

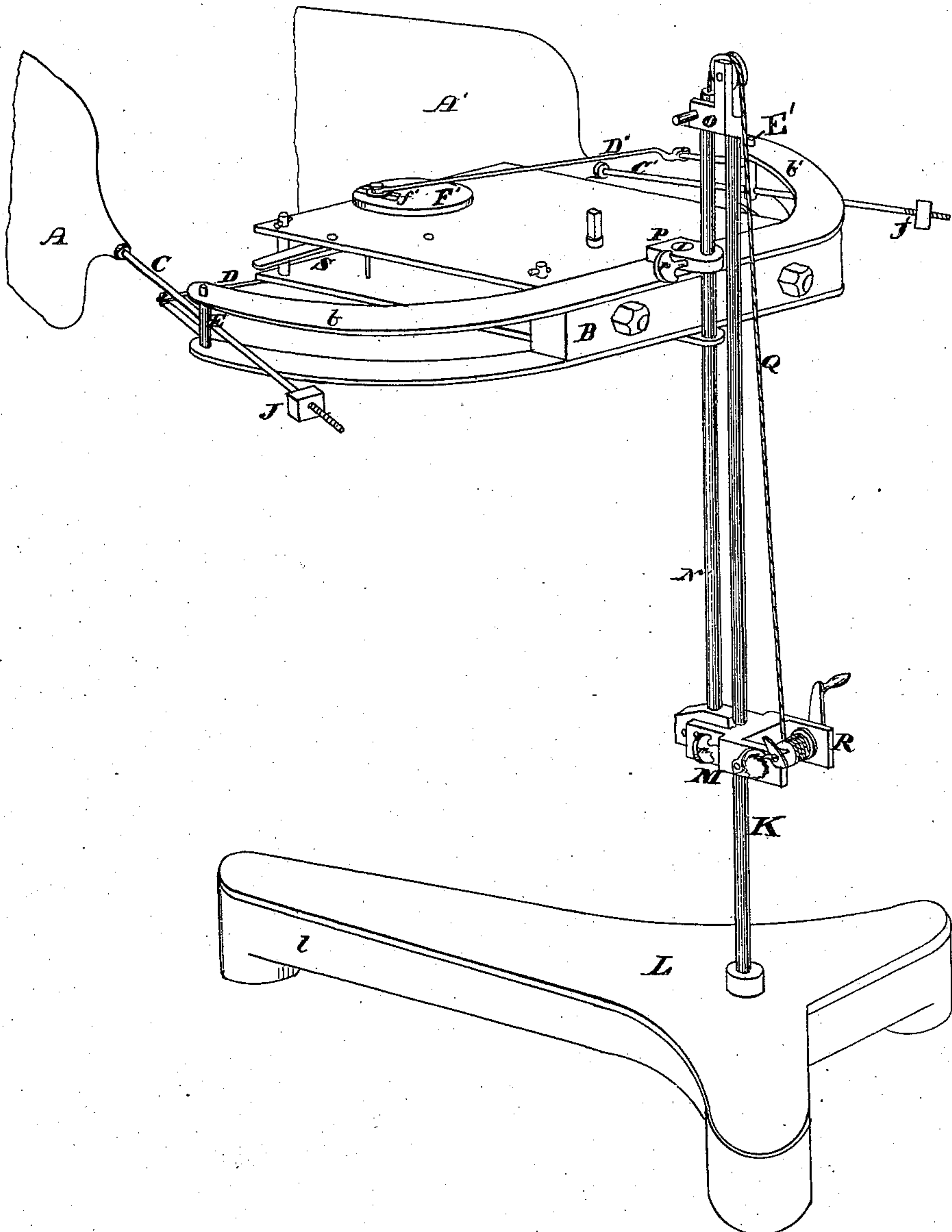
S. H. SMITH & J. L. BOGY.

Automatic Fans.

No. 154,349.

Patented Aug. 25, 1874.

Fig. 1



WITNESSES

Horace P. Fosdick
Frank S. Boyd

INVENTOR.

S. Henry Smith
John L. Boggy
By Chas. D. Moody atty.

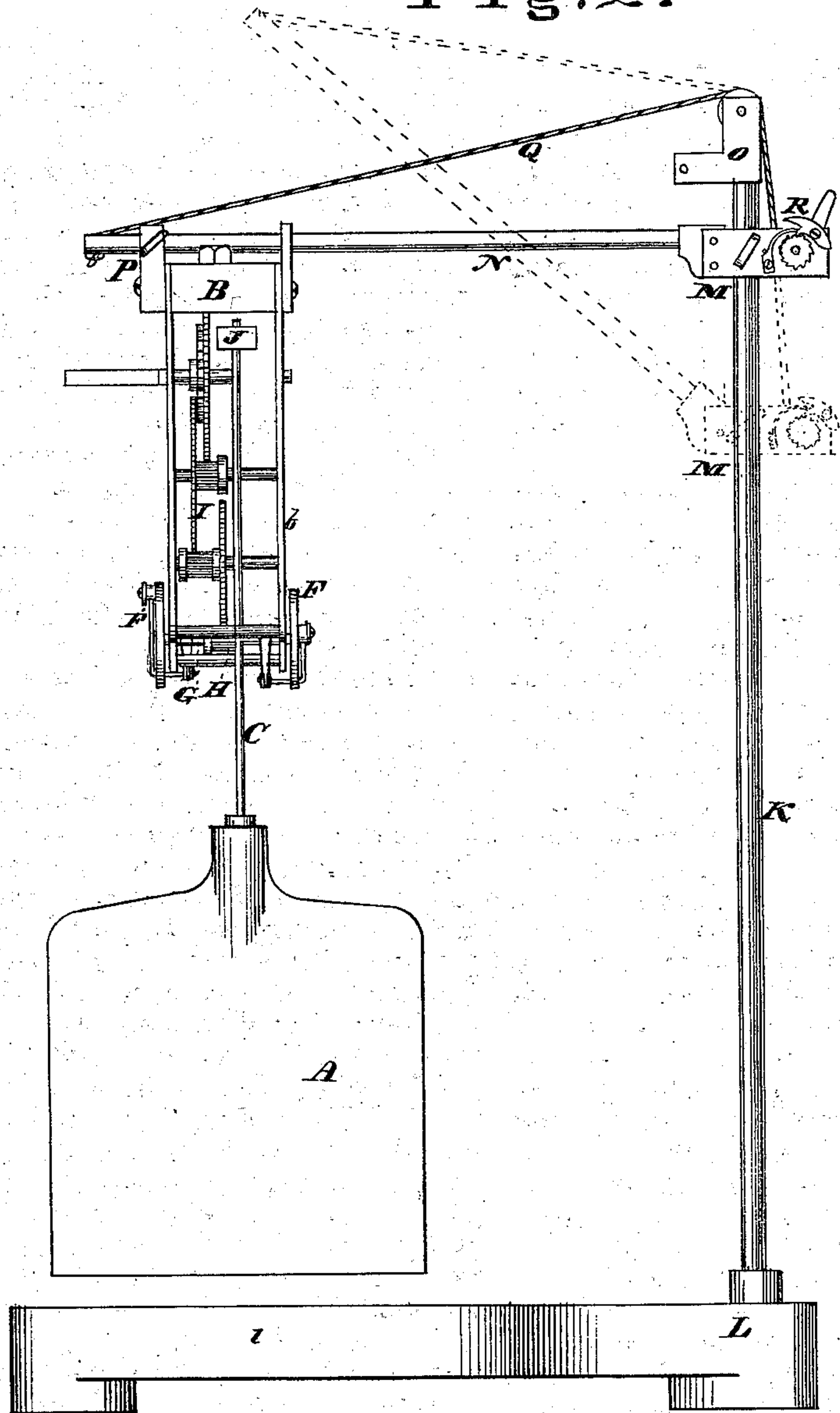
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Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

S. HENRY SMITH AND JOHN L. BOGY, OF ST. GENEVIEVE, MISSOURI.

IMPROVEMENT IN AUTOMATIC FANS.

Specification forming part of Letters Patent No. **154,349**, dated August 25, 1874; application filed March 2, 1874.

To all whom it may concern:

Be it known that we, S. HENRY SMITH and JOHN L. BOGY, residents of St. Genevieve, Missouri, have invented new and useful Improvements in Automatic Fans, of which the following is a full, clear, and exact description, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 is a perspective view of the invention, and Fig. 2 a side elevation, showing the fan in another position. The dotted lines indicate a further position in which the fan may be placed.

Like letters of like kind indicate like parts.

The object of the present invention is to provide a household-fan that can be readily used in many positions, and that is noiseless in its operation. It consists, mainly, in the peculiar construction and arrangement of the fan and the mechanism immediately therewith connected. It also consists in the novel means employed for holding the fan and its operating mechanism in the desired position.

It is of primary importance that the movement of a household-fan actuated by machinery be as quiet as possible. To secure this, we make the fan in the form of two similar vanes, *A A'*, and give them an oscillating movement in the peculiar manner hereinafter described. The vanes are preferably arranged in the same plane, and are similarly hung at the extremities of two similar arms, *b b'*, of a frame, *B*. The method of hanging is as follows: At their inner ends the vanes are similarly and respectively attached to two similar arms or levers, *C C'*, which are pivoted, respectively, in the arms *b b'*. Extending inward, respectively, from either arm *C C'*, are pitmen *D D'*, which, at their outer ends, are suitably connected with the arms *C C'* at any preferable point between the pivots *E E'* and vanes *A A'*; and, at their inner ends, are respectively connected to cranks *F F'*, which are respectively attached to the ends of a shaft, *G*. The cranks *F F'* are set at right angles to each other in order that the pitmen *D D'* may not be on the live or dead center together. The shaft *G* is provided with a pinion, *H*, in which engages a train of wheel-work similar to that of an ordinary clock, and which is caused to move, preferably, by a spring. We do not wish, how-

ever, to be limited to a spring. The wheel-work *I* is preferably arranged between the arms *b b'*. To balance the vanes the arms *C C'* are extended inward beyond the pivots *E E'*, and, at their inner ends, are respectively provided with weights *J J'*, that can be slipped in and out on the arms for the purpose of adjustment. To provide for a shorter or longer movement of the vanes, the cranks *F F'* are respectively provided with slots *f f'*, in which the wrists of the pitmen *D D'* can be moved in and out with reference to the shaft *G*.

The second part of the invention relates to the provision for adjusting the fan to the various positions incident to household experience. In the drawing, *K* represents post provided with a tripod base, *L*, one foot, *l*, of which is extended on the fan side to preserve a better balance. *M* represents a socket, which is arranged to slide up and down the post *K*, and also to turn around it. It can be fastened in any desired position by a suitable screw, *m*. An arm, *N*, is hinged to the socket *M* in such way as to enable the arm to be in an upright, horizontal, or intermediate position. At the top of the post *K* is arranged a clasp, *O*, which receives and holds the arm *N* when the latter is folded up against the post *K* in an upright position. The frame *B* is attached to the arm *N* by means of a connection, *P*, which enables the frame *B* to slide along the arm, or to turn around it. The frame is fastened in any desired position by a suitable screw, *p*. Both the post *K* and arm *N* are round. When the arm *N* is turned down from the post *K* it can be held securely by means of a cord, *Q*, that passes from the end of the arm *N* up over a pulley that is hung in the top of the clasp *O*, and thence down to the socket *M*, which is provided with a wheel and axle, *R*, around which the cord is wound.

In operation the arm *N* and frame *B* can be arranged as shown in Fig. 1, or as in Fig. 2. The stand or post *K* is useful in supporting the fan, when needed, by a table or desk, and when used above a bed. The stand, however, can be dispensed with, and the frame, in such case, can be suspended from above.

To operate the fan-vanes, the wheel-work being wound up, and the stop *S* being disengaged from the gear, the vanes are caused to

oscillate. Owing to the fan being made double, and to its oscillating movement, and to the peculiar arrangement of the cranks F F' on the shaft G, the movement of the various parts is noiseless, which result would not be obtained were the fan composed of but a single vane, or some equivalent of one of the vanes to be wanting; nor when two vanes are used would the wheel-work move silently were the cranks F F' to be set opposite each other on the shaft G.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters Patent, is—

1. The hereinbefore-described fan, consisting of the vanes A A', the arms C C', pitmen D D', pivots E E', cranks F F', arranged as

described, shaft G, wheel-work I, and frame B, all constructed and arranged to operate substantially as described and shown.

2. The stand K, socket M, base L, arm N, clasp O, frame B, connection P, cord Q, and wheel and axle R, all arranged to operate substantially as set forth.

3. In combination with the fans A A' and arms C C', the screw-threaded weights J J', when arranged to operate as and for the purpose described.

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Witnesses:

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