

No. 708,622.

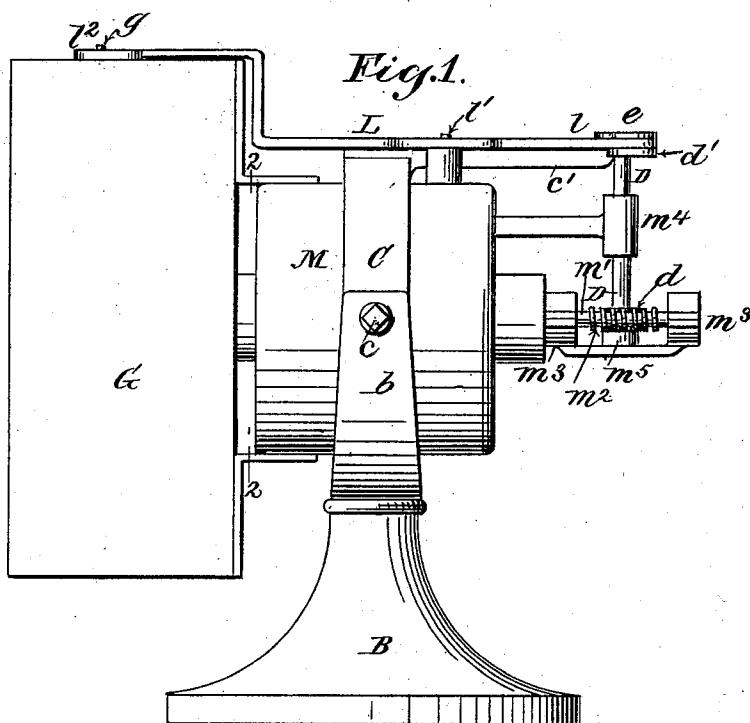
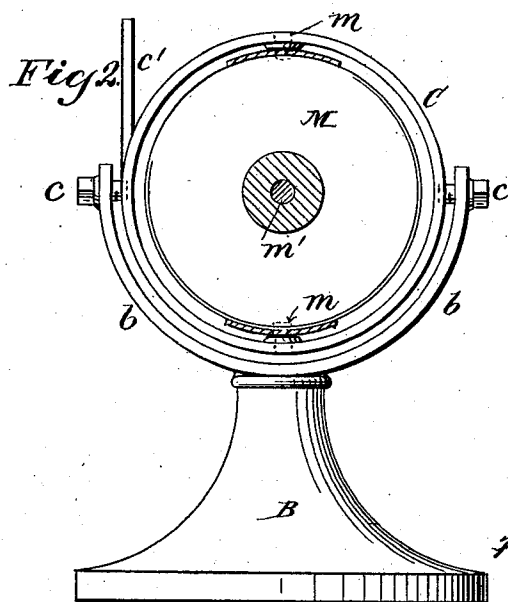
Patented Sept. 9, 1902.

W. E. COLEMAN.
AUTOMATIC FAN.

(Application filed Dec. 10, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
R. W. Gardner,
J. Roach

Inventor:
Walter E. Coleman
By his Attorney
Geo. W. M. Smith

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2 Sheets—Sheet 2.

Fig. 3.

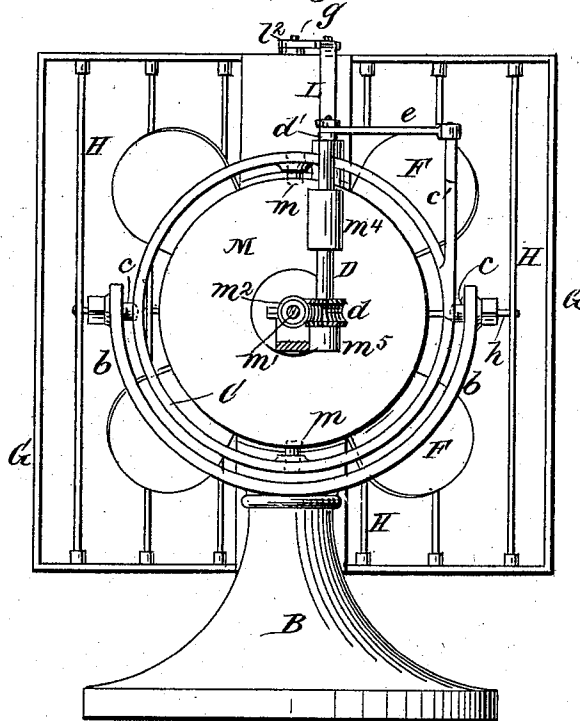
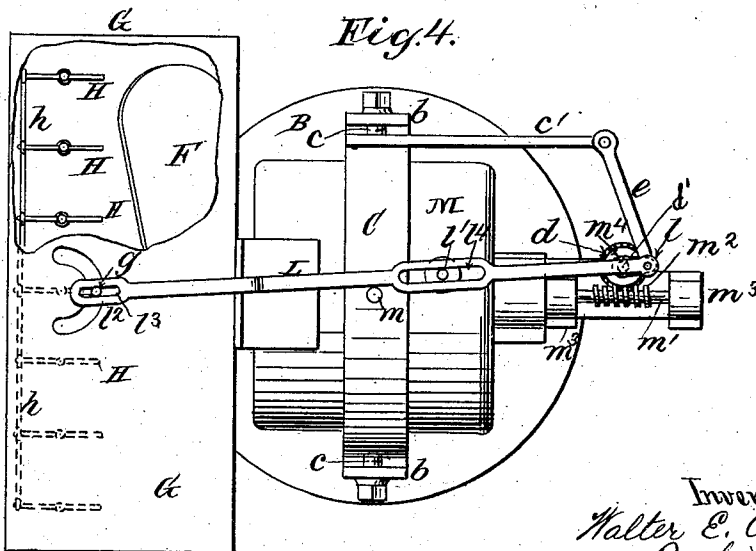


Fig. 4.



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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*², located between the bearings *m*³, rigidly

supported in bearings *m*⁴ *m*⁵ 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*², 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*² of the lever L is formed with a longitudinal slot *l*³ to admit of the play of the wrest-pin *g*, and in like manner this lever is formed with the longitudinal slot *l*⁴, 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*² 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*² 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*², 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,
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