(No Model.)

J. T. VANN.

AUTOMATIC FAN.

No. 513,288. Patented Jan. 23, 1894.

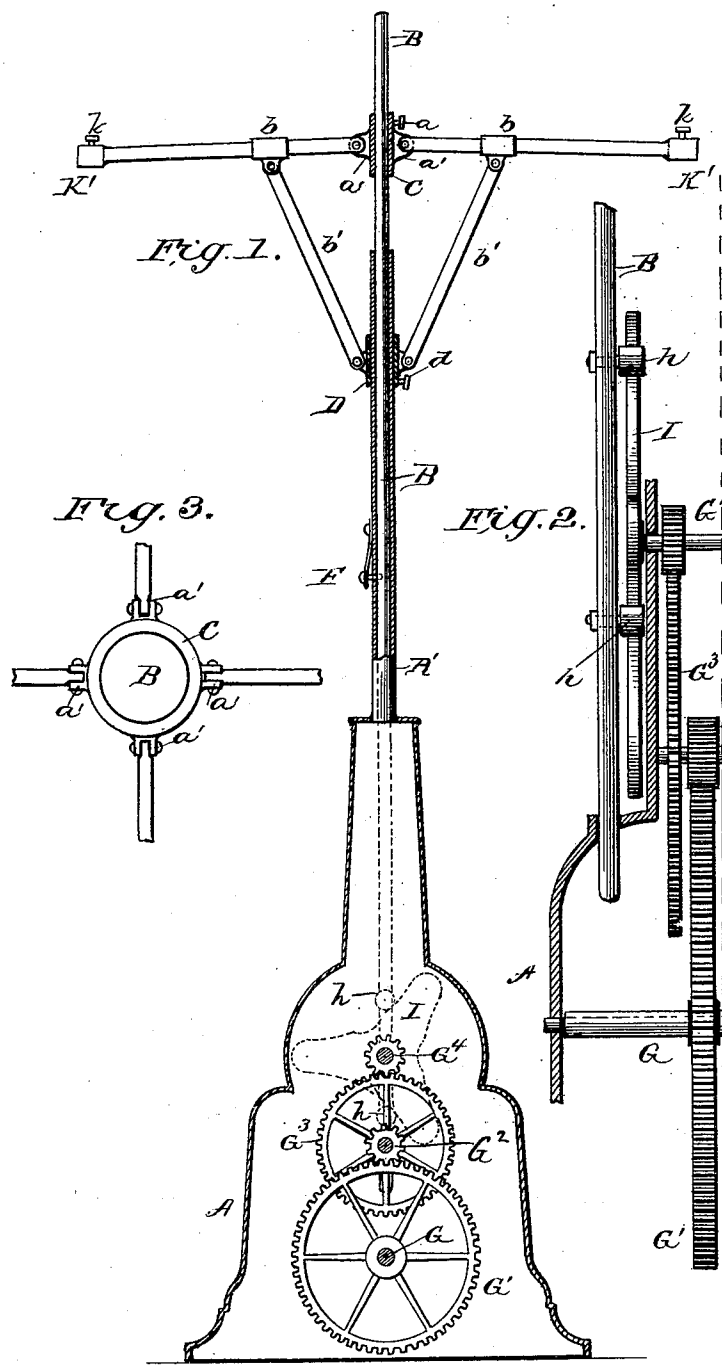

Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES:

John G. Coulter

Ward D. Webber.

INVENTOR

John T. Vann

BY

Alex Mahon

ATTORNEY.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN THOMAS VANN, OF LEXINGTON, NORTH CAROLINA.

AUTOMATIC FAN.

SPECIFICATION forming part of Letters Patent No. 513,288, dated January 23, 1894.

Application filed July 24, 1893. Serial No. 481,264. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMAS VANN, a citizen of the United States, residing at Lexington, in the county of Davidson and State of North Carolina, have invented certain new and useful Improvements in Automatic 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.

My invention relates to that class of devices known as automatic fans to agitate or produce a current of air for cooling persons or for driving away flies.

My invention consists in a novel combination and arrangement of parts whereby a vibratory motion is imparted to the fans or agitators.

It further consists in a novel manner of changing the angles of the fan or agitator arm relative to their operating shaft whereby the angle of current may be changed, or the length of stroke, and consequent strength of draft increased or diminished at will.

It further consists in certain novel combinations and arrangement of parts, all as hereinafter described.

In the accompanying drawings Figure 1 is a horizontal section of the casing for inclosing the gearing and also the guide tube with the fan or brush arms and operating rod in full lines, also showing the sleeves or collars for supporting the arms, in section, and showing a face view of the gearing, the section being taken on the line *x x*, Fig. 2. Fig. 2 is a transverse vertical section enlarged of the upper portion of the casing, showing the gearing in full lines and also the lower portion of the reciprocating rod. Fig. 3 is an enlarged plan or top view of the sleeve or collar to which the arms of the fans or agitators are connected.

The base, A, is preferably made of metal, having any desired ornamental outline or configuration, and of such form as to receive the gearing and of such weight as to form a solid support. The upper portion of the case is extended into tubular form, as shown at A′, to form a guideway or bearing for the reciprocating rod, B, for actuating the fan or brush arms hereinafter referred to. An adjustable sleeve, C, is mounted on the rod, B, and adapted to be secured and held in any desired position thereon by means of a set screw, *a*, and which sleeve has formed integral therewith or otherwise connected thereto, lugs, *a′*, to which the inner ends of the arms for supporting the fans or brushes are pivotally connected. A similar sleeve, D, is mounted on the tubular guide, A′, made adjustable and held by means of a set screw, *d*.

Mounted on the fan or brush arms, or levers, are sleeved lugs, *b*, to which are connected links, *b′*, which links in turn are pivotally connected with the lugs of the sleeve D. By this combination of parts it will be seen that as the rod, B, is reciprocated that the fan or brush arms will have a vibratory motion imparted thereto, and when the parts are adjusted relatively, as shown in the drawings, that a direct upward and downward current will be produced. When, however, it is desired to change the length of stroke or the angle of current, either in a direction to and from the base or more nearly horizontal, or at an upward inclination, it can be accomplished by adjusting the sleeves, C and D, either to or from each other to a greater or less degree. Thus it will be seen that the current may be directed at different angles or the length of stroke varied, and as a consequence, a greater or less draft upon the person or upon the article or articles to be kept free from flies. By this means also the fans or brushes may be closed up when not in use.

Mounted on the guide, A′, is a spring catch, F, for engaging a recess or notch in the rod A, for stopping the machine and holding it out of action. The gearing for reciprocating the rod and imparting the vibratory motion to the fans or brushes consists of a train of gears, actuated by a spring in which G represents the main or winding shaft on which the spring is mounted and to which is secured a large gear or driving wheel, G′, which gear meshes with and communicates motion to a pinion, G^2, on a shaft, H. This shaft, H, has also mounted thereon an enlarged gear-wheel, G^3, which in turn meshes with and communicates motion to a pinion, G^4. Mounted on the shaft of the pinion, G^4, is a three-winged cam, I, the arms of which are of equal length, which engages with and reciprocates the rod B, in the following manner: To the end of the rod

B, are connected friction rollers, *h*, which are arranged at such distance apart as to permit the cam to move between them or to follow or travel over the peripheral faces of the wings or arms thereof, by which it will be seen that three reciprocations will be imparted to the rod at each revolution of the cam shaft.

Other forms of gearing may be employed to impart a reciprocating motion to the rod and like modifications may be made in the construction and arrangement of other parts without departing from the spirit or intent of my invention.

The ends of the fan arms may be provided with sockets, K, having set screws, *k*, to permit the use or substitution of different forms of fans or agitators.

Parts of the device not herein particularly described may be constructed in any usual or preferred way.

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

1. In an automatic fan, a rod adapted to have a reciprocating motion imparted thereto, arms pivotally connected therewith, and links connected at one end to the arms and having a fixed connection relative to the reciprocating rod, substantially as and for the purpose set forth.

2. In an automatic fan, a rod adapted to have a reciprocating motion imparted thereto, arms pivotally and adjustably connected therewith, an adjustable sleeve connected independently of the rod, and links connecting the arms and sleeve, substantially as and for the purpose set forth.

3. In an automatic fan, a rod adapted to have a reciprocating motion imparted thereto, a bearing therefor, an adjustable sleeve mounted on the rod, fan or agitator arms connected thereto, an adjustable sleeve mounted on the bearing, adjustable sleeves mounted on the fan or agitator arms, and links connecting with the sleeves on the bearing and on the arms, substantially as and for the purpose set forth.

4. In an automatic fan, a reciprocating rod, a supporting sleeve therefor, fan arms connected to the rod and sleeve, a cam substantially as described for reciprocating the rod and mechanism for rotating the cam to impart a reciprocating motion to the rod to vibrate the fan blades, as set forth.

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

JOHN THOMAS VANN.

Witnesses:
W. J. BYERLY,
C. E. W. WALL.