J. BAIRD

AUTOMATIC FLY-FAN.

No. 191,823. Patented June 12, 1877.

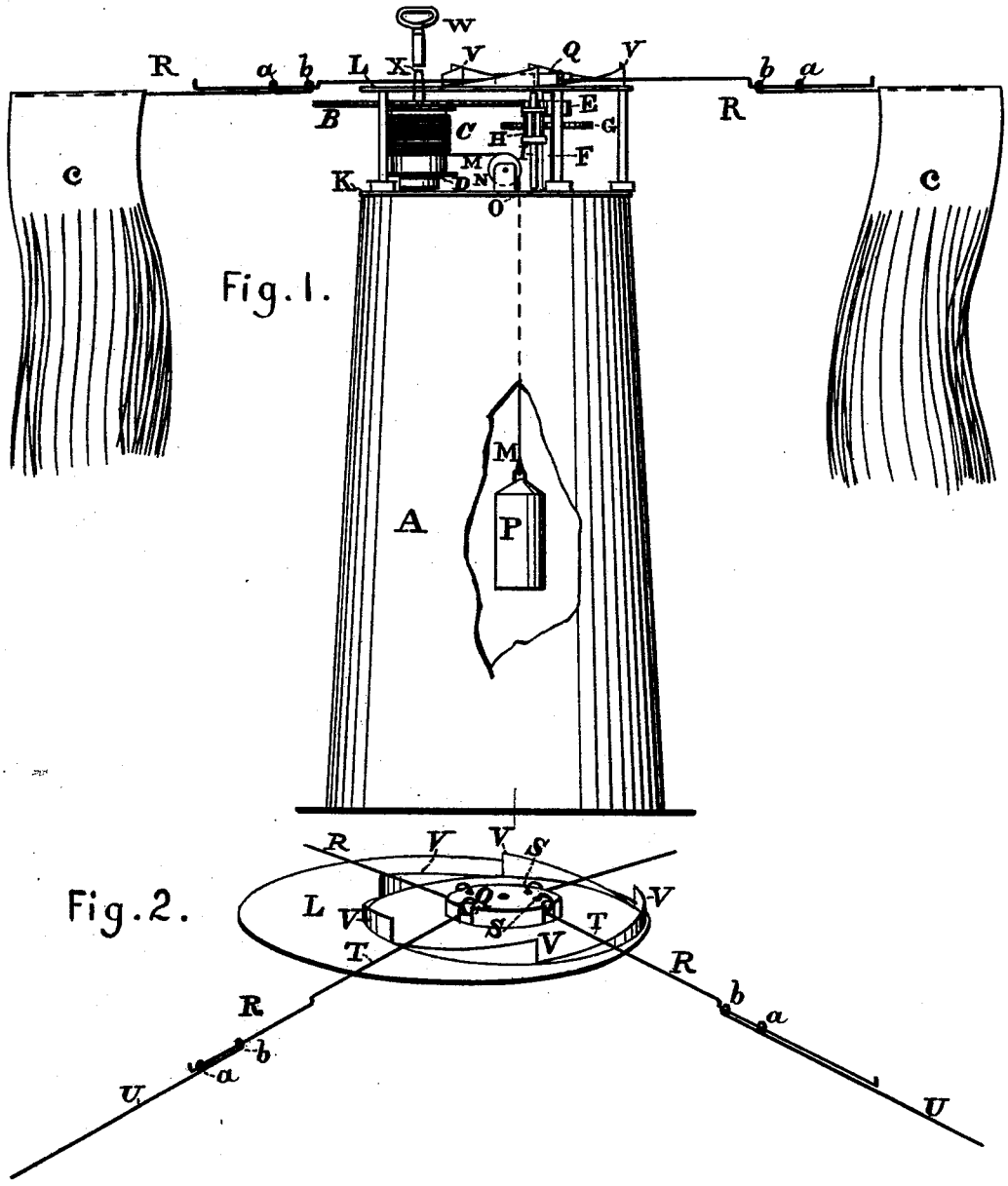

Fig. 1.

Fig. 2.

Witnesses:

H. A. Daniels

A. P. Lacey.

Inventor:

John Baird

by Theodor Mungen

Attorney.

UNITED STATES PATENT OFFICE.

JOHN BAIRD, OF LEWISVILLE, INDIANA.

IMPROVEMENT IN AUTOMATIC FLY-FANS.

Specification forming part of Letters Patent No. **191,823**, dated June 12, 1877; application filed April 9, 1877.

To all whom it may concern:

Be it known that I, JOHN BAIRD, of Lewisville, in the county of Henry, and State of Indiana, have invented certain new and useful Improvements in Automatic Fly-Brushes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 represents a side elevation of the improved automatic fly-brush. Fig. 2 is a perspective view of the top plate with inclines V, and the rotating hub or disk with arms connected thereto.

This invention relates to an improvement in automatic fly-brushes, and consists in the improvements in the construction of the same, hereinafter described and claimed.

Similar letters of reference in the accompanying drawing indicate like parts of the invention.

The base A is preferably made of stiff paper, in the form of a hollow conical frustum, and may be ornamental in design. The motive-power or driving mechanism preferably consists of a large spur-gear wheel, B, and a spool, C, having a pawl and ratchet upon a shaft, D, which penetrates the top bearing-plate L, to form a post for the key. The wheel B engages with a pinion, E, upon a shaft, F, provided also with a smaller spur-gear, G, which latter engages with a trundle-wheel, H, upon a shaft, I, the said several shafts having their bearings in a base-plate, K, and a top plate, L. A cord, M, is secured to the spool C, and, passing over a pulley, N, supported in bearings fixed to the upper side of the base-plate K, and through an opening, O, in the same, is provided with a weight, P, at its lower end, said weight being concealed by the base A. The upper end of the shaft I passes through the top plate L, and receives loosely upon it a hub or disk, Q, which, although resting loosely thereon, rotates with the same. The hub or disk Q is provided with a series of radial wire arms, R, the ends of which are coiled up through holes S, near the periphery of the disk Q, so that they may be articulated vertically, but will have no motion laterally, independent of the said disk. The arms R are made in two sections, T and U, the outer section, U, being looped at *a* and *b* to slide upon the outer end of the section T, and the outer end of the section T being afterward slightly turned up to prevent its withdrawal, in order that the sections may be adjusted longitudinally for the purposes of extending and shortening the arms R at will. The outer sections U are provided with brushes *c* of tissue-paper or other suitable material. Upon the upper side of the top plate L (and in the form of a circle, of which the projecting end of the shaft I is the center) is fixed a series, five in number, of inclines, V, all running in the same direction, and each terminating abruptly at the beginning of another, their said terminations being bounded by vertical lines. The object of these abrupt terminations is to permit the wire-arms R, which travel upon said inclines when the machine is in operation, to drop, when the ends of the inclines are reached, with a chopping motion. The number of inclines being uneven the arms drop irregularly, no two of them being dropped at the same time; consequently the brushes are agitated vertically with greater effect than if they all rose together and all fell together, and the flies are more readily driven away. The arms R, being adjustable longitudinally, permit the brushes to operate over a greater or lesser area, as may be desired.

A key, W, is used to wind the machine up, and for this purpose is applied to the post X. When the machine has once been wound up it may be stopped, before it has run down, by placing the key upon the post X, and permitting it to remain there, when the arms R cannot revolve, and consequently the machine will stop. It is intended that the gearing shall be of such proportions that the brushes will make one revolution in about five seconds, and although the motive-power herein described is preferable, owing to its simplicity, yet any other suitable mechanism may be used.

The plates K and L, which hold the gearing, are bound permanently together, and are intended to rest upon the top of the base A, so that when the weight P is removed from the cord M the gearing, &c., may be removed from the base A. The arms, R being con-

structed to articulate vertically, may be shortened, owing to their adjustability, and turned up and bound together, so that the machine may be stored away in a very small compass when not in use. It will be noticed that, as the disk Q rests loosely upon the end of the shaft I, each arm R, as it falls from the termination of one incline V to the beginning of another, will, to considerable extent, agitate all the other arms.

I am aware that a series of articulated arms have been used in connection with a series of inclines, so that a rising and falling motion of the arms has been produced, and also that each arm has descended the abrupt inclines with a flirt; but the jarring motion incident to the falling of one of the arms R is not communicated, in the instance referred to, to the other arms of the series, for the reason that the sleeve with which they are connected is rigidly attached to the shaft which rotates the arms, and does not sit loosely thereon, as in mine.

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

1. In combination with the shaft I, the disk Q arranged to rotate loosely upon the same, and provided with the series of vertically-articulated and longitudinally-adjustable arms R, constructed and arranged to operate substantially as and for the purposes set forth.

2. In combination with the disk Q, constructed and arranged to operate as described, the series of abruptly-terminating inclines V, substantially as and for the purposes set forth.

3. In combination with an automatic fly-brush, the detachable base, composed of the hollow conical frustum A, substantially as and for the purposes set forth.

In testimony that I claim the foregoing improvements, as above described, I have hereunto set my hand and seal this 31st day of March, 1877.

JOHN BAIRD. [L. S.]

Witnesses:
M. F. LYNCH,
T. MUNGEN.