J. GILLIFORD & J. M. HOFFMAN.

Automatic-Fan.

No. 161,776. Patented April 6, 1875.

Fig. 1.

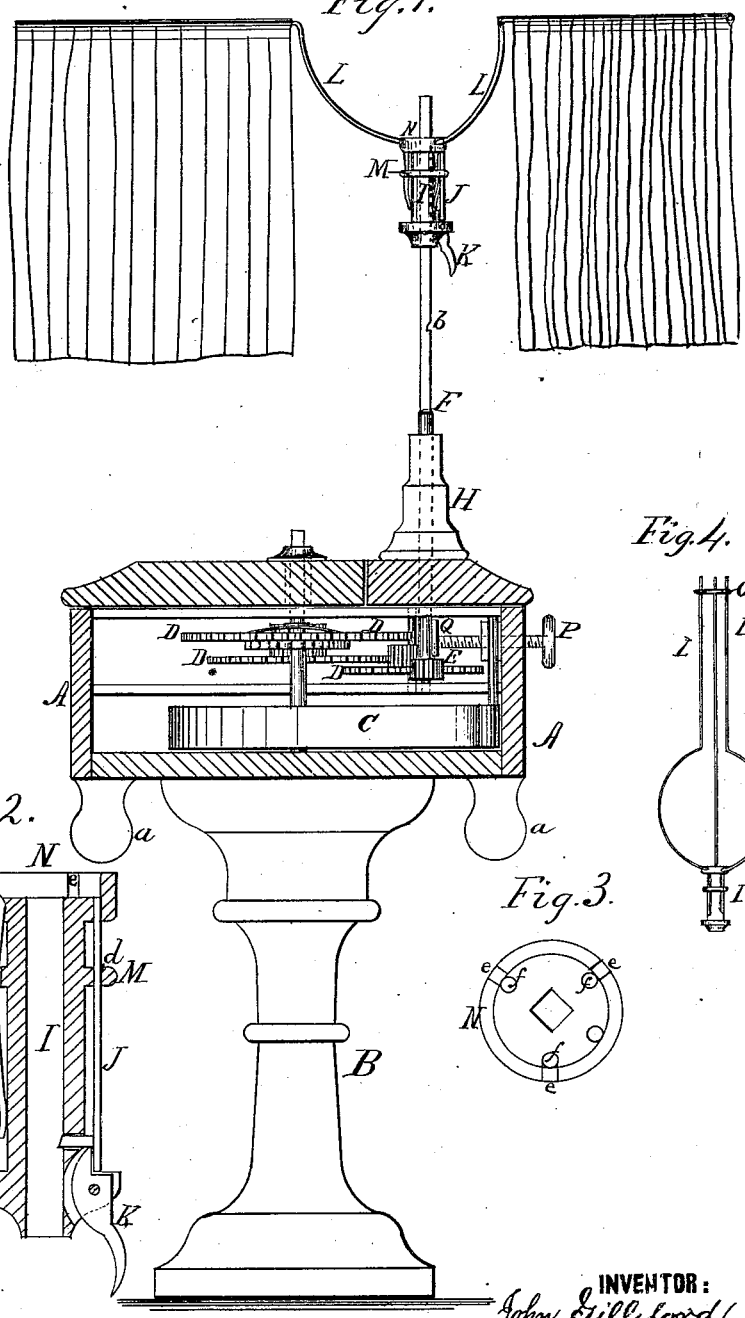

Fig. 4.

Fig. 2.

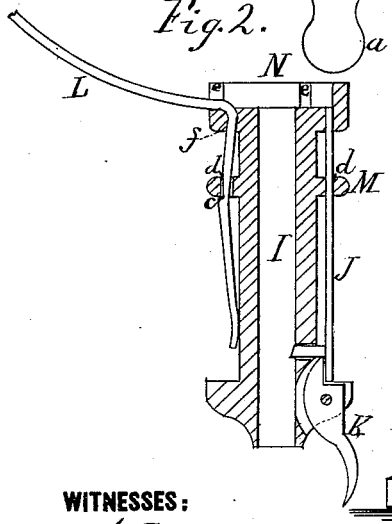

Fig. 3.

WITNESSES:

A. P. Robertson

Solon A. Kenon

INVENTOR:

John Gilliford

John M. Hoffman

BY Munn & Co

ATTORNEYS.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE

JOHN GILLIFORD AND JOHN M. HOFFMAN, OF SPRUCE HILL, PA.

IMPROVEMENT IN AUTOMATIC FANS.

Specification forming part of Letters Patent No. **161,776**, dated April 6, 1875; application filed March 12, 1875.

To all whom it may concern:

Be it known that we, JOHN GILLIFORD and JOHN M. HOFFMAN, of Spruce Hill, in the county of Juniata and State of Pennsylvania, have invented a new and Improved Revolving Fly-Brush; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a sectional side elevation, with the brushes on a diminished scale; Fig. 2, an enlarged sectional view of the sleeve I, showing the attachment of the arms to the same; Fig. 3, a plan view of the sleeve; Fig. 4, a view of the arms very much reduced, and bent up and fastened by a ring, so as to make the brush occupy a small compass when set aside and not in use.

The object of this invention is to drive away flies and other insects from the table, from a child's crib, or from an invalid's bed, and thereby obviate the annoyance. It consists in a clock-spring and spur-gear, contained within a suitable case, which may be mounted upon legs or a pedestal, according to the character of the work to be performed, the said gearing meshing with a pinion upon a vertical shaft journaled in bearings in the casing. A vertically-adjustable sleeve of peculiar construction revolves with the vertical revolving shaft, and is held in postion by a locking-stud that engages with notches in the said shaft. In said sleeve are detachably fastened radial arms of peculiar construction, which carry brushes that, in revolving, act as a noiseless escapement to the clock-gearing; and the revolving shaft is provided with a binding-screw and spring, which operates as a brake, to regulate the speed of the brushes.

In the drawing, A represents the casing that contains the clock-gearing, which may be of any suitable size or shape, and constructed of any material. Said case may be supported upon the short legs *a*, or mounted upon a pedestal, B. C is the spring of the clock-gearing, which is made of a size large enough to run any desirable length of time. D are the spur-wheels, which transmit the power of the spring to the pinion E upon the vertical shaft F, which is journaled in a long bearing, H, to make it run steadily. I is the vertically-adjustable sleeve, which has a spring-catch, J, that engages with notches *b* on the shaft to hold it in position, and a lever, K, for withdrawing the catch from the notches when it is desired to alter the adjustment of the sleeve. This said sleeve is attached to the shaft in any way to secure a vertical adjustment and still rotate with the shaft—that is to say, the latter may be round, and have a locking-pin to connect them—or it may be square or polygonal, and the hole in the sleeve of a corresponding shape.

L are the radial arms, carrying the brushes, and attached to the sleeve I. The ends of these arms next to the shaft are bent at right angles, the vertical portion curved outwardly to give them a spring, and provided with notches *c*. The top of the sleeve I is provided with a ring, M, having holes *d* and a flanged ring, N, at the top, having notches *e* and holes *f*.

When the bent ends of the arms L are inserted in holes *d* and *f* the notches *c* engage with the ring M, the bend giving the vertical portion a spring, and the notches *e* in the top flanged ring hold the arms in true radial position.

O is a ring, which receives the ends of the arms when bent up, as shown in Fig. 4, so as to occupy a small compass, and be set aside. P is a binding-screw, which presses against a spring, Q, in the case, and causes it to bear against the shaft, the said screw and spring forming thereby a regulator, for controlling the speed of the arms.

In the revolution of the brushes the resistance of the air which they meet makes an escapement for the clock-gearing, which, in a full-sized apparatus, is perfectly noiseless as well as effective in operation.

It is evident that as many arms as may be desired can be used; and, if found necessary, all but one may be taken out. In the place of the brushes, also, fans may be substituted in summer time, to afford a passage of air, as well as drive away the flies.

Having thus described our invention, what we claim as new is—

1. The revolving shaft F, having notches *b*,

in combination with the adjustable sleeve I, having spring-catch J and lever K, the clock-gearing, and the regulator, consisting of the screw P and the spring Q, substantially as and for the purpose described.

2. The sleeve I, having rings M and N, holes *d* and *f*, and notches *e*, in combination with the arms L, having their ends bent at right angles, provided with notches *c*, and sprung outwardly, substantially as and for the purpose described.

JOHN GILLIFORD.
JOHN M. HOFFMAN.

Witnesses:
WM. P. GRAHAM,
T. C. GIBSON.