L. M. FERGUSON.

GOVERNOR FOR SPRING MOTORS.

APPLICATION FILED SEPT. 7, 1909.

993,355.

Patented May 30, 1911.

2 SHEETS—SHEET 1.

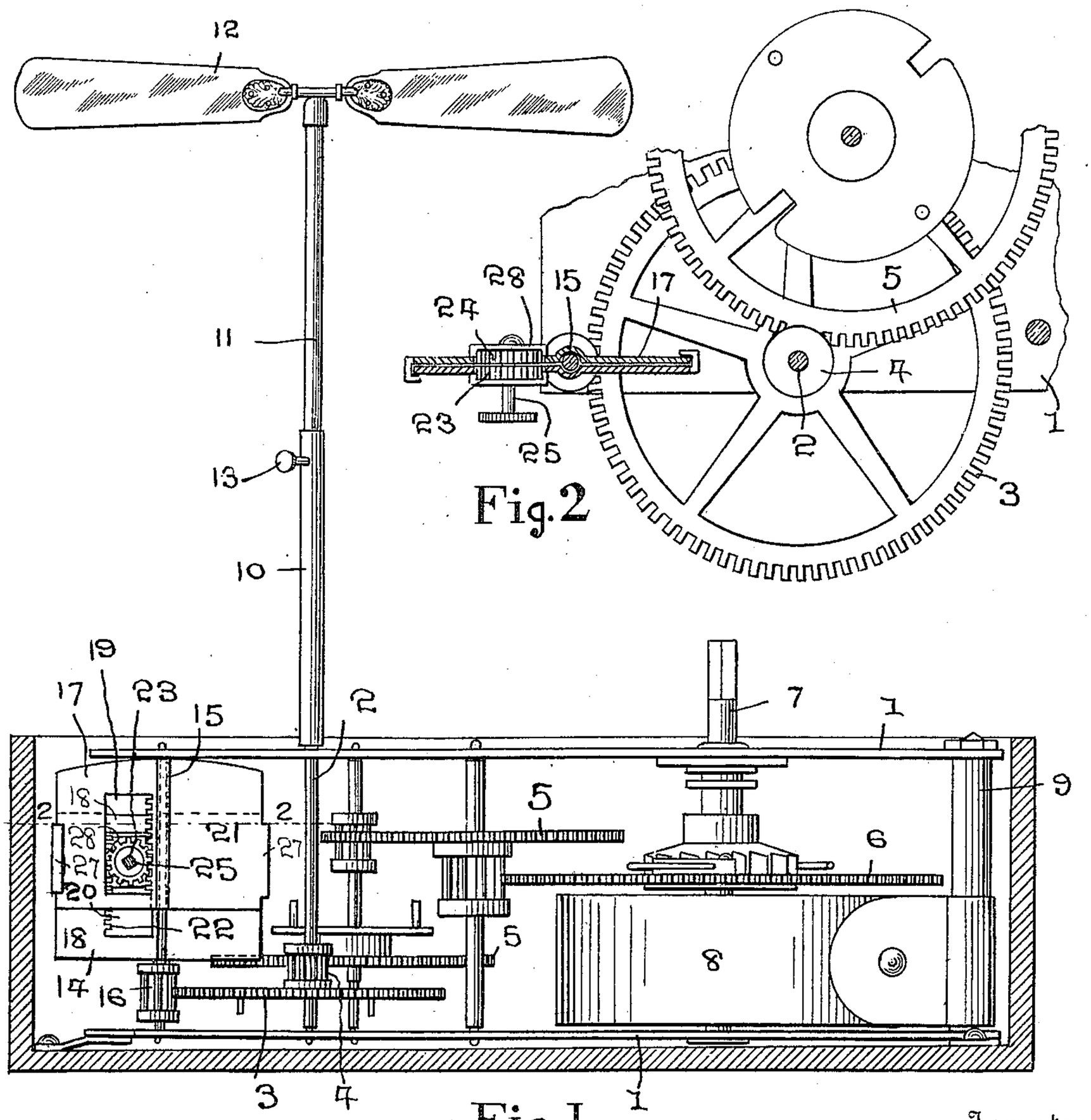

Fig. 2

Fig. 1

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Witnesses

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Fig. 3.

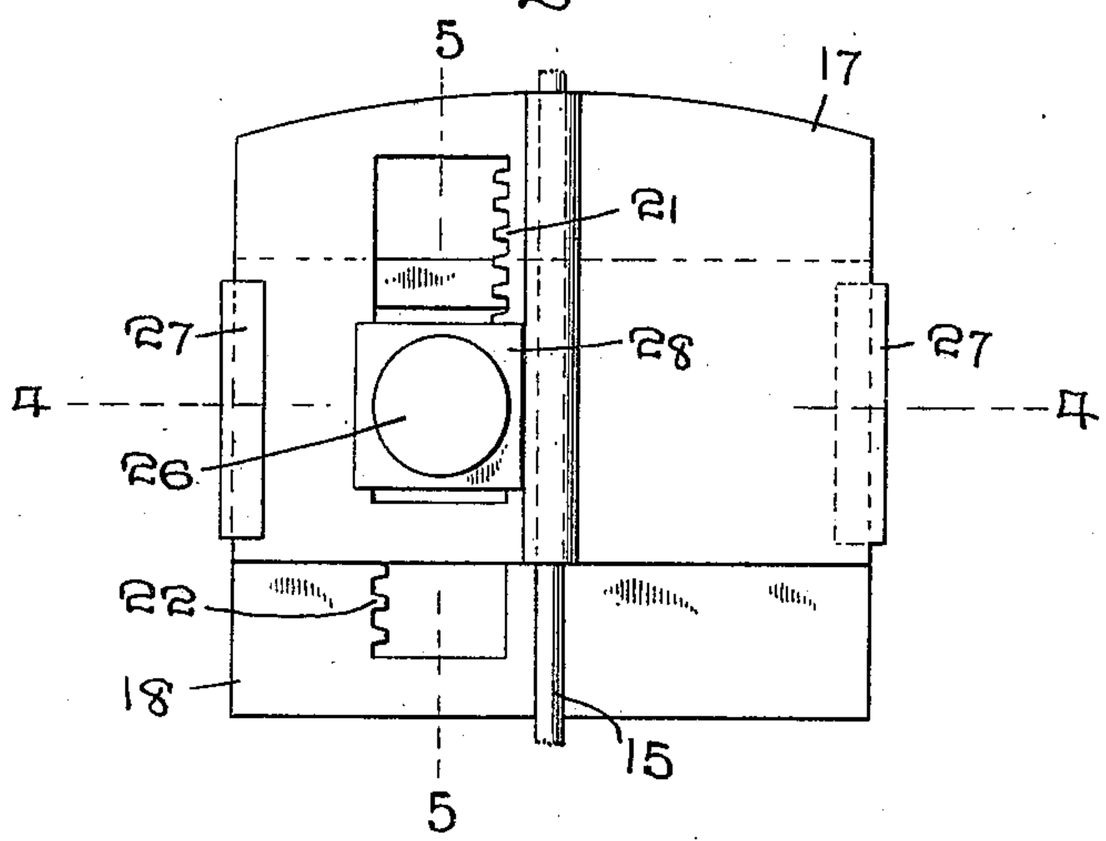


Fig. 4.

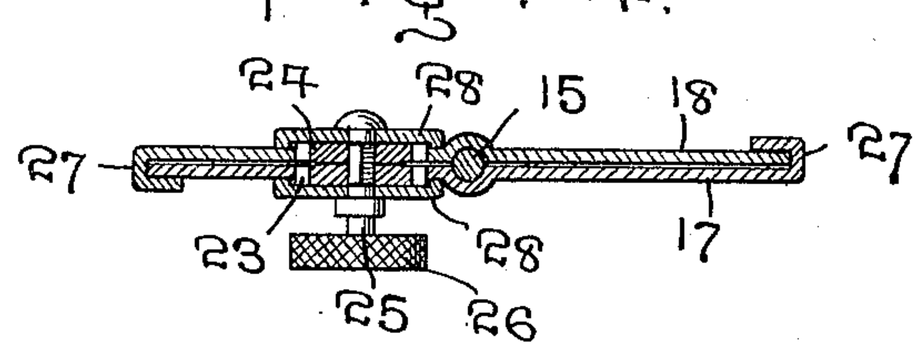


Fig. 5.

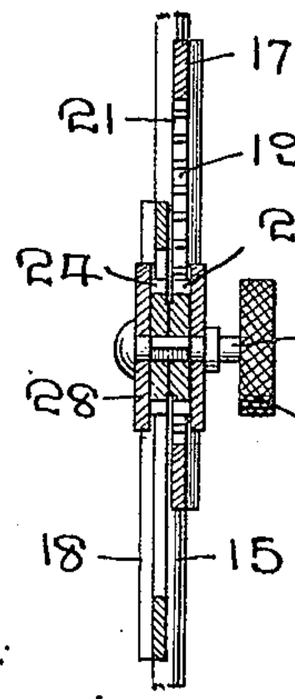
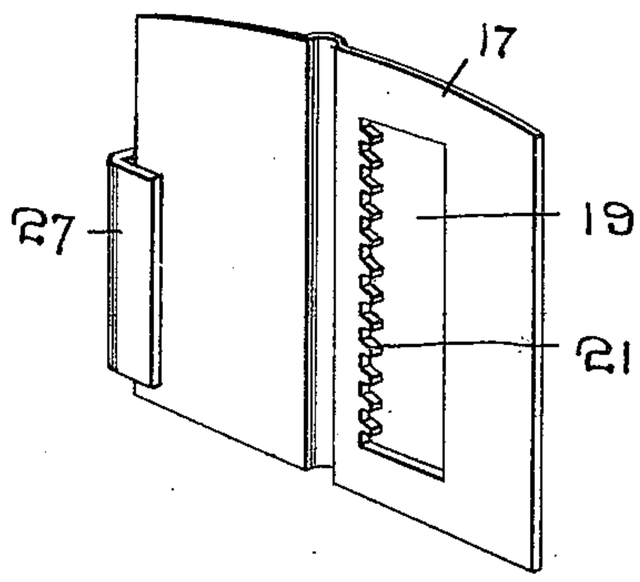


Fig. 6.



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UNITED STATES PATENT OFFICE.

LEWIS M. FERGUSON, OF RELIEF, KENTUCKY, ASSIGNOR OF ONE-HALF TO H. B. FERGUSON, OF RELIEF, KENTUCKY.

GOVERNOR FOR SPRING-MOTORS.

993,355. Specification of Letters Patent. Patented May 30, 1911.

Application filed September 7, 1909. Serial No. 516,465.

To all whom it may concern:

Be it known that I, LEWIS M. FERGUSON, a citizen of the United States, residing at Relief, in the county of Morgan and State of Kentucky, have invented certain new and useful Improvements in Governors for Spring-Motors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in spring motors and more particularly to that class adapted to be used for propelling a fan or for such other purposes as may be desired and my object is to provide means for controlling the speed of the motor.

A further object is to provide means for adjusting the width of the controlling means, whereby the motor may be caused to increase or decrease its speed.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claim.

In the accompanying drawings forming part of this application, Figure 1 is an elevation of the motor and fan attached thereto, Fig. 2 is a detail sectional view on an enlarged scale as seen on line 2—2, Fig. 1. Fig. 3 is an enlarged detail view of the regulator in full. Fig. 4 is a section through line 4—4 on Fig. 3. Fig. 5 is a section through 5—5 on Fig. 3. Fig. 6 is an enlarged detail view of one plate of the regulator, showing the toothed slot and retaining clip.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates frame sections, between which is rotatably mounted a shaft 2, said shaft having attached thereto adjacent its lower end, a gear wheel 3, and a pinion 4, which is fixed with said gear and meshing with said pinion is one of a train of gears 5 which extend into engagement with a driving gear 6, mounted upon a shaft 7, said shaft also having secured thereto one end of a driving spring 8, while the opposite end of said spring is attached to a post 9 carried by said frame sections 1 and through the medium of which spring power is applied to the shaft 2.

One end of the shaft 2 projects through the upper frame section 1 and is preferably square to receive a socket member 10 and into said socket member is introduced an end of a standard 11, to the upper end of which are secured fan blades 12 and in order to adjust said blades to various heights, a set screw 13 is employed, which enters a threaded opening in the wall of the socket member 10 and engages said standard, the binding action of the set screw holding the standard in its adjusted position.

In order to control the speed of the motor, a regulator is slidably mounted on a shaft 15, a pinion 16 also mounted on the shaft meshing with the gear 3, whereby power is applied to the shaft. The regulator comprises a pair of plate-like sections 17 and 18 overlapping one another and slidably mounted on said shaft 15, each having a slot 19 and 20, respectively, in alinement with one another, the slot 19 having teeth 21 on its inner edge and said slot 20 having teeth 22 on its outer edge and a pair of cogs, 23 and 24 mounted on a shaft 25, are positioned within said alining slots, said cogs 23 and 24 meshing respectively, with the teeth 21 and 22. A turn button 26 on one end of the shaft is adapted to be turned, whereby said cogs on the opposite end of the shaft will be rotated, the teeth of said cogs engaging the teeth in the opposite edges of the slots and moving the plates in opposite directions, either shortening or lengthening the same, as it is desired to increase or decrease the speed. By this construction it will be readily seen that when the speed of the motor is to be decreased, the regulator is to be extended its full height and vice versa, when the speed of the motor is to be decreased.

The sections 17 and 18 are held in alinement with each other by means of clips 27, which are attached to the edges of said sections, the clip of one section being bent around the edge of the opposite section and the cogs 23 and 24 are held in the slots 19 and 20 by means of retainers 28.

Although I have shown and described my improved motor as employed for operating a fan, it will be readily seen that the same may be applied to use for operating various devices such as churns, or the like, and it will likewise be seen that the motor may be positioned in a casing as shown and the fan elevated above the motor, or, if pre-

ferred, the motor may be set in the ceiling or side wall of a room.

What I claim is:

In a spring motor governor, a pair of engaging plates formed with alining grooves to receive a shaft, each of said plates having a bent end portion engaging the adjacent end of the other plate, each plate being further formed with alining slots and two of the opposite vertical edges of the respective slots being formed with teeth, bearing plates, a gear movable in the slots to engage the teeth of the plates and move the plates to diminish or increase their opposing surfaces, and a pin shaft extending through the bearing plates and the gear to operate said gear.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEWIS M. FERGUSON.

Witnesses:
M. C. WILLIAMS,
J. A. COX.