(No Model.)

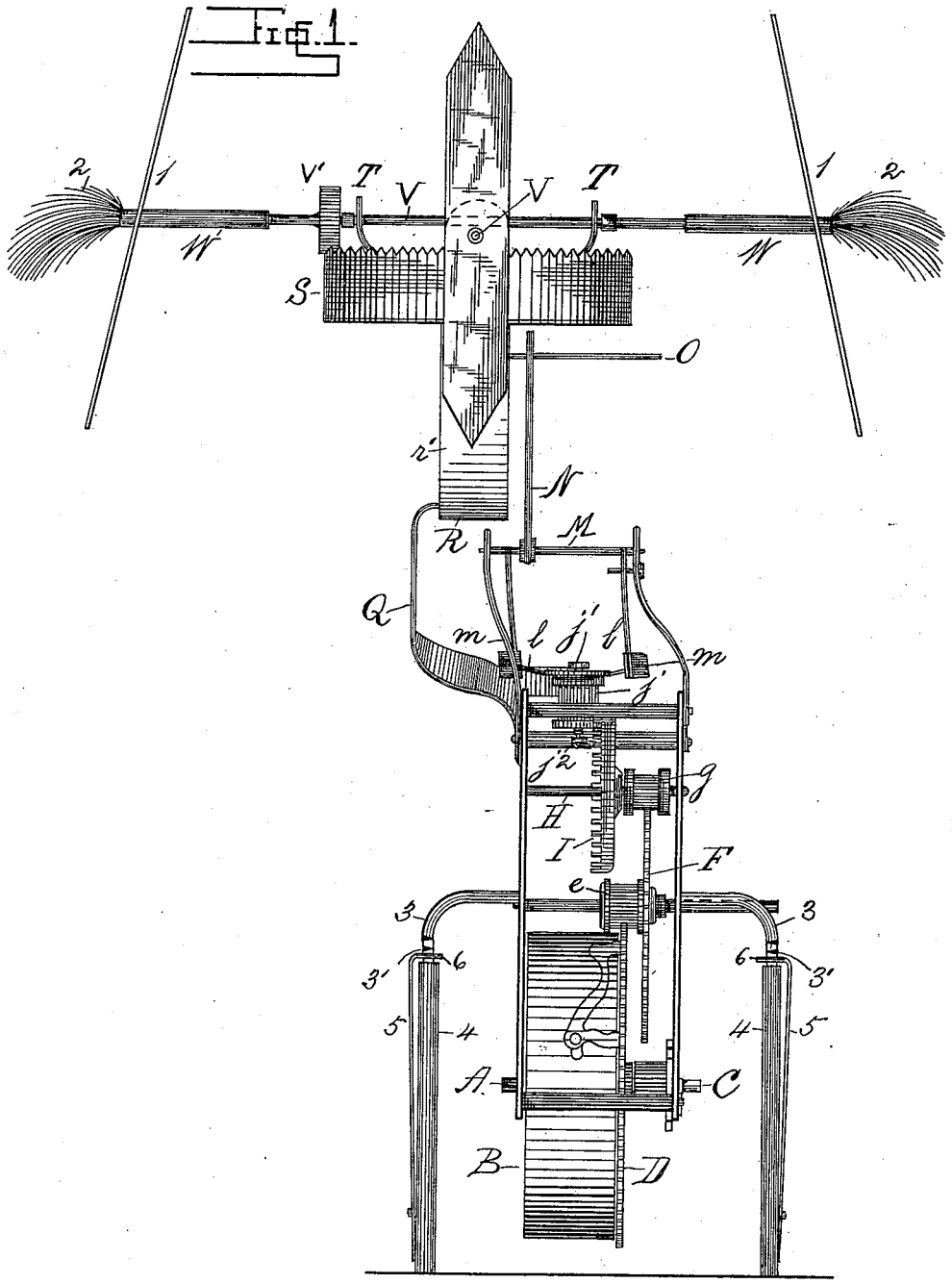
3 Sheets—Sheet 1.

J. W. RYKARD.

AUTOMATIC FAN.

No. 334,053. Patented Jan. 12, 1886.

FIG. 1.



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(No Model.) 3 Sheets—Sheet 2.

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Fig. 2.

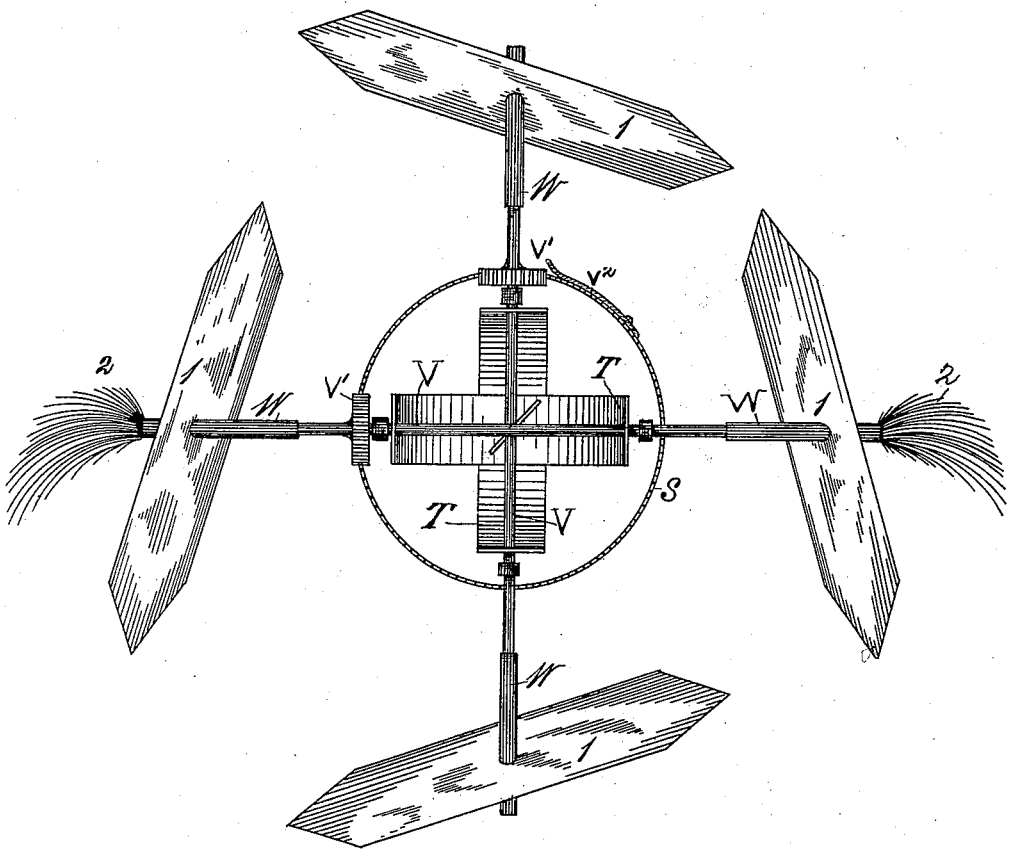
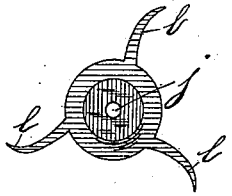


Fig. 4.



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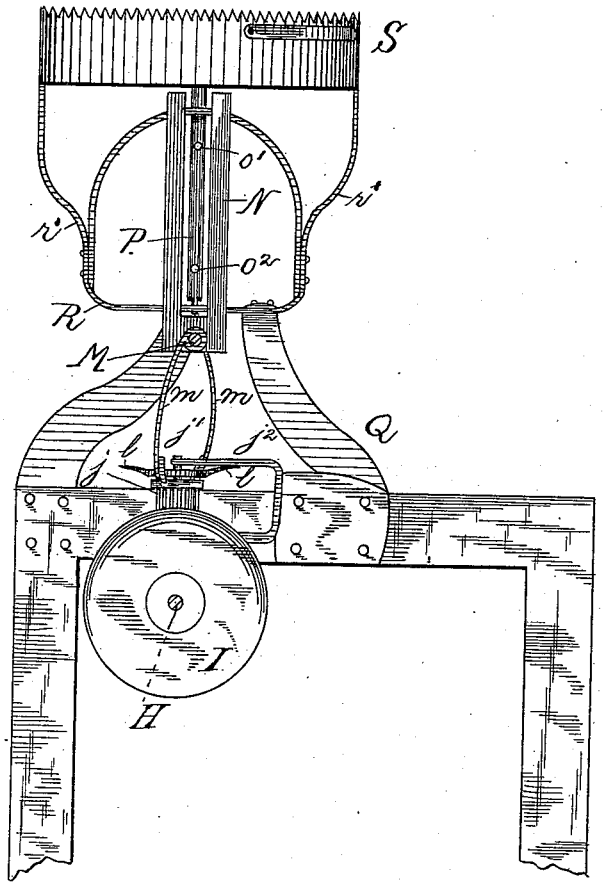
AUTOMATIC FAN.

No. 334,053. Patented Jan. 12, 1886.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC FAN.

SPECIFICATION forming part of Letters Patent No. 334,053, dated January 12, 1886.

Application filed October 9, 1884. Serial No. 145,112. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. RYKARD, a citizen of the United States, residing at Abbeville, in the county of Abbeville and State of South Carolina, have invented certain new and useful Improvements in Automatic Fans and Fly-Brushes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in automatic fans and fly-brushes; and it consists, chiefly, in novel means for giving the arms carrying the fans or brushes or both a reciprocating circular motion, in combination with an escapement particularly designed for the purpose, and also means for adjusting the height of the machine from the table or other support.

My invention is illustrated in the accompanying drawings, in which Figure 1 is an edge view of the entire mechanism; Fig. 2, a plan of the brush-shafts, their supports, and the wheel on which they are reciprocated; Fig. 3, a detached view of the escapement and its immediate connections, and Fig. 4 a detail view of the tappet device.

In the drawings, A is a main shaft having a spring, B, coiled about it, and a winding-post at C, and also having mounted thereon a driving-wheel, D. The wheel D drives the pinion *e* upon a shaft, which carries the wheel F, which in turn drives the pinion *g* upon the shaft H. The shaft carries a crown-wheel, I, which meshes into and operates a pinion, *j*, mounted on a vertical shaft, *j'*, which is supported between two arms of a bracket, j^2. This lantern-pinion *j* forms the escapement-wheel. The mechanism thus described forms the clock-work of the machine. The vertical shaft *j'* also carries at the top of the pinion *j* a disk provided with three tappets, *l l l*. As the pinion *j* is rotated these tappets revolve and come in contact alternately with the pallets *m m*, carried on shaft M. To shaft M is secured crutch N, through the forks of which is passed the arm or pin O. This pin is inserted through a hole at *o'* in a vertical semi-rotary spindle, P. The spindle P is provided with a lower hole, o^2, for the purpose hereinafter described.

Q is a bracket extending up from the frame carrying the clock mechanism, and supports a frame, R, which carries the spindle P; and *r' r'* are arms of the frame R, extending up and carrying at the top of the machine a stationary crown-wheel, S.

To the upper end of the spindle P is attached the semicircular arms T T. Passing through these arms at right angles to each other are shafts V V, each of which carries a pinion, *v' v'*, which, impelled by the motion of the vertical spindle P, travel backward and forward on the crown-wheel S. The outer ends of the shafts V V carry sleeves W W, on which may be mounted fans 1 1 and brushes 2 2.

The legs 3 of machine are provided with attachments 4. These attachments or sleeves 4 are made extensible by means of arms 5, which are pivoted to said sleeves and are notched at their upper ends, as shown at 6, adapted to fit into notches 3' on the legs 3, which legs are rigidly secured to the frame-work of the machine, as shown.

As already indicated by the above description of the parts, the brush and fan shafts are given a reciprocating circular and rotary motion on the stationary crown-wheel by the motion imparted to the carrying-spindle P by the escapement and clock mechanism. The fans and brushes are both detachable and both may be used at the same time or either alone, and it is apparent that only one or any number less than the whole may be used, as desired. When a circulation of air alone is desired, as is often the case in sick-rooms, the brushes may be dispensed with and one or more of the fans employed. When the pin O is in the upper hole, *o'*, of the spindle P, a longer sweep or travel of the fans or brushes is obtained; but when a shorter and quicker movement is desired, as the continuous motion of a fan or fans in front of one or more persons, the pin is lowered in the lowest hole, o^2, of the spindle.

By the form of leg attachments employed, the machine may be raised or lowered to any height on the table or other support.

Although my form of escapement is adapted to other purposes, I find it peculiarly adapted, by reason of its strength and uniformity of action, to the fan and brush mechanism described.

The apparatus may be stopped running at any time by means of a stop, V^2, hinged to the stationary crown-wheel, which is turned up to intercept the travel of a pinion.

By reason of the strength and simplicity of the parts, the machine is made durable and efficient, and is not liable to get out of order.

I do not wish to restrict myself to the exact form of all the parts shown, as they may be varied without departing from the principle of my invention.

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

1. The clock-work comprising the spring, the train of gearing, the shaft j', the pinion j, the disk provided with tappets l, the shaft M, carrying pallets m, and crutch N, in combination with the pin O, the spindle P, the stationary crown-wheel, the fan-shafts V, having pinions V′ and their supports connected with spindle P, whereby the fan-shafts are supported and driven and given a reciprocating circular and rotary motion, substantially as described.

2. In combination with the frame carrying the clock mechanism, the bracket Q, and the frame R, said frame R being supported by said bracket and provided with arms r', extending upward and carrying the stationary crown-wheel S, the spindle P, and the arms T, secured to said spindle and carrying the fan-shafts, which are provided with pinions that engage with said crown-wheel, substantially as described.

3. In an automatic fan and fly-brush machine, the clock mechanism described, in combination with the shaft M, a crutch, the spindle P, and the adjustable pin O, for operating the fan and brush shafts and giving them their circular motion, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. RYKARD.

Witnesses:
J. F. C. DuPré,
J. M. White.