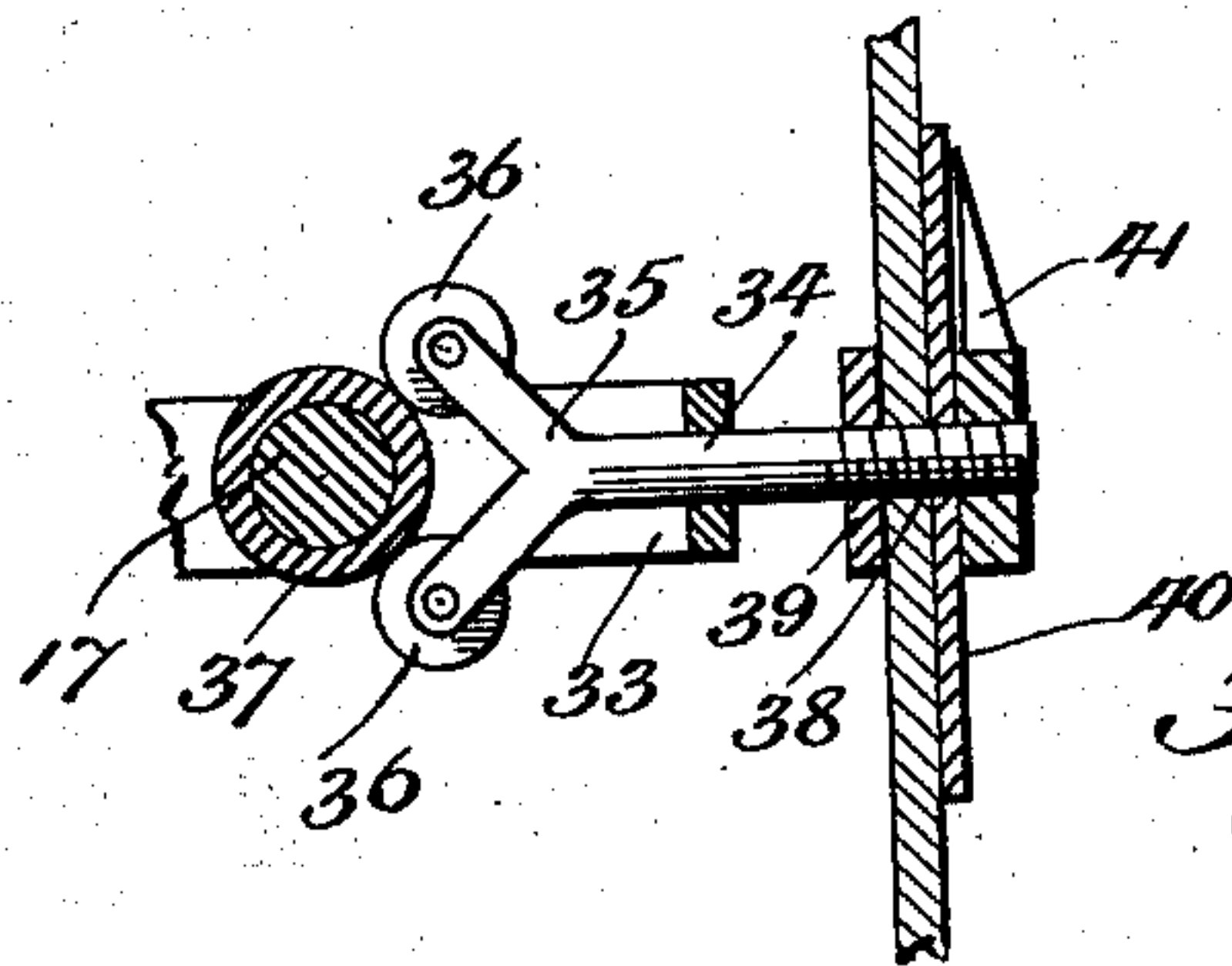


Fig. 5.

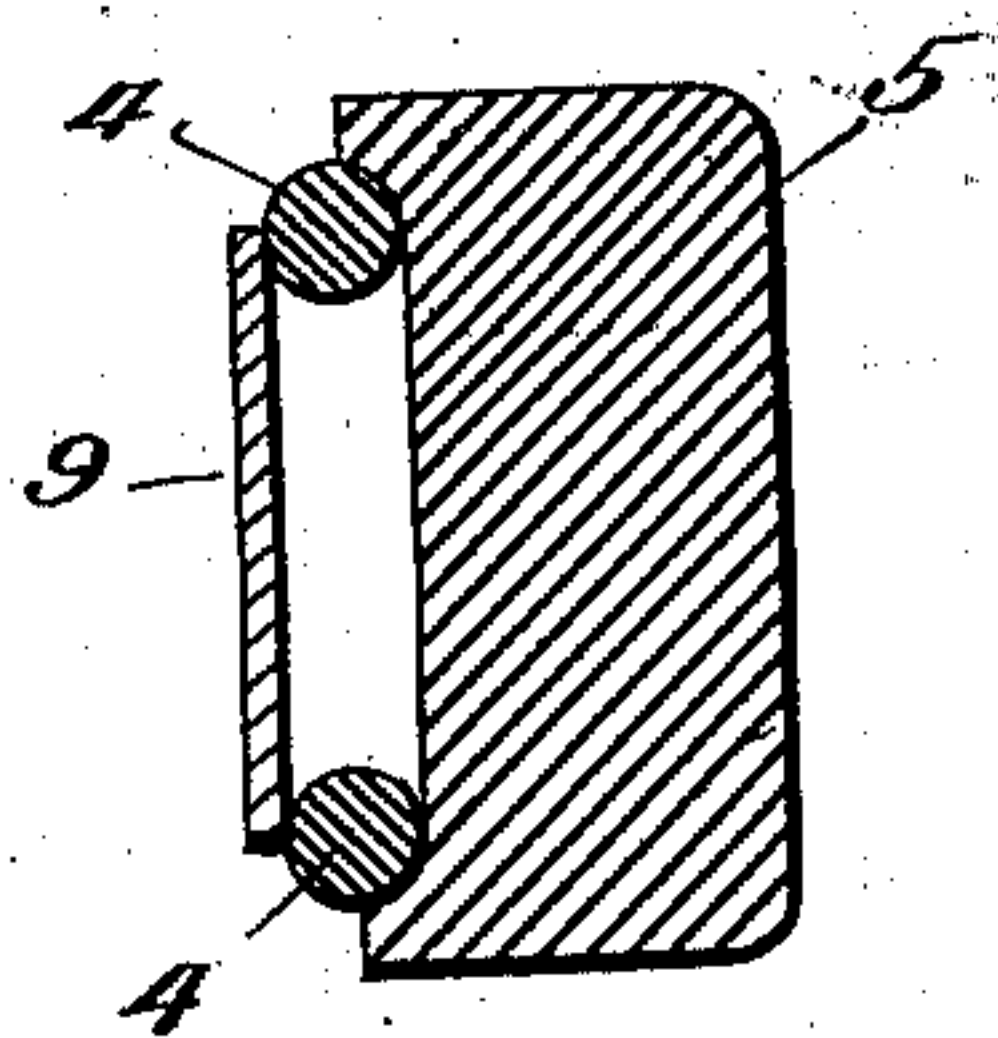
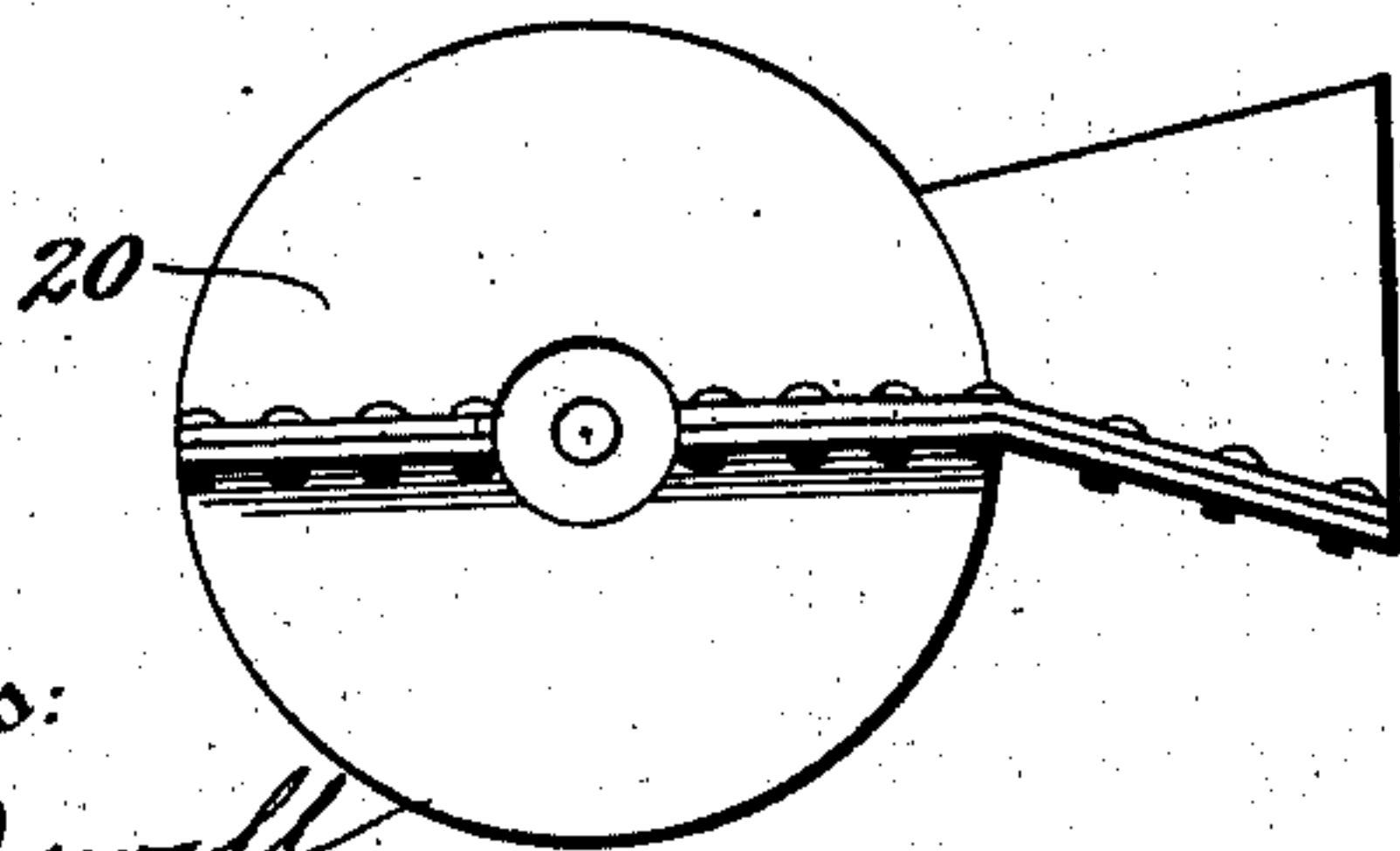


Fig. 6.

Fig. 7.



Witnesses:

W. J. S. Duwall.

Sam. Kendig.

Inventor:

Oliver Giltner,
by John Raum

Attorney.

UNITED STATES PATENT OFFICE.

OLIVER GILTNER, OF PORTLAND, OREGON.

VENTILATING-FAN.

SPECIFICATION forming part of Letters Patent No. 750,450, dated January 26, 1904.

Application filed March 10, 1903. Serial No. 147,135. (No model.)

To all whom it may concern:

Be it known that I, OLIVER GILTNER, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented new and useful Improvements in Ventilating-Fans, of which the following is a specification.

This invention relates to ventilating-fans, the objects in view being to produce a cheap, simple, and portable fan containing within itself the necessary operating mechanism and which is capable of being used to deliver air either from the top, as in the case of an ordinary vertical rotary fan, or at the side, as in the case of an ordinary blower, and, furthermore, which is capable of being regulated in speed, so as to deliver the desired blast.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of a fan embodying my improvements. Fig. 2 is a similar view, the fan being designed to deliver a side blast. Fig. 3 is a skeleton view of the mechanism with the casing removed. Fig. 4 is a detail, enlarged, showing the socket for connecting the ordinary fan-shaft to the train of gearing. Fig. 5 is a vertical section through the casing-wall and fan-driving shaft, illustrating the speed-governing mechanism. Fig. 6 is a transverse section on the line 6-6 of Fig. 3, and Fig. 7 is a side elevation of the blower-casing.

Similar numerals of reference indicate similar parts in all the figures of the drawings.

In practicing my invention I employ a suitable casing 1, that is arranged upon a base 2, said casing containing the entire mechanism for driving the fan and capable of being moved from place to place, so as to be conveniently located.

Within the casing and connecting the base 2 with a superimposed head 3 is a pair of vertical guide-rods 4, the same being preferably cylindrical in cross-section and combining to serve as guides for an operating weight 5. (See Fig. 6.) At each side of the aforesaid guide-rods 4 pulleys 6 and 7 are suspended in suitable brackets from the head 3.

Between the guide-rods 4 and the adjacent wall of the casing is located in suitable plates 8 and 9 a train of driving-gearing 10, the same being of the usual construction, and therefore requiring no additional description. Comprised within the train of gearing 10 is a drum-shaft 11, around and attached to which is a cable 12, the same passing upwardly over the pulleys 6 and 7 and from the latter downwardly at the opposite sides of the guide-rods 4 around a pulley 13 on the upper end of the weight 5 and backward to a fixed point within the casing. Below the drum-shaft 11 and geared to drive the same is a winding-shaft 14, that projects through an opening 15 in the casing and is adapted to receive in a removable manner a winding hand-crank 16. The uppermost shaft 17 of the train of gearing 10 may also project through an opening 18 in the casing and removably receive a rotary fan or blower 19, located within a casing 20, removably secured by screws or other attaching means (not shown) to the wall of the casing 1, whereby a side delivery-blast is obtained. In suitable bearings 21 (see Fig. 4) is journaled a short shaft 22, said bearings being seated in transverse braces 23, interposed between the plates 8 and 9. The shaft 22 is provided with a socket 24 at its upper end and at its lower end with a beveled gear 25, which meshes with and is driven by a gear 26, located on the shaft 17.

27 indicates the vertical fan-shaft, the same having a reduced lower end 28, which fits within the socket 24 of the shaft 22, and at its upper end, which is located above the casing 1, is provided with a cross-arm 29, upon which is supported at opposite sides of the shaft 27 blades 30. These blades may be readily adjustable upon the cross-arm 29 by means of a collar 31, located at the reverse side of each blade and which is bored to receive the cross-arm, and a thumb-screw 32, that passes through the said collar and impinges on the said cross-arm. At right angles to the shaft 17 and supported for longitudinal movement in the brace 38 is a regulating-shaft 34, the same having its inner end Y-shaped or bifurcated, as at 35, so as to straddle the shaft 17, and at the extremity of each of its bifurcations a

loosely-journaled roller 36, the peripheries of which rollers bear upon a collar 37, located on the shaft 17. The outer end of the regulating-shaft 34 projects through the opening 5 38 and is threaded in a fixed nut 39, registering with said opening in the casing 1. Beyond the casing 1 a dial-plate 40 (see Figs. 1, 2, and 5) is arranged on the casing 1, and movable over the dial-plate and upon the shaft 34 10 is a dial-hand 41, that moves with said shaft. This dial is divided into degrees, and it will be obvious that by moving the hand the shaft will be fed inwardly or outwardly and its roller 36 caused to impinge more or less 15 against a rotating collar 37 of the shaft 17, whereby through frictional contact the said shaft 17 will be permitted to rotate at an increased or decreased speed in accordance with the force of said impingement.

20 It will of course be understood that the speed-gearing referred to is provided with the usual pawl-and-ratchet mechanism (not necessary to show) for holding the gear from reverse movement and also that in order to decrease or reduce the friction the bearings of 25 the various shafts may be provided with any of the usual antifriction devices.

When it is desired to employ the fan to deliver a side blast, the vertical shaft 27 and its 30 fan may be removed, and vice versa, or both fans may be employed, if preferred.

The operation of the apparatus will be readily understood from the foregoing description and may be briefly stated as follows:

Through the medium of the crank 16 the 35 winding drum-shaft is rotated, so as to take up the cable 12, and thus elevate the weight. The fan or fans, as the case may be, will thus be rotated by the motion of the gearing as caused by the descending weight, the speed 40 being increased or decreased by a proper setting of the hand 41 on the dial 40.

Having thus described my invention, what I claim is—

1. A device of the character described comprising a train of gearing, means for operating the same, a horizontal fan-shaft operated by said gearing, a vertical fan-shaft operated by said horizontal shaft, a shaft having a bifurcated end bearing against said horizontal 50 shaft and means for regulating the pressure of said bifurcated shaft against said horizontal shaft.

2. A device of the character described comprising a train of gearing, means for operating the same, a horizontal fan-shaft operated 55 by said gearing, a vertical fan-shaft operated by said horizontal shaft, a shaft having a bifurcated end, rollers mounted in said bifurcated end and bearing against said horizontal 60 shaft, and a tension device working on the opposite end of said bifurcated shaft.

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

OLIVER GILTNER.

Witnesses:

H. G. GREENE,
R. D. DEPUE.