(No Model.) 2 Sheets—Sheet 1.

V. V. HEDGES.

ELECTRIC FAN FOR VENTILATING STREETS OR ALLEYS.

No. 572,008. Patented Nov. 24, 1896.

Fig:1.

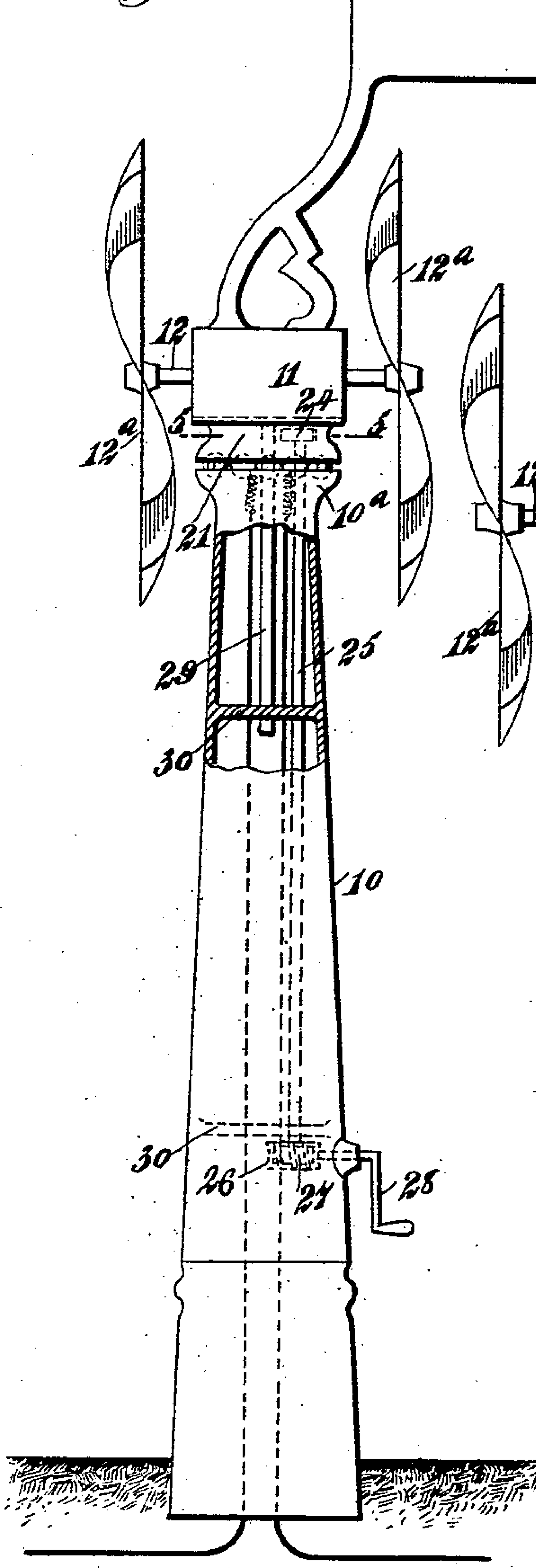


Fig: 2.

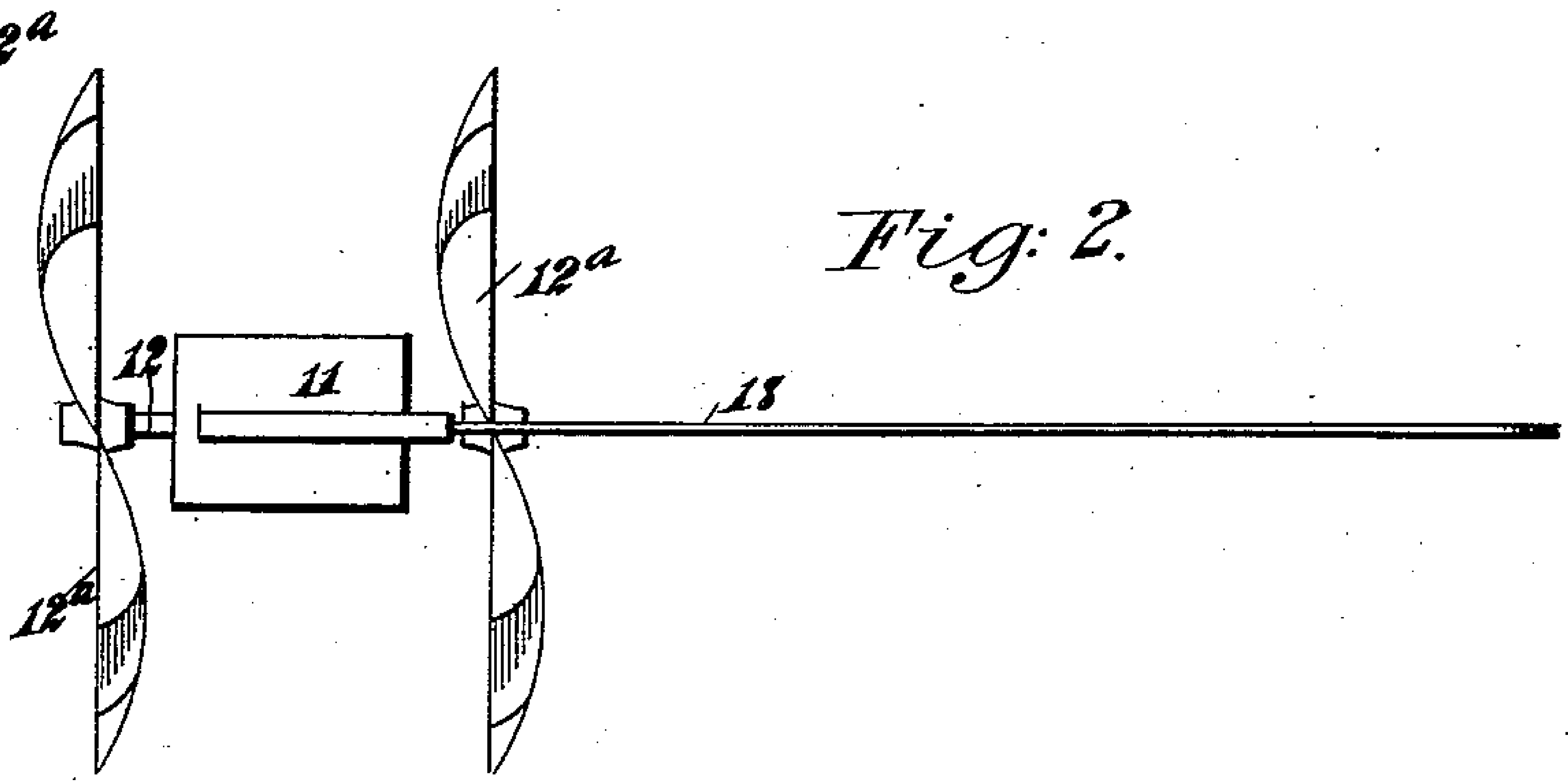


Fig:3.

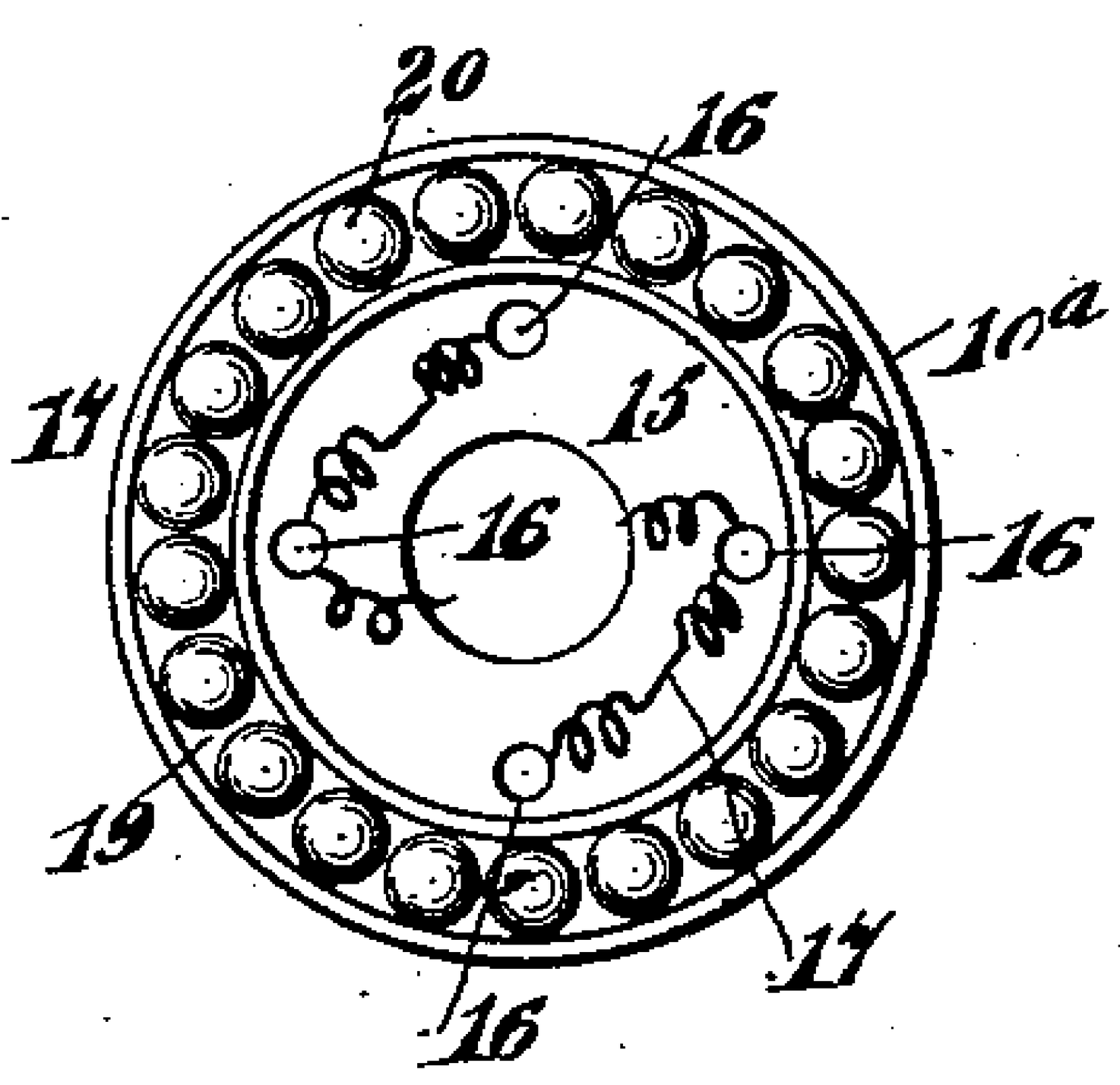


Fig:4.

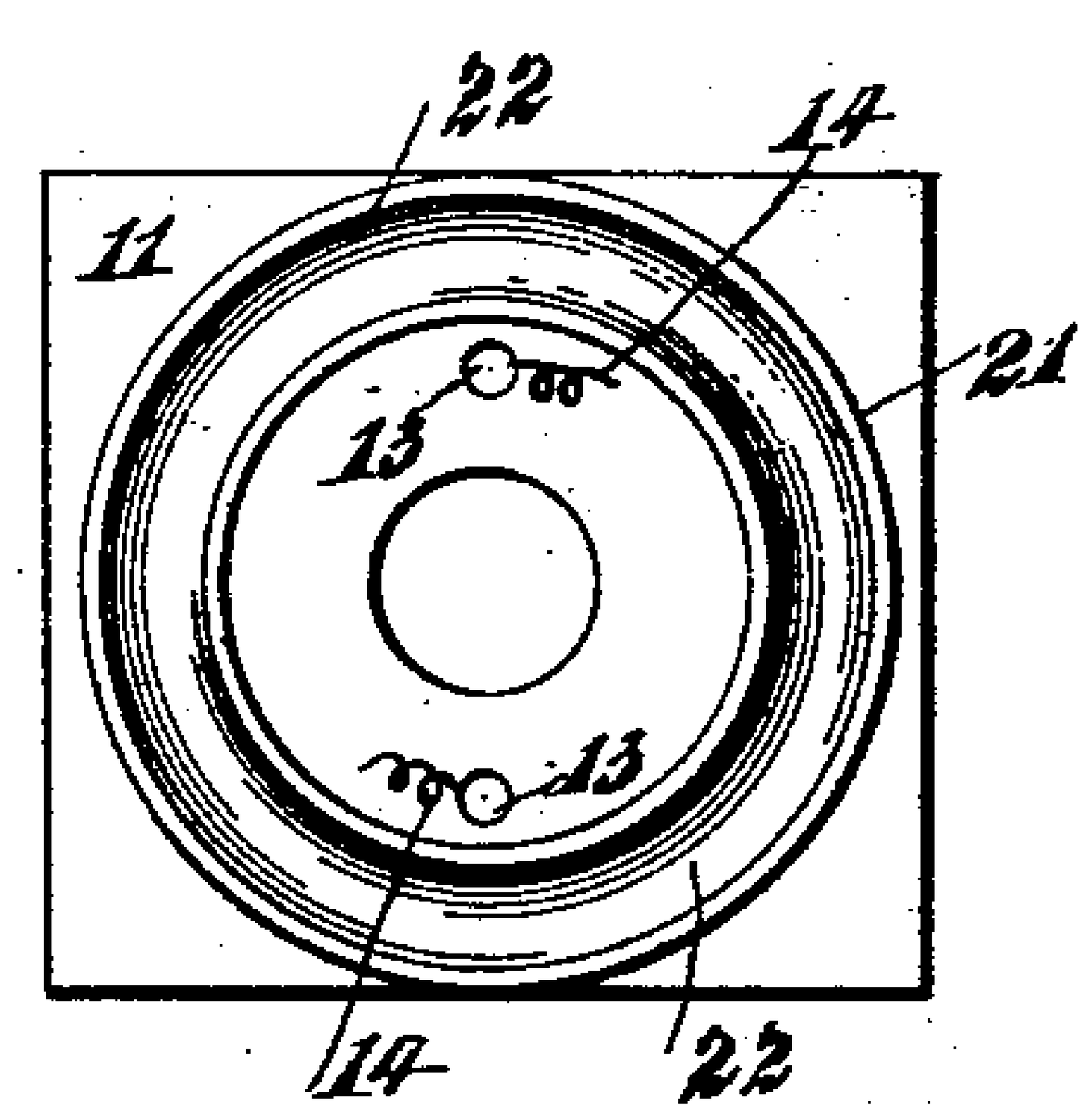
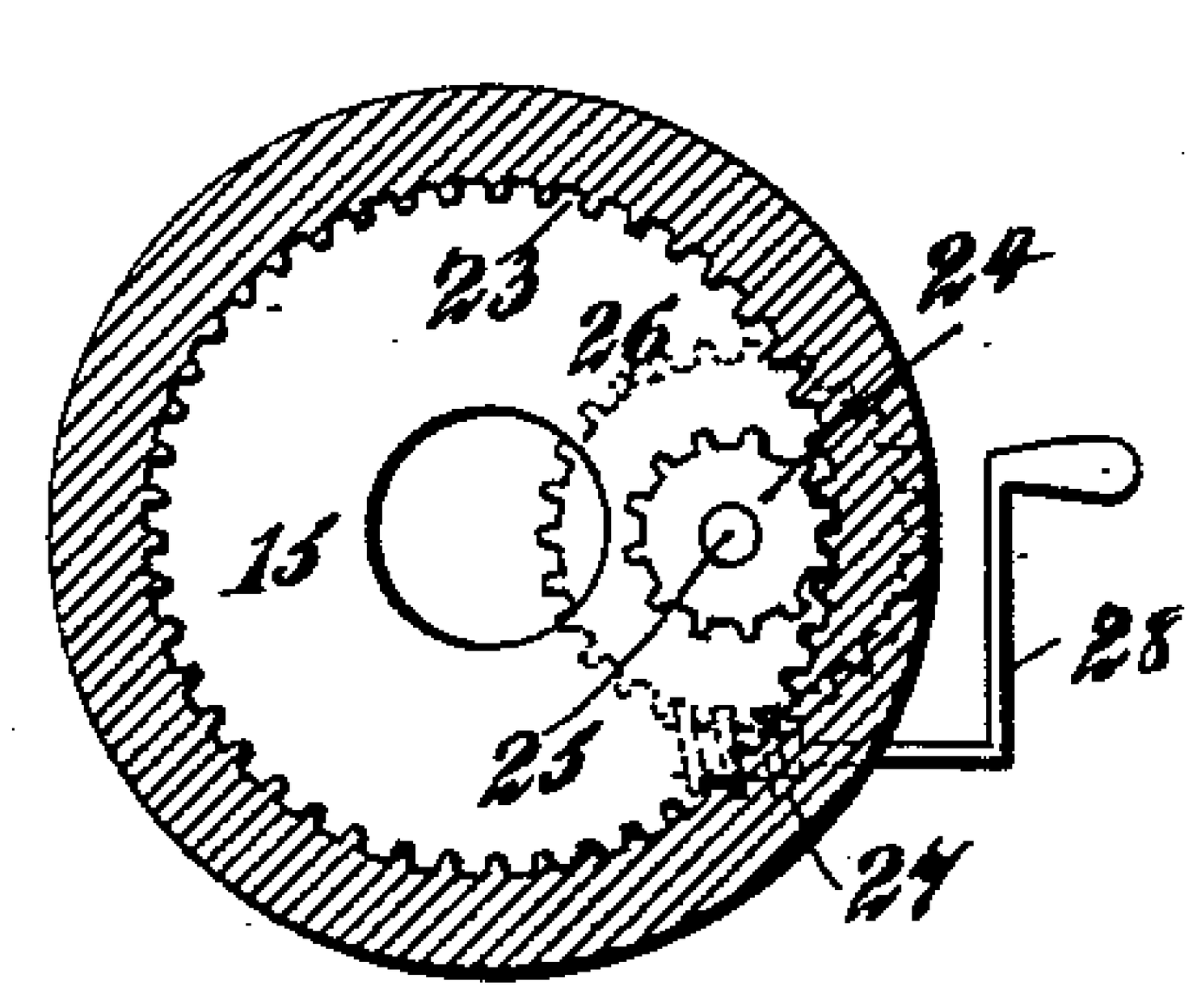


Fig:5.



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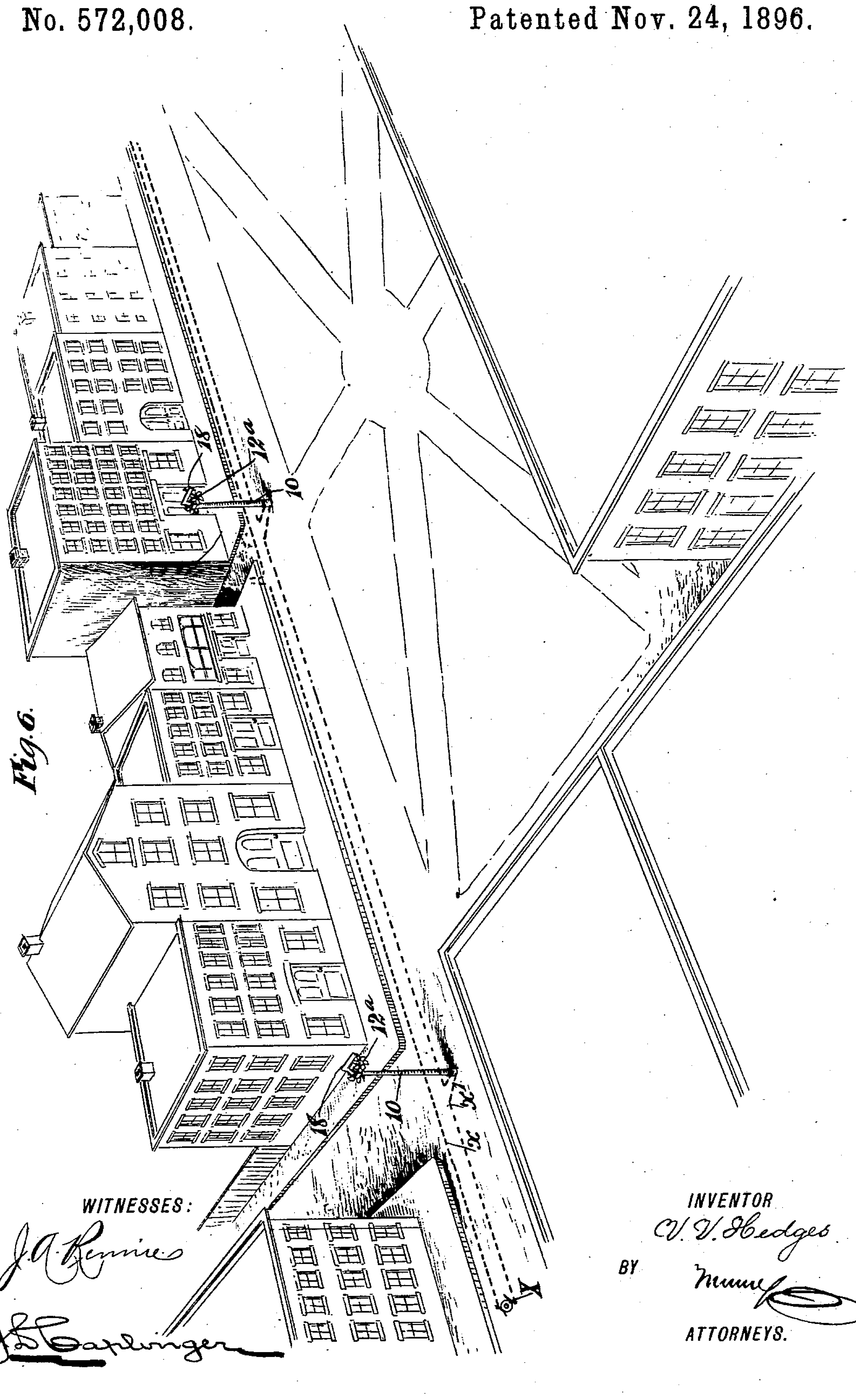
(No Model.) 2 Sheets—Sheet 2.

V. V. HEDGES.

ELECTRIC FAN FOR VENTILATING STREETS OR ALLEYS.

No. 572,008. Patented Nov. 24, 1896.



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UNITED STATES PATENT OFFICE.

VESPASIAN V. HEDGES, OF COFFEYVILLE, KANSAS.

ELECTRIC FAN FOR VENTILATING STREETS OR ALLEYS.

SPECIFICATION forming part of Letters Patent No. 572,008, dated November 24, 1896.

Application filed November 13, 1895. Serial No. 568,757. (No model.)

To all whom it may concern:

Be it known that I, VESPASIAN V. HEDGES, of Coffeyville, in the county of Montgomery and State of Kansas, have invented a new and useful Improvement in Electric Fans for Ventilating Streets or Alleys, of which the following is a full, clear, and exact description.

My invention relates to certain new and useful improvements in fans especially adapted for ventilating streets and alleys, but which may be otherwise employed, the said fans being adapted to be operated by electricity from a central station or power-house similar to the method used in operating electric railways, and being designed to generate and maintain a ventilating-current of air through the streets and alleys of cities.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a partial side elevation and partial vertical section of the improved electric ventilating-fan as applied. Fig. 2 is a plan view of the fan. Fig. 3 is a plan view of the post carrying the fan and its operating parts and illustrating the roller-bearing upon which the head-block is carried. Fig. 4 is a bottom plan view of the head-block and head. Fig. 5 is a horizontal section, taken substantially on the line 5 5 of Fig. 1, illustrating only the block and post and the mechanism by means of which the head-block is turned to bring the fan into line with the street through which it is desired to force a current of air; and Fig. 6 is a perspective view showing a system of fans arranged in accordance with my invention for ventilating a street or the like.

In carrying out the invention a post 10 is provided upon which the fan and its working parts are supported. The post is designed to be set in or near the middle of the square formed by the street-crossing that the fan carried thereon may be caused to generate an air-current directed through the street in any direction. In further carrying out the invention a head 11 is provided, in which head the fan-shaft 12 is journaled, and within the head a motor is mounted, which, being of the usual or ordinary construction, is not shown as to its details.

The head is provided with metal pins 13, (shown particularly in Fig. 4,) with which the wires 14 from the motor are connected. At the top of the post an interior flange or web 15 is formed, as shown in Fig. 3, and in this flange or web pins 16 are introduced, with which the wires 17 from the line conductor are connected. The head is adapted to turn on the said post, and when the head is revolved so that the pins 13 are brought in contact with the pins 16 the circuit is closed and the motor in the head 11 will be actuated and also the necessary gearing to operate the shaft 12 upon which the fans 12^a are carried.

The fans are shown as operating upon the same horizontal axis and in the same horizontal plane. They may, however, be located at right angles to each other, so as to generate currents through two streets crossing at the point at which the post is located. The pins 16 are so located in the post that when the circuit is closed the fans will be directly in line with the length of one of the streets.

A vane 18 is attached to the head 11, extending outward at an angle therefrom, the purpose of which is to keep the fans true to the line of the street to be operated upon. The head or top section 10^a of the post 10 is preferably made bell-shaped, so as to provide an annular marginal groove 19, in which are mounted balls 20, forming bearings for a head-block 21, upon which the head is mounted, and the aforesaid head-block, as shown in Fig. 4, is belled at its lower end, forming an annular marginal groove 22, which will be above and coincide with the groove in the post, receiving the balls running in the latter. The head-block 21 is preferably made in the form of a hollow cylinder, and, as shown in Fig. 5, is provided with interior teeth or cogs 23, which are circularly arranged. These cogs are adapted to engage with a pinion 24, secured upon a shaft 25, the said shaft being journaled in the post and extending upward through the flange or

web 15 thereof into the head-block, as shown in dotted lines in Fig. 1. Cones or rollers may be substituted for the balls 20, if found desirable.

The shaft is provided near its lower end with a gear 26, operated by a worm 27, located upon a crank-shaft 28, extending out through the post, preferably within convenient reach of the ground, the purpose of which construction is to provide means near the bottom of the post for turning the fans in the line of the street in the direction in which it is desired to create the current of air.

The head 11 is provided with an attached shaft or king-bolt 29, stepped or journaled in a cross-bar 30, made in the post at a suitable point in its height, and any number of these cross-bars may be employed to give rigidity and stability to the entire structure, and the king-bolt 29 affords additional support for the head. The fans are brought in the line of the street by the use of the worm and its crank-shaft; but the worm and crank-shaft may be removed, and the fans will thereupon be retained in alinement by the vane 18.

The arrangement of the system of fans for ventilating streets is clearly shown in Fig. 6, which is a perspective view showing a portion of such a system. In this view X indicates the dynamo or other generator of electricity, from which lead line conductors *x x'*, which are in circuit with the wires leading from the pins 16 in the posts 10. In this way it will be seen that the several fans which are arranged in each circuit will be driven by the electricity passing over said circuit, so as to generate an air-current passing through the street or streets.

As shown in Fig. 3, there are four of the pins 16, and, as seen in Fig. 4, there are but two of the pins 13, and the pins 16 and 13 are arranged, respectively, at equal distances apart, whereby it will be seen that the pins 13 will contact with the pins 16, which latter are connected up in pairs with the wires 17 leading to the line conductors *x x'*, when the head-block 11 is turned a quarter-rotation, so that a current of air may be directed through either of the two streets running at right angles to each other at the intersection of which the post 10 is located.

In practice but few of the fans at the beginning of any series for a street need be adjusted by the worm, the remaining fans of the series being brought into line by the currents generated acting upon the vanes of the successive fans. The head 11 is virtually a casing for the reception of the motor, serving likewise as a bearing for the fan-shaft. By turning the crank 28 backward the shaft-gear 26 will be free and the vane will have full control of the fan. In order that the head may be perfectly balanced upon the head-block and post, said head and head-block are adjustably connected, as shown in dotted lines in Fig. 1.

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

1. In an electric fan, a motor, a casing for the same, a shaft driven by the motor, fans carried by the shaft, a support upon which the motor-casing is revolubly mounted, a source of electric supply, a connection between said source and motor, and means for making and breaking the circuit by the rotation of the motor-casing on its support, as and for the purpose set forth.

2. In an electric fan, a casing, a support upon which the casing is revolubly mounted, &c a motor located within the casing, a shaft driven from the motor, fans secured to said shaft, a vane attached to the casing, contact-points connected with the motor and located within the casing, contact-points located within the support and connected with a source of electrical supply, and means, substantially as described, for rotating the casing to bring one set of points in contact with the opposing set, as and for the purpose set forth.

3. An electric fan for ventilating streets and alleys, consisting of fans mounted on a shaft, a head in which the said fan-shaft is journaled, a motor mounted in the said head, a connection between the motor and the fan-shaft, a post on which the head is mounted, pins in the head with which the wires from the motor are connected, pins in the post with which the wires from the source of supply of power are connected, a driving-shaft operating to turn the head, and a driving mechanism for the said shaft, whereby the head may be revolved to bring the pins therein in contact with the pins in the post and close the circuit, substantially as described.

4. The combination of a support, a head-block mounted to turn thereon, a motor carried by the head-block, a fan carried on the head-block and operatively connected to the motor, two contact-pins mounted on the head-block and connected with the terminals of the motor-circuit, four contact-pins equally spaced apart and mounted on the support, said last-mentioned contact-pins being connected in pairs, line conductors leading from a source of electrical supply and connected with the respective pairs of contact-pins on the support, and means for turning the head-block to bring the contact-pin thereon in contact with either of the two pins of the respective pairs on the support, substantially as set forth.

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Witnesses:
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