

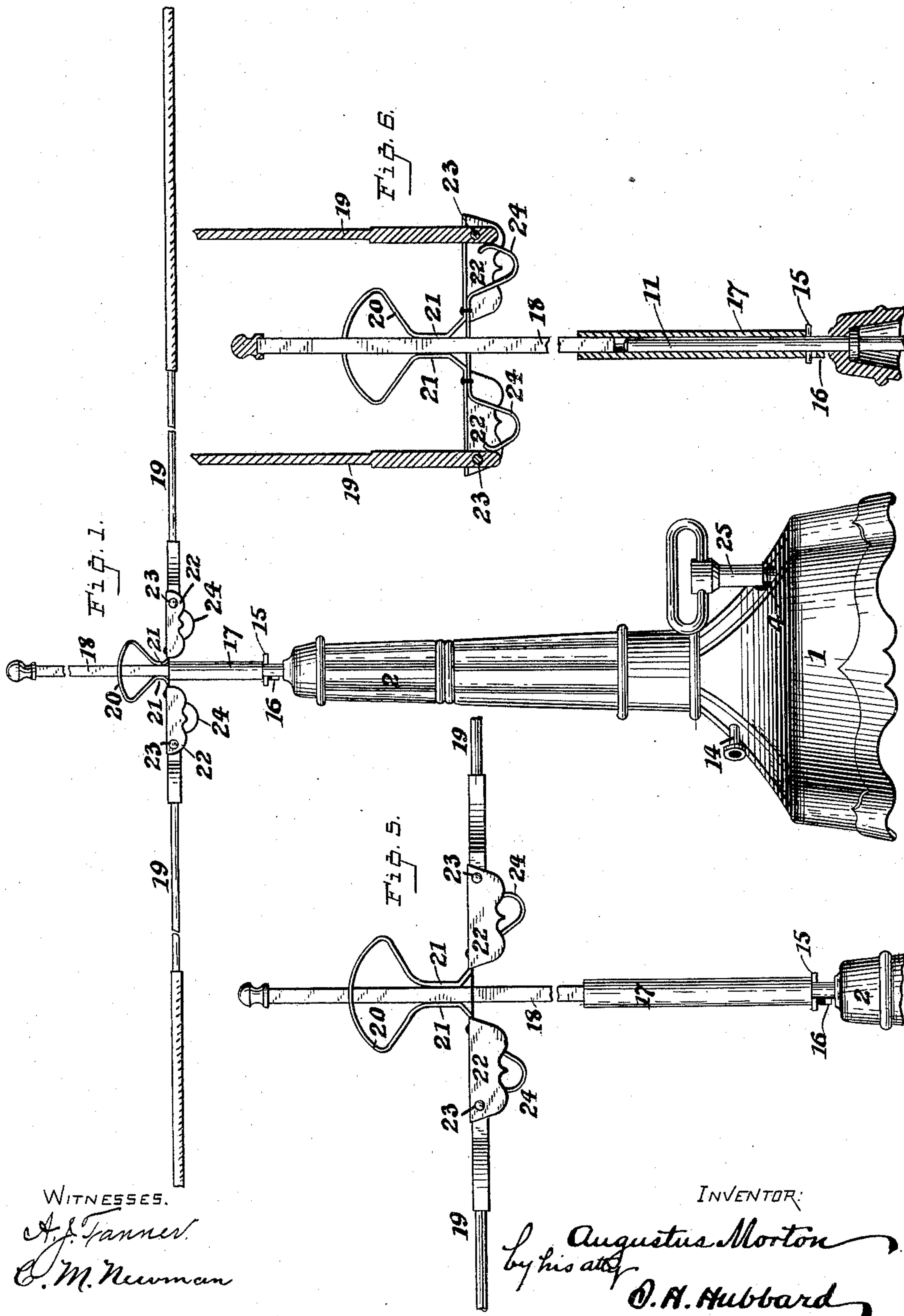
(No Model.)

2 Sheets—Sheet 1.

A. MORTON.
FLY FAN.

No. 474,141.

Patented May 3, 1892.



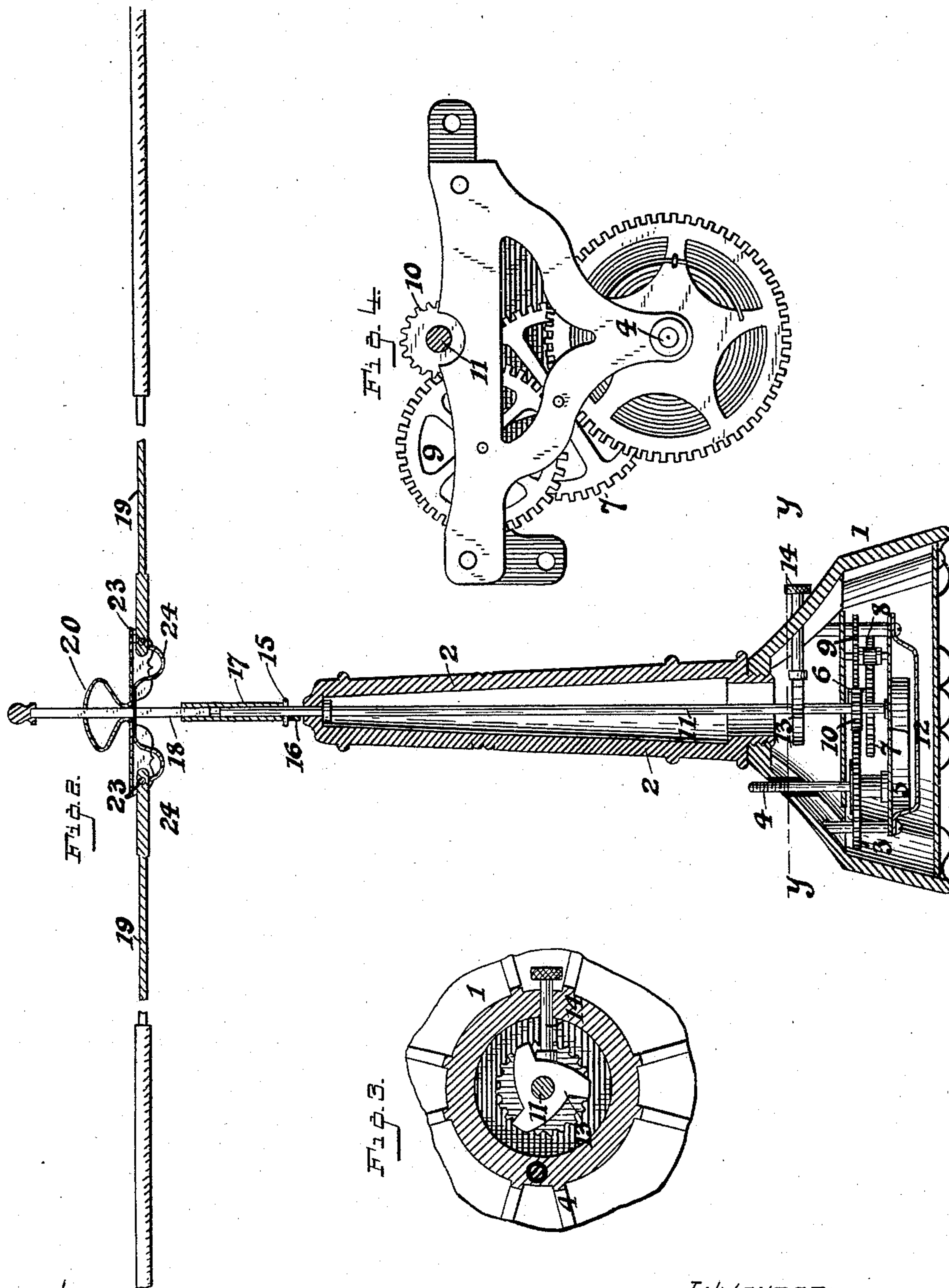
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WITNESSES:
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UNITED STATES PATENT OFFICE.

AUGUSTUS MORTON, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE
BRIDGEPORT BRASS COMPANY, OF SAME PLACE.

FLY-FAN.

SPECIFICATION forming part of Letters Patent No. 474,141, dated May 3, 1892.

Application filed March 2, 1892. Serial No. 423,500. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS MORTON, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Fly-Fans; 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.

This invention relates to certain novel and useful improvements in fly-fans of the character comprising a pair of outwardly-extending arms rotating in a horizontal plane and bearing fan blades or wings, comprising also a support or base and also a motor for driving the fans.

In general the object of my invention is to provide a machine of this description which shall be simple in construction and cheap to manufacture, and particularly to provide a novel and simple means for the attachment of the fan-carrying arms and a novel form of stop for the rotative spindle.

With these ends in view my invention consists and resides in the construction and the several combinations of co-operating elements hereinafter to be described, and then recited in the claims.

In order that those skilled in the art to which my invention appertains may be able fully to understand the same, I will describe it in detail, reference being had to the accompanying drawings, which are hereunto annexed and which form a part hereof, in which—

Figure 1 is an elevation; Fig. 2, a vertical section; Fig. 3, a detail horizontal section at the line *y y* of Fig. 2; Fig. 4, a detail plan view of the movement; Fig. 5, an enlarged detail elevation of the spindle and the sliding head. Fig. 6 shows the same parts in vertical section.

Like numerals denote the same parts in each of the figures.

The hollow base 1 contains the movement, and is preferably of cast-iron. Into the top of this base is secured by screw-threads the hollow extension 2, which I also prefer to make by casting.

The movement consists of the spring, four

gears, and two cage-pinions, as follows: A large gear 3 is mounted upon the spring-shaft 4 and connected thereto by a suitable ratchet-and-pawl mechanism. The spring 5 is connected at one end to the winding-shaft and at the other end to a post within the base. The large gear 3 transmits motion through a cage-pinion 6 to the gear 7, and this latter, through another cage-pinion 8, drives a third gear 9. This last gear meshes with a geared wheel 10 upon the main spindle 11, said spindle having an end bearing in a horizontal plate 12, which serves to support the movement. It has also a second bearing in the top of the part 2, as shown at Fig. 2. At a little distance above its lower bearing the spindle 11 carries a stop-wheel 13, shown, as provided, with three outwardly-projecting arms. There may be more or less of these, of course, their number and arrangement being immaterial. In the base, at right angles to the plane of rotation of the spindle, is formed a bearing, in which is contained a sliding stop 14, one end projecting without the case and the other end adapted to engage with the stop-wheel. This construction is clearly shown at Figs. 2 and 3. A cross-pin 15 passes through the spindle just above its upper bearing and serves to engage the hook 16, formed upon the lower end of a socket 17, in which socket is inserted and secured the squared and upwardly-extending rod 18, which serves to carry the blades or wings. The support for the ends of the wing-bearing arms consists of a piece of spring metal bent at its center to form the bowed spring 20, which at its top has a squared opening for the passage of the rod 18. At 21 this bowed spring has two opposed faces, which bear against the sides of the rod with sufficient frictional contact to support and prevent any accidental slipping of the head, but not with sufficient force to prevent a ready vertical adjustment of said head along the rod for the purpose of varying the plane of rotation of the blades. The piece of metal of which the spring 20 is formed is broadened at the ends and the edges are turned downward to form cheeks 22, between which the extremities of the arms 19 are fulcrumed by means of pins or rivets 23. Within each housing formed by the cheeks 22

is arranged a spring 24, whose end bears against the extremity of the arm, so that the latter may thereby be secured in either position shown in the figures. When the arms
5 are turned up, as shown at Fig. 6, the springs prevent their accidental descent, and when they are in the position shown at Fig. 5 the said springs secure them in their plane of rotation.

10 The means shown for supporting and adjusting the arms is very light and simple and performs admirably the purpose for which it is designed.

In the operation of my invention the spring
15 is wound by means of the key 25 on the shaft 4. When the fans are to be set in motion, the blades are turned downward at right angles to the supporting-rod, as shown at Fig. 1, and the stop 14 is withdrawn by hand out
20 of the field of rotation of the stop-wheel 13. The spindle carrying the rod and the fans will then be driven through the train of wheels previously described.

The head, as heretofore explained, is readily
25 adjustable by sliding it upon the squared rod, the bowed spring retaining it at any required vertical adjustment. When it is desired to stop the fan, the sliding stop 14 is pushed inward until its end blocks the rotation of the
30 stop-wheel.

The driven parts of my invention are so light and the power required to drive them so small that no harm results from the use of a stop mechanism such as I have described,

and the fans may be stopped or started at 35 pleasure thereby.

I claim—

1. In a fly-fan, the squared rotative rod and means for driving the same, in combination with the bowed spring embracing said rod, 40 housings upon the outwardly-extending ends of said bowed spring, and the arms fulcrumed in said housings, substantially as described.

2. The combination, with the rotative rod, of the bowed spring embracing said rod frictionally, housings secured upon the opposite 45 ends of said spring, fan-carrying arms fulcrumed in said housings, and supplemental friction-springs engaging the ends of the arms, substantially as and for the purpose specified. 50

3. The combination, with the squared and rotative rod 18 and means for driving the same, of the bowed spring 20, having an opening for the passage of the rod and opposite 55 parallel portions for engaging the sides thereof, the housings 22, borne on the ends of the spring and adapted to accommodate the ends of the arms, and friction-springs secured within said housings and engaging the extremities of the arms, substantially as described. 60

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

AUGUSTUS MORTON.

Witnesses:

S. H. HUBBARD,
M. C. HINCHCLIFFE.