G. W. J. WOLTZ.

FLY-FAN.

No. 189,537. Patented April 10, 1877.

Fig 1

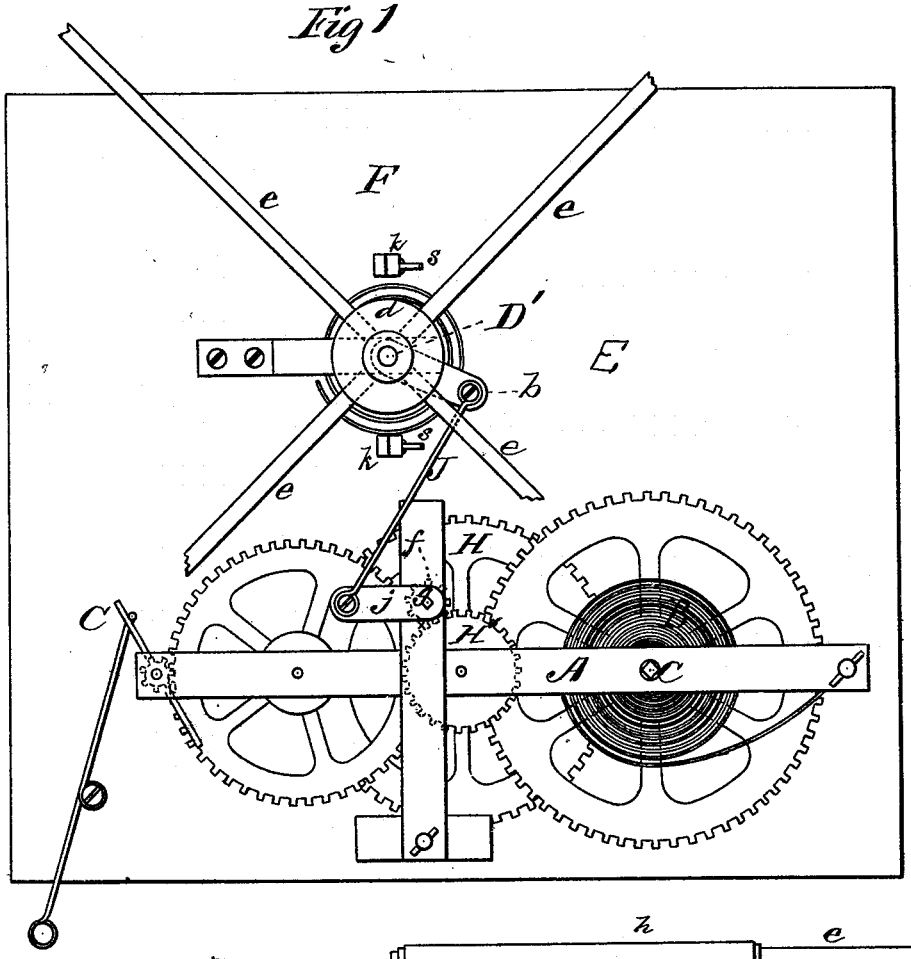


Fig. 2.

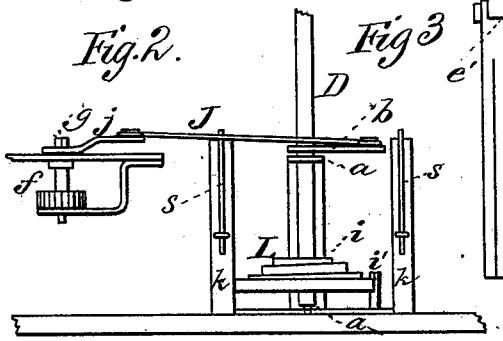
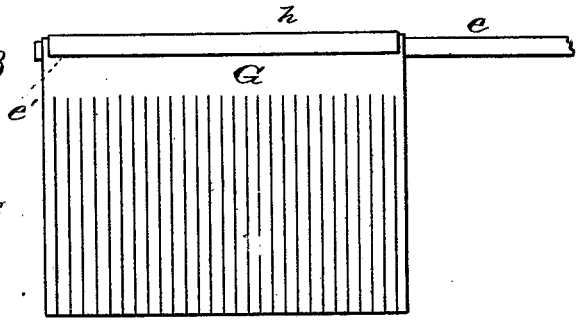


Fig 3



WITNESSES

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GEORGE W. J. WOLTZ, OF GREENFIELD, OHIO.

IMPROVEMENT IN FLY-FANS.

Specification forming part of Letters Patent No. **189,537**, dated April 10, 1877; application filed February 17, 1877.

To all whom it may concern:

Be it known that I, GEORGE W. J. WOLTZ, of Greenfield, in the county of Highland and State of Ohio, have invented a new and valuble Improvement in Fly-Fans; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a top view of this invention, with the case removed and the actuating mechanism exposed to view, and Figs. 2 and 3 are detail views, respectively, of the fly-fan shaft and attachments and of the fly-brush.

This invention has relation to improvements in fly-fans; and the nature of the invention consists, mainly, in combining with the fan-shaft and its actuating mechanism devices, substantially as hereinafter described, whereby an oscillating or rocking motion is imparted to the fan-shaft and a to-and-fro movement to the fans; it also consists in combining with an oscillating fly-fan shaft and its operating mechanism a spring, or springs, which will increase the speed of the reverse movement of the fans, thereby imparting a vigorous impulse thereto, and lessen that of the forward movement, thereby effectually deterring flies from settling upon objects sought to be protected, all as hereinafter set forth and claimed.

In the annexed drawings, the letter A designates an ordinary clock-work mechanism, which is actuated by a spring, B, and regulated by a fly-wheel, C. D represents an upright metallic shaft, mounted in suitable bearings, *a a'*, and provided with a metallic arm, *b*. This shaft projects through the casing E, in which the mechanism is inclosed, as does also the key-post *c*, by means of which the spring is wound up, and is provided with a spline or other device of like nature which will prevent the upper detachable section D' of the fan-shaft D from having independent axial rotation relative thereto. The fan F is composed of a hub *d*, removably secured to the upper end of the section D', and of removable arms *e*, applied in perforations formed around the periphery of the hub aforesaid, and upon the free ends of which are removably secured (preferably paper) fringes G. These fringes constitute the "brush," whereby the flies are driven away, and they are removably secured to the arms as follows: The margin of the fringe-brush is wrapped around the end of the arm *e*, and a metallic clamp, *h*, having a slot, *e'*, extending from end to end thereof, is passed over the wrapped portion of the said arm.

The fringe may be removed when soiled by drawing off the clamp.

The shaft of the driven gear H is provided with a smaller gear, H', which meshes with a pinion, *f*, arranged in suitable bearings in the frame of the clock mechanism. The extremity of the shaft *g* of pinion *f* is provided with a crank-arm, *j*, connected with arm *b* of the fan-shaft by means of a pitman, J, through which the rotary motion of shaft *g* is converted into an oscillating motion of shaft D and a backward-and-forward motion is imparted to the "brushes" G.

The lower extremity of shaft D has a collar or spring-seat, *i*, to which is rigidly secured one end of a coil-spring, L, the other end of which is held by a clip-post, *i'*, projecting from the bottom of the casing. This spring is compressed by the forward movement of the fan-brushes, somewhat delaying or lessening the speed of such movement, but at its cessation the reaction of the said spring will greatly increase the speed of rotation of said brushes, imparting thereto a jerk and a consequent shivering of the fringes, and effectually scaring off the flies.

At the termination of the forward and of the backward movement of the fan, arm *b* of shaft D strikes against spring *s*, secured to spaced uprights *k*, and the shock consequent upon the reversal of the fan is materially softened and prevented from injuring the machinery.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fly-fan, the combination, with the oscillating fan-shaft D, of the springs *s*, for preventing jarring, substantially as specified.

2. The longitudinally-slotted clamp *h*, in

combination with a fly-fan arm and a "brush" wrapped around the same, substantially as specified.

3. In combination with the oscillating shaft D, the spring *s* and the oscillating spring L, for the prevention of jarring, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE W. J. WOLTZ.

Witnesses:
ALLEN T. JOHNSON,
ALBERT J. HAINES.