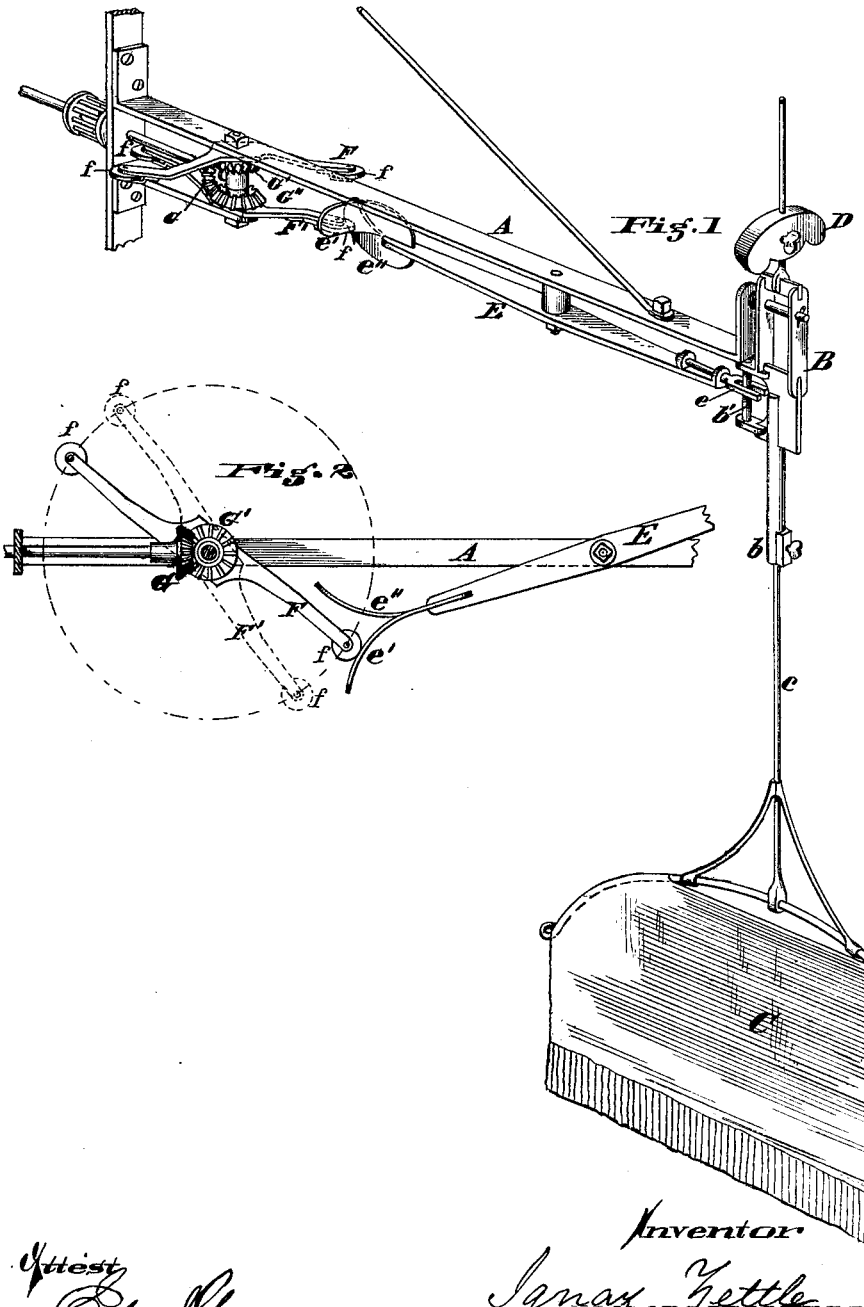
I. ZETTL.

Automatic Fans.

No. 200,812. Patented Feb. 26, 1878.



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IGNAZ ZETTL, OF CINCINNATI, OHIO.

IMPROVEMENT IN AUTOMATIC FANS.

Specification forming part of Letters Patent No. **200,812**, dated February 26, 1878; application filed July 28, 1877.

To all whom it may concern:

Be it known that I, IGNAZ ZETTL, of Cincinnati, Hamilton county, State of Ohio, have invented an Improvement in Automatic Fans, of which the following is a specification:

My invention has for its object the regular manipulation of a pendent reciprocating fly-brush by means analogous to those used in clocks—*i. e.*, the employment of weights or springs acting upon suitable gearing; and my invention consists of a certain arrangement of oppositely revolving arms, operatively connected with a "weight" or "spring" motor, and acting alternately upon oppositely-arranged bearing-faces of a pivoted lever, which communicates the motion thus received directly to the stem of the fan—the whole acting as a regulating-escapement for the motive-power, so as to prevent objectionable rapidity of motion of the fan, and the fan itself acting in the capacity of a clock-pendulum, to control the escapement proper; and my invention also consists of certain means for freely connecting the operating-lever and fan-frame so as to avoid "shackling," as it is termed, the whole more fully described hereinafter.

In the accompanying drawings, Figure 1 is a perspective view of my improved fly-brush, minus the motive power. Fig. 2 is a sectional diagram of the escapement mechanism, showing one arm in dotted lines.

A is a supporting-beam, suitably braced and connected to the frame of the motor, which may consist of the ordinary works of a large clock, minus the pendulum, which is to be supplanted by the fan, which thus regulates its own motive power.

B is a frame, pivoted to the beam A in a pendent manner, having its greatest extension from its point of bearing, pointing downward, and formed into a socket, *b*, to receive the stem *c* of the fan C, its smaller and upwardly-extending extremity being provided with an adjustable weight, D, by means of which the inertia of the fan may be regulated.

This inertia of the fan may be still further regulated by the adjustment of the stem *c* in the socket end *b* of the swinging frame B, the socket being provided with a retaining set-screw, as seen in the drawings.

E is a lever, pivoted near its center to the under side of the beam A, and having one end provided with a freely-revolving fork, *e*, to engage with a perpendicular rod, *b'*, upon the fan-frame B.

By means of this connection, which adapts itself, by the turning of the fork, to the varying angles of the fan-frame during oscillation, a close-fitting connection is secured, which is devoid of the objectionable shackling nature of the loose-fitting connection that would be necessary in case it were rigid.

The other end of the lever E is provided with convex bearing-faces *e' e''*, spreading out laterally from each other at an angle of about ninety degrees, and situated in different planes of oscillation, as the lever oscillates, one being above, and the other below, the body of the lever.

Secured at their centers, to revolve in separate planes, so as to correspond with and cross the paths of oscillation of the two bearing-faces *e' e''* of the lever E are arms F F', which are connected to and operated by the motive power, through gearing G G' G'', in such a manner as that they will revolve simultaneously in opposite directions. These arms are, further, so controlled and timed in operation as that, when revolving toward the convex surfaces of the bearing-plates *e' e''*, (which convex surfaces face toward each other,) they will alternately engage and disengage with the said plates, the one arm disengaging with one plate immediately before the other arm engages with the other plate. In this manner it will be seen that a reciprocating motion is given to the lever E that will operate the fan in like manner.

In order to reduce friction, the ends of the arms F F' are provided with anti-friction rollers *f*, as shown in the drawing.

I claim—

1. In combination with a pivoted fan-support, the pivoted lever E *e e'* and oppositely-revolving arms F F', driven by suitable motive power, to operate substantially for the purpose specified.

2. In combination with a pivoted fan-frame, the lever E, having the connecting-fork *e*, operating substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

IG. ZETTL. [L. S.]

Witnesses:
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