

No. 708,622.

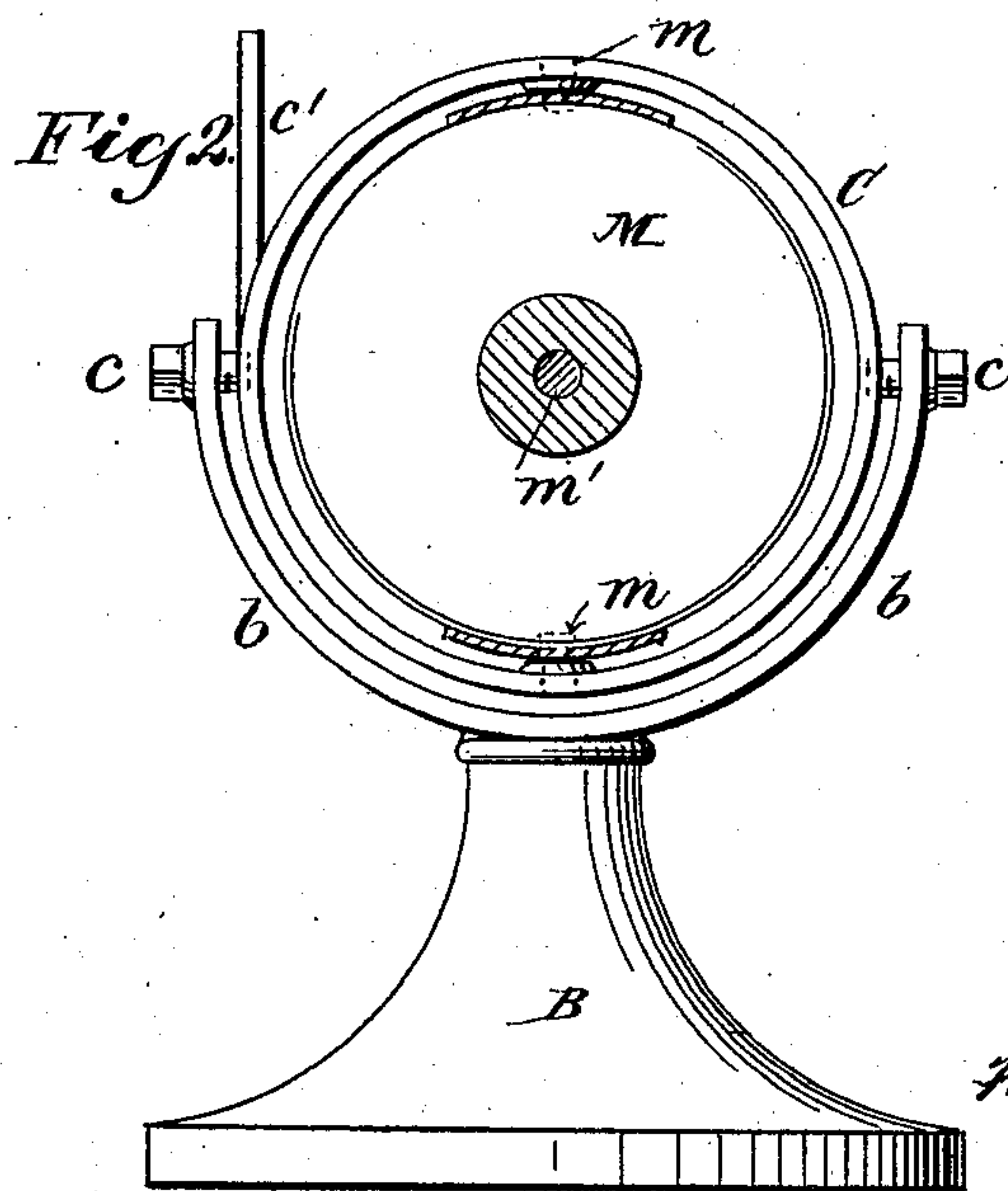
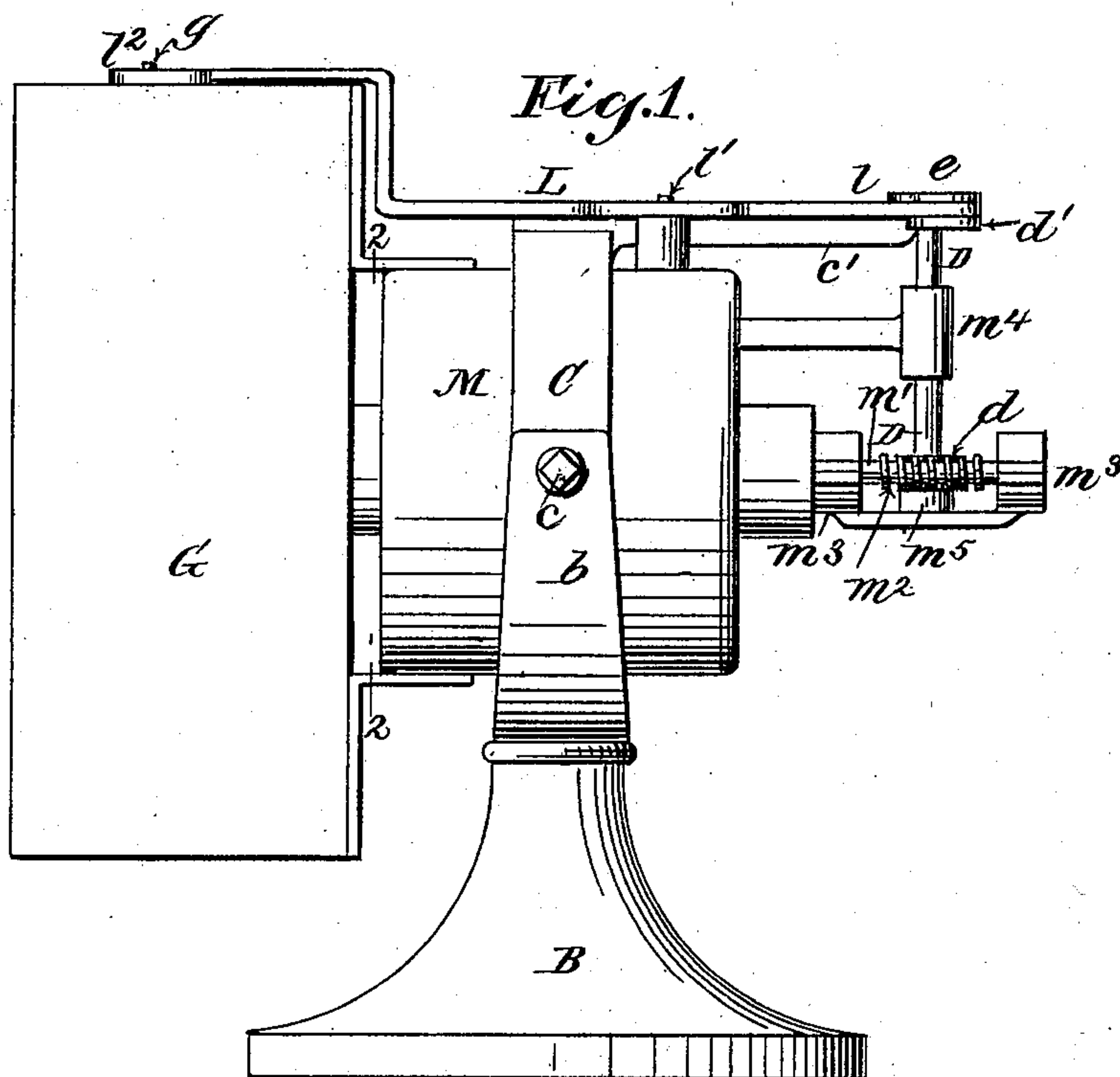
Patented Sept. 9, 1902.

W. E. COLEMAN.  
AUTOMATIC FAN.

(Application filed Dec. 10, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:  
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Inventor:  
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2 Sheets—Sheet 2.

Fig. 3.

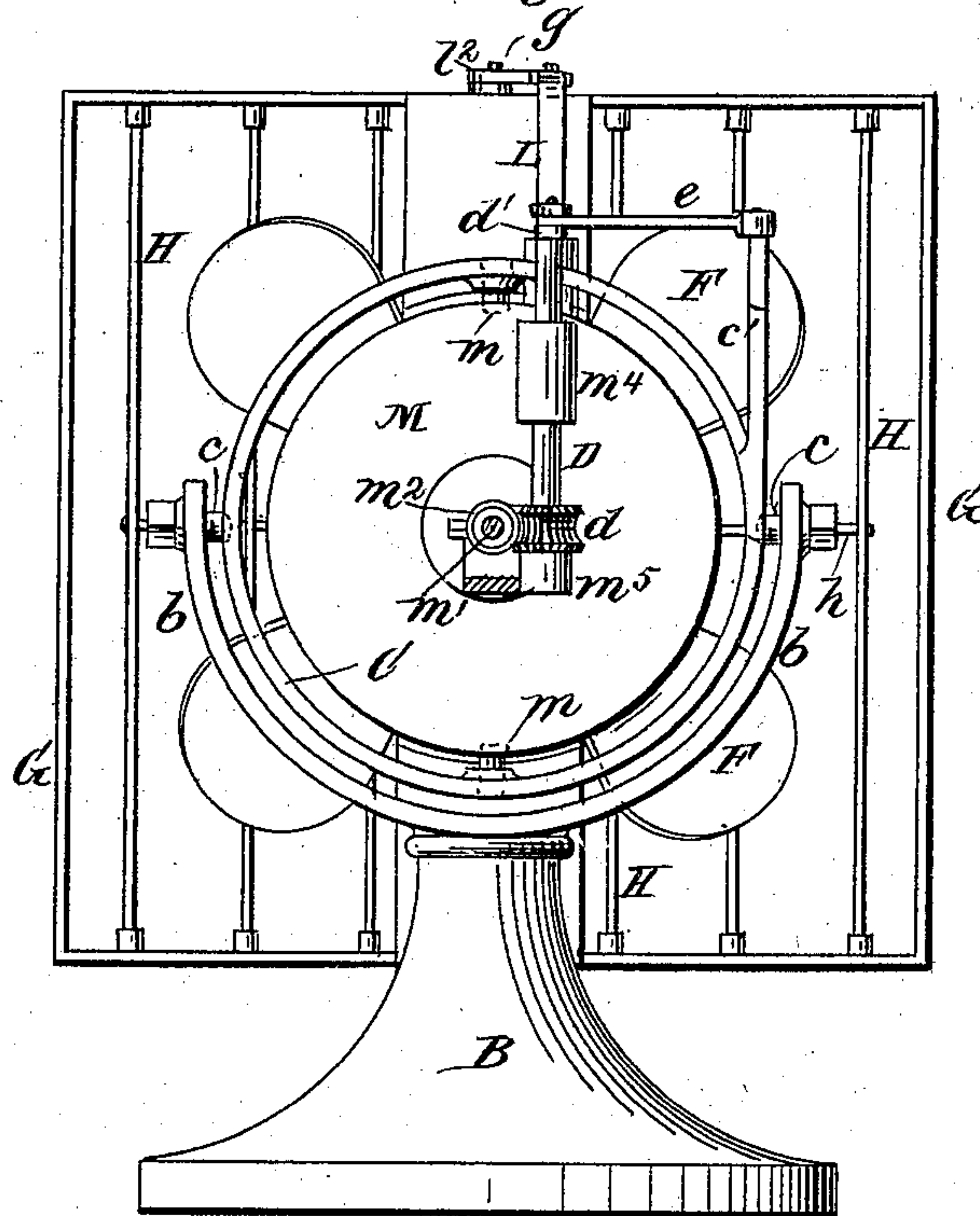
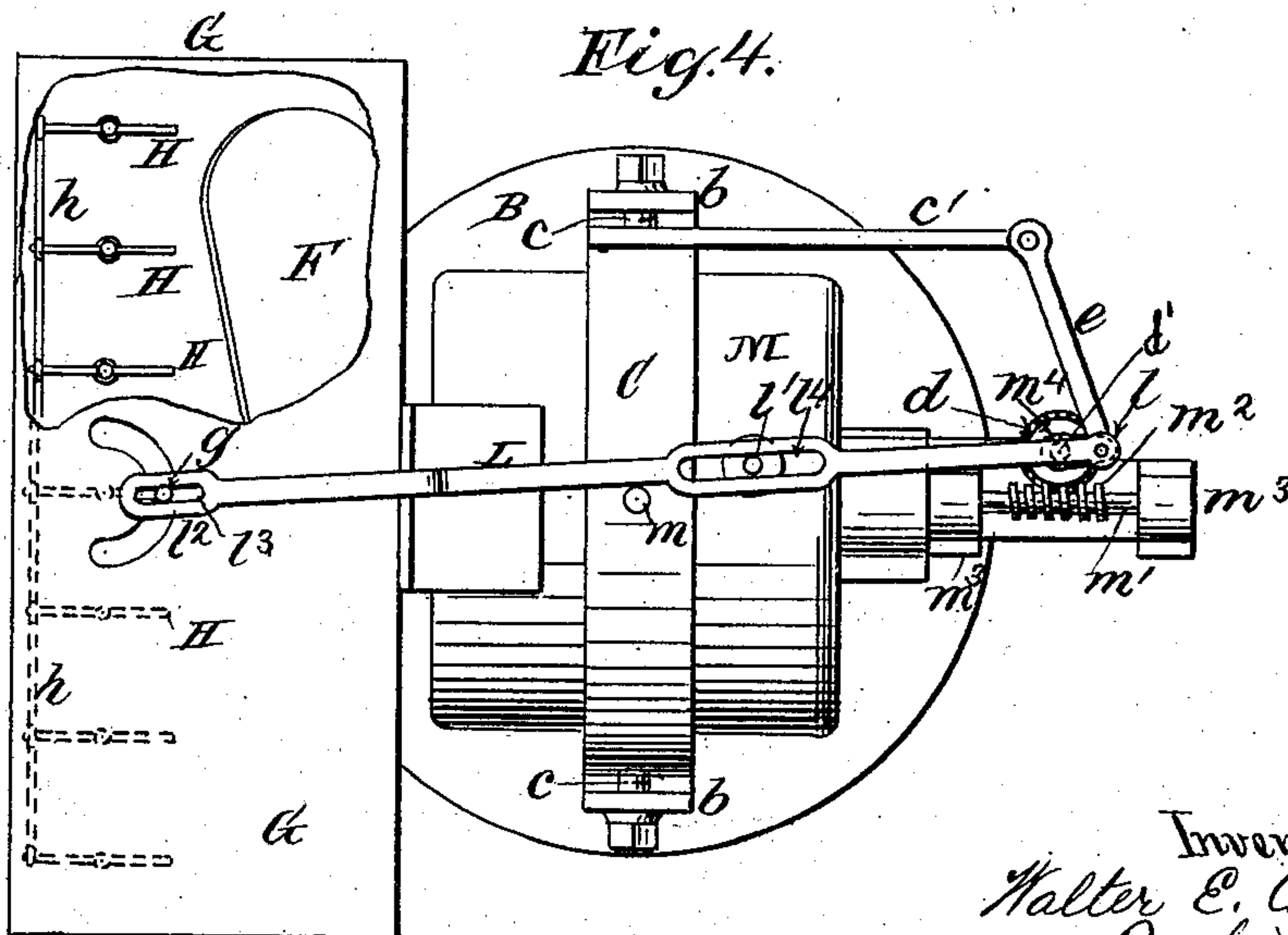


Fig. 4.



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# UNITED STATES PATENT OFFICE.

WALTER E. COLEMAN, OF NEWDORP, NEW YORK, ASSIGNOR TO THE COLEMAN MANUFACTURING COMPANY, A CORPORATION OF NEW YORK.

## AUTOMATIC FAN.

SPECIFICATION forming part of Letters Patent No. 708,622, dated September 9, 1902.

Application filed December 10, 1901. Serial No. 85,374. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER E. COLEMAN, a citizen of the United States, residing at Newdorp, Richmond county, and State of New York, have invented certain new and useful Improvements in Fans, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My invention relates to means for controlling and directing air-currents generated by fans; and it consists in the special construction of parts hereinafter described and claimed specifically.

In the accompanying drawings, Figure 1 is a side elevation of the device; Fig. 2, a sectional elevation upon plane of line 2 2, Fig. 1; Fig. 3, a rear elevation; Fig. 4, a top view showing a portion broken away.

From the base B extend upward the arms *b*, between which is pivotally suspended the ring C upon screws *c*, by means of which it may be rigidly held at any inclination desired. The electric motor M is pivotally supported within the ring C by vertical trunnions *m* in such manner as to allow it to turn freely in the plane of the axes of its power-shaft *m'*, upon the rear end of which is the worm-screw *m*<sup>2</sup>, located between the bearings *m*<sup>3</sup>, rigidly secured to the motor.

Supported in bearings *m*<sup>4</sup> *m*<sup>5</sup> and also rigidly secured to the motor is the upright shaft D, carrying the pinion *d*, which engages with said screw-worm, the upper end of said shaft D being formed with a crank-arm *d'*.

Rigidly attached to or forming a part of the ring C is the rearwardly-projecting arm *c'*, to which is fulcrumed one end of the lever *e*. The opposite end of said lever is pivotally connected to the wrest-pin of the crank-arm *d'*. The wrest-pin of the crank-arm *d'* also engages pivotally with the rear end *l* of the rocking lever L, the fulcrum *l'* of which is attached rigidly to the motor M and the outer or forward end of which, *l*<sup>2</sup>, engages with a wrest-pin *g*, attached to one of the vibratory deflectors H, which are connected together by

a rod *h* or equivalent means, substantially as set forth in my concurrent application, Serial No. 67,952, filed July 12, 1901. The end *l*<sup>2</sup> of the lever L is formed with a longitudinal slot *l*<sup>3</sup> to admit of the play of the wrest-pin *g*, and in like manner this lever is formed with the longitudinal slot *l*<sup>4</sup>, adjoining the fulcrum *l'*.

F is the fan of ordinary construction, surrounding which is the guard G, in which are pivotally supported the oscillating deflectors H.

The operation is as follows: The rotation of the motor-shaft *m'* imparts motion slowly through the worm *m*<sup>2</sup> and pinion *d* to the upright shaft D, thereby rotating the crank *d'*. As a result of the connection of the wrest-pin and the crank with the lever *e* the latter, owing to its pivotal connection with the rigid arm *c'*, oscillates the motor M upon its trunnions *m*, thereby causing the fan and guard to describe the arc of a circle alternately in either direction, the extent of this reciprocating motion being governed by the throw of the crank *d'*. Simultaneously with the above action the rocking of the lever L upon its fulcrum *l'*, owing to the rotation of the crank *d'*, causes the other end *l*<sup>2</sup> of said rock-lever to vibrate the deflectors H substantially in the manner and for the purpose set forth in my said concurrent application hereinbefore referred to.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a fan F, an electrical motor M, pivotally supported in the ring C, said ring C, pivotally supported between the arms *b*, *b*, upon the base B, and formed with the rigid arm *c'*, the lever-arm *e*, pivotally connected to said rigid arm *c'*, and to the crank *d'*, said crank *d'*, shaft D, and pinion *d*, and the motor-shaft *m'*, formed with the worm-screw *m*<sup>2</sup>, engaging with said pinion *d*, for the purpose and substantially in the manner set forth.

2. The combination of a fan F, an electrical motor M, pivotally supported in the ring C, said ring C, pivotally supported between

the arms  $b, b$ , upon the base B, and formed with the rigid arm  $c'$ , the lever-arm  $e$ , pivotally connected to said rigid arm  $c'$ , and to the crank  $d'$ , said crank  $d'$ , shaft D, and pinion  
5  $d$ , and the motor-shaft  $m'$ , formed with the worm-screw  $m^2$  engaging with said pinion  $d$ , the rock-lever L, connected with the crank  $d'$ ,

and the deflectors H, together with said deflectors, arranged and operated substantially in the manner set forth.

WALTER E. COLEMAN.

Witnesses:

D. W. GARDNER,  
F. ROACH.