

H. MANES.
MOTOR OPERATED FAN.
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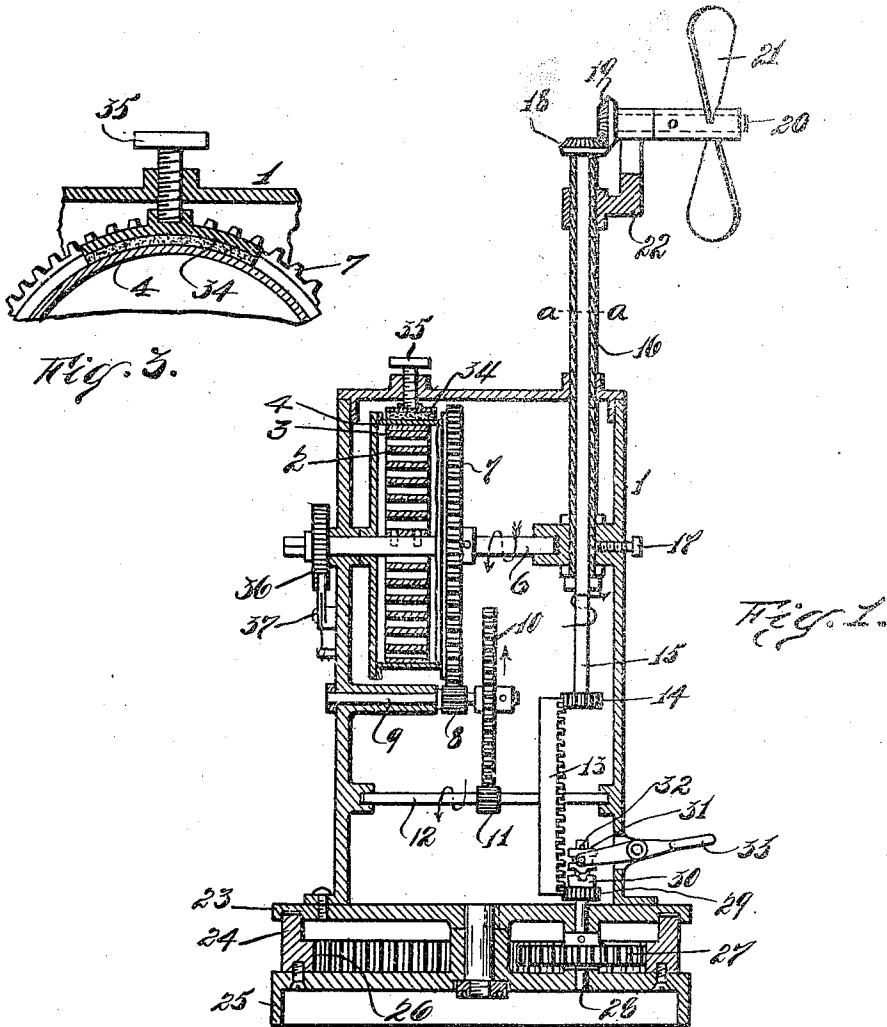


Fig. 3.

Fig. 1.

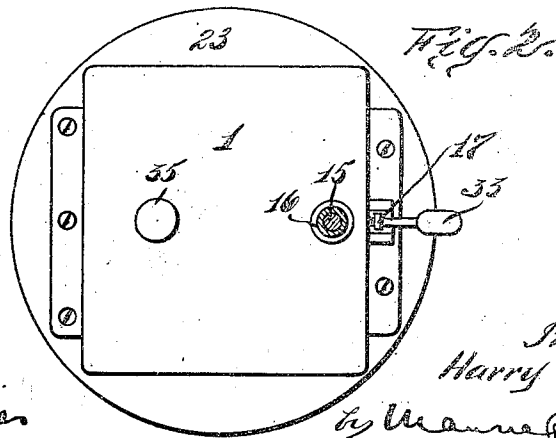


Fig. 2.

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UNITED STATES PATENT OFFICE.

HARRY MANES, OF JERSEY CITY, NEW JERSEY.

MOTOR-OPERATED FAN.

950,141.

Specification of Letters Patent.

Patented Feb. 22, 1910.

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To all whom it may concern:

Be it known that I, HARRY MANES, a citizen of the United States, residing at Jersey City, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Motor-Operated Fans, of which the following is a clear, full, and exact description.

This invention relates to motor operated fans, the object being to provide a motor of cheap construction that will be adapted to operate a fan for the purpose of creating a draft or for any other purpose for which fans are used.

The motor which I have herein illustrated is of the spring operated variety, but varies considerably from other motors of this class for a similar purpose.

My improved motor operated fan is intended for use more particularly where an electric current is not available, and also by those who cannot afford to purchase an electrically driven fan.

I will now proceed to describe my invention, the novel features of which I will finally claim, reference being had to the accompanying drawing, forming part hereof, wherein—

Figure 1 illustrates a vertical sectional view of my improved device, certain parts being shown in elevation. Fig. 2 is a sectional plan view thereof, the section being taken on a line *a— a* in Fig. 1, and Fig. 3 is an enlarged fragmentary sectional view of the spring casing and brake therefor.

Referring now to the drawing, the numeral 1 indicates the casing of my improved device within which the motor parts are mounted. The power exerting element of my improved device comprises a clock spring 2, one end 3 of which is secured to a casing 4, the inner end 5 being secured to a rotatable shaft 6. Upon the shaft 6, and secured to the casing 4, I loosely mount a gear 7, which is adapted to mesh with an intermediate pinion 8, secured to a rotatable shaft 9. Upon the shaft 9, I also secure an intermediate gear 10, which is adapted to mesh with a pinion 11 secured to a shaft 12. The shaft 12 carries a crown gear 13, which in turn meshes with a pinion 14 mounted upon the lower end of the vertical shaft 15. The shaft 15 is rotatably supported by a tubular support 16, which in turn is secured to the frame 1 by a set screw 17. The upper end of the shaft 15 carries a pinion 18 which

meshes with a gear 19, which in turn is carried by a shaft 20. The shaft 20 has mounted thereupon a fan 21, the said shaft 20 being supported by a bracket 22, which in turn is carried by the tubular support 16.

As can be seen in Fig. 1 the casing 1 is secured to a table 23, which is adapted to rotate upon a ring 24, which is suitably supported by a base 25. The ring 24, upon the inside thereof is provided with gear teeth 26, with which a gear 27 is adapted to mesh. The gear 27 is carried by a spindle 28, which at its upper end carries a loose gear 29 provided with a clutch-jaw 30. Adjacent to the clutch-jaw 30, and upon the spindle 28, I mount a clutch-jaw 31, which is longitudinally movable upon and splined to the shaft 28 as at 32. To move the clutch-jaw 31 into and out of engagement with the clutch-jaw 30 I provide an operating lever 33.

To control the speed of the motor, and also to hold the mechanism against movement while the spring 2 is being wound up, I provide a brake shoe 34 which is placed upon the casing 4 as shown in Figs. 1 and 3. To cause the brake shoe 34 to oppose the rotation of the casing 4, I provide a thumb screw 35.

It is quite apparent that when the casing 4 is caused to rotate by the reaction of the spring 2, after said spring has been wound up, the fan 21 will be caused to rapidly revolve through the medium of the gearing before described. Should the clutches 30 and 31 be caused to engage, the gear 27 will rotate simultaneously with the crown gear 13. As the gear 27 and gear teeth 26, of the ring 24, are in mesh, the table 23 will be caused to revolve, whereby the fan 21 will travel in a circular path while it is being rotated. Should I desire to keep the casing 1 stationary, while the fan 21 is being revolved, I keep the clutches 30 and 31 out of engagement, for instance as illustrated in Fig. 1.

By means of the brake shoe 34 and set-screw 35 I am able to control the speed of the fan. When I desire to wind the spring 2, I force the brake shoe 34 firmly against the casing 4. The spring 2 is of the ordinary clock spring variety and is therefore wound up in the same manner, a ratchet 36 and pawl 37 being provided for the usual purpose.

After having wound the spring, I can

hold the operating mechanism of the motor stationary by means of the shoe 34 and screw 35. By releasing the screw 35 the motor will operate, the speed thereof being governed by the pressure of the shoe upon the casing 4.

Having now described my invention what I claim and desire to secure by Letters Patent is:—

- 10 A motor operated fan, comprising a rotatable casing, spring actuated gearing within said casing, a crown gear within said casing adapted for operation by the spring actuated gearing, a table secured to said
15 casing rotatably mounted upon a base therefor, a ring interposed between said base and said table, gear teeth carried by said ring, a spindle carried by said table provided,

adjacent the upper end thereof, with a loosely mounted gear in mesh with said 20 crown gear, a gear mounted upon said spindle adapted to mesh with the teeth on said ring, clutch-jaws carried by said loosely mounted gear, a clutch longitudinally movable upon and splined to said spindle, a 25 lever adapted to operate the clutch last named, a fan adapted for operation by the spring actuated gearing, and a brake adapted to control the speed of said fan and said casing. 30

Signed at New York city, N. Y., this 15th day of October, 1909.

HARRY MANES.

Witnesses:

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