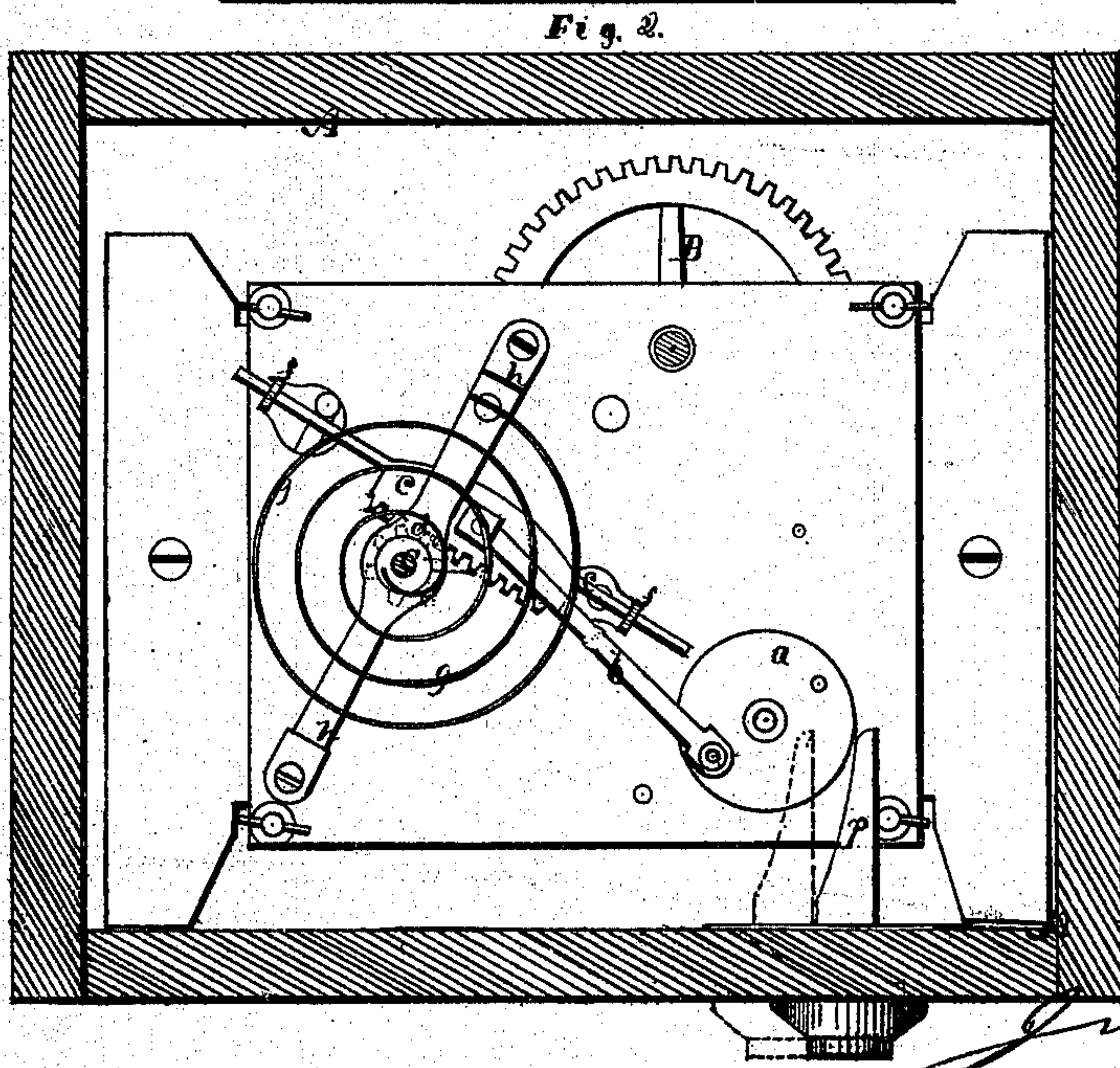
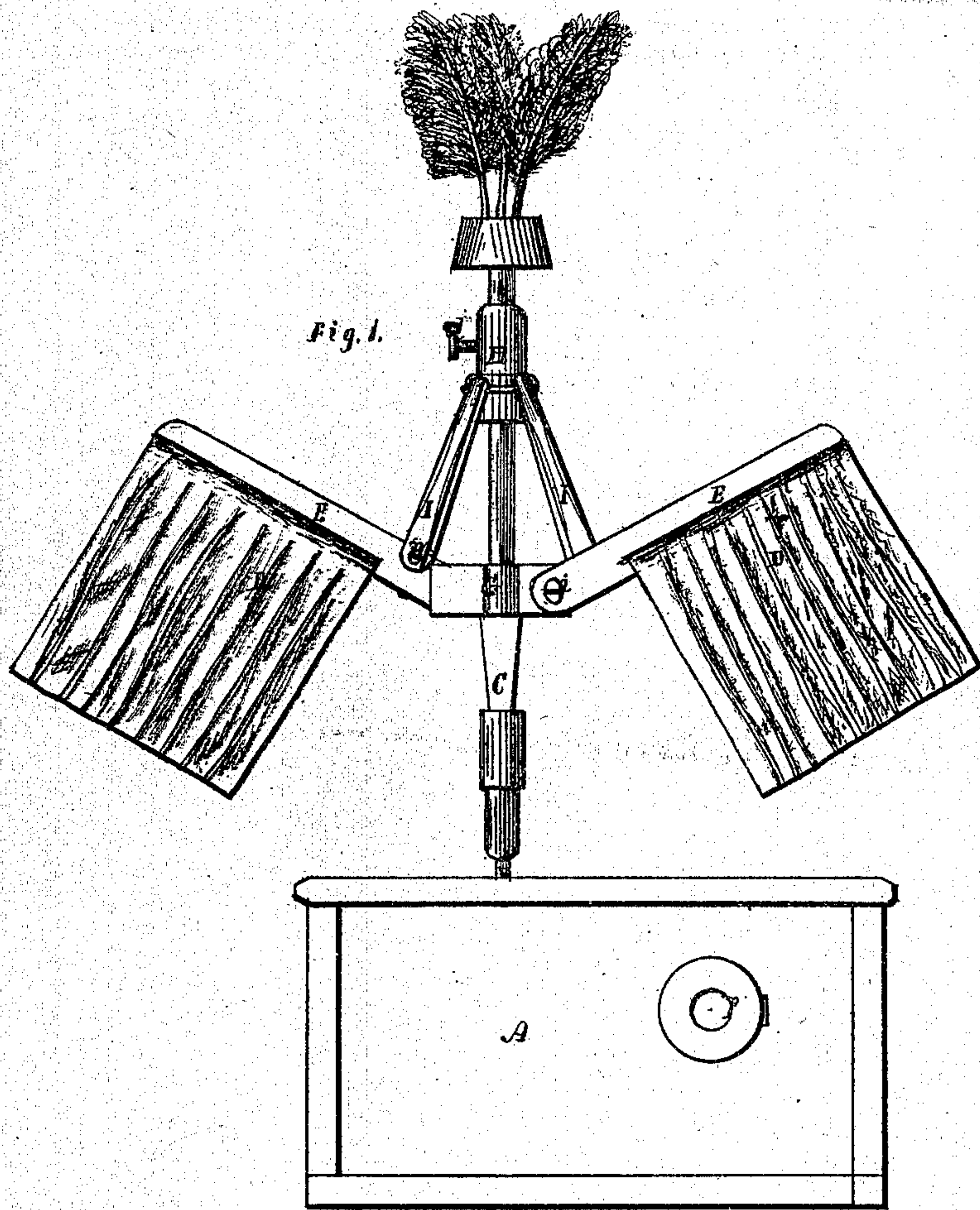


D. Ramler,
Automatic Fan.
No. 104,768. Patented June 28, 1870



Witnesses,
W. H. Harkness
J. C. Bay.

David Ramler,
Proprietor,
J. S. Brown

UNITED STATES PATENT OFFICE.

DAVID RAMLER, OF UNION DEPOSIT, PENNSYLVANIA.

IMPROVED AUTOMATIC FAN.

Specification forming part of Letters Patent No. **104,768**, dated June 2^d, 1870.

To all whom it may concern:

Be it known that I, DAVID RAMLER, of Union Deposit, in the county of Dauphin and State of Pennsylvania, have invented an Improved Automatic Fan and Fly-Driver; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a side view of the machine; Fig. 2, a horizontal section in a plane indicated by the line *x x*, Fig. 1.

Like letters designate corresponding parts in both figures.

The nature of my invention consists in the improved construction and arrangement for adjusting the height and angle of the arms to which the fans are attached.

Let A represent the case in which the fan-driving movement is mounted, and B the movement for giving motion to the fan, by means of spring or other power. From this clock-work, having a continuous motion, a rotary reciprocating motion is communicated to an upright fan-shaft, C, by the following device: A crank-wheel or crank, *a*, caused to revolve at the proper speed by the clock-work movement below, is connected, by means of a rod, *b*, with a rack, *c*, which gears into a pinion, *d*, on the fan-shaft C, as shown in Fig. 2. The rack *c* is mounted in bearings *f f*, so that it can slide endwise therein, and the revolving motion of the crank-wheel *a* communicates to this rack a reciprocating motion forward and backward, and consequently it im-

parts a rotary reciprocating motion to the fan-shaft. A balance-spring, *g*, secured at its outer end to a fixed bar, *h*, and at its inner end to the fan-shaft, gives elasticity, uniformity, and gentleness to the motion of the shaft. A movable stop, *p*, serves for starting and stopping the fan. The fans D D are secured to projecting arms E E, which are pivoted at *i i* to a sleeve, G, secured on the shaft C at the desired height. A sleeve, H, also is secured upon the shaft C, above the sleeve G, being adjustable at different heights on the shaft, and fastened in any desired position by a set-screw, *l*, or its equivalent. To this latter sleeve a set of connecting-rods or braces, I I, is pivoted, and also to the fan-arms E E at *m*. By this arrangement and construction of parts, when the sleeve H is raised, the fan-arms E E are raised and drawn inward nearer to the shaft C, and vice versa, so that the height and angular position of the fan-arms are adjusted at pleasure.

What I claim as my invention is—

The combination and arrangement of the fan-arms E E, sleeve G, adjustable sleeve H, connecting-rods I I, and shaft C, with devices for giving motion to the same, substantially as herein described, and for the purpose specified.

Specification signed this 16th day of April, 1870.

DAVID RAMLER.

Witnesses:

HENRY HORST,
JOS. FARMLER.