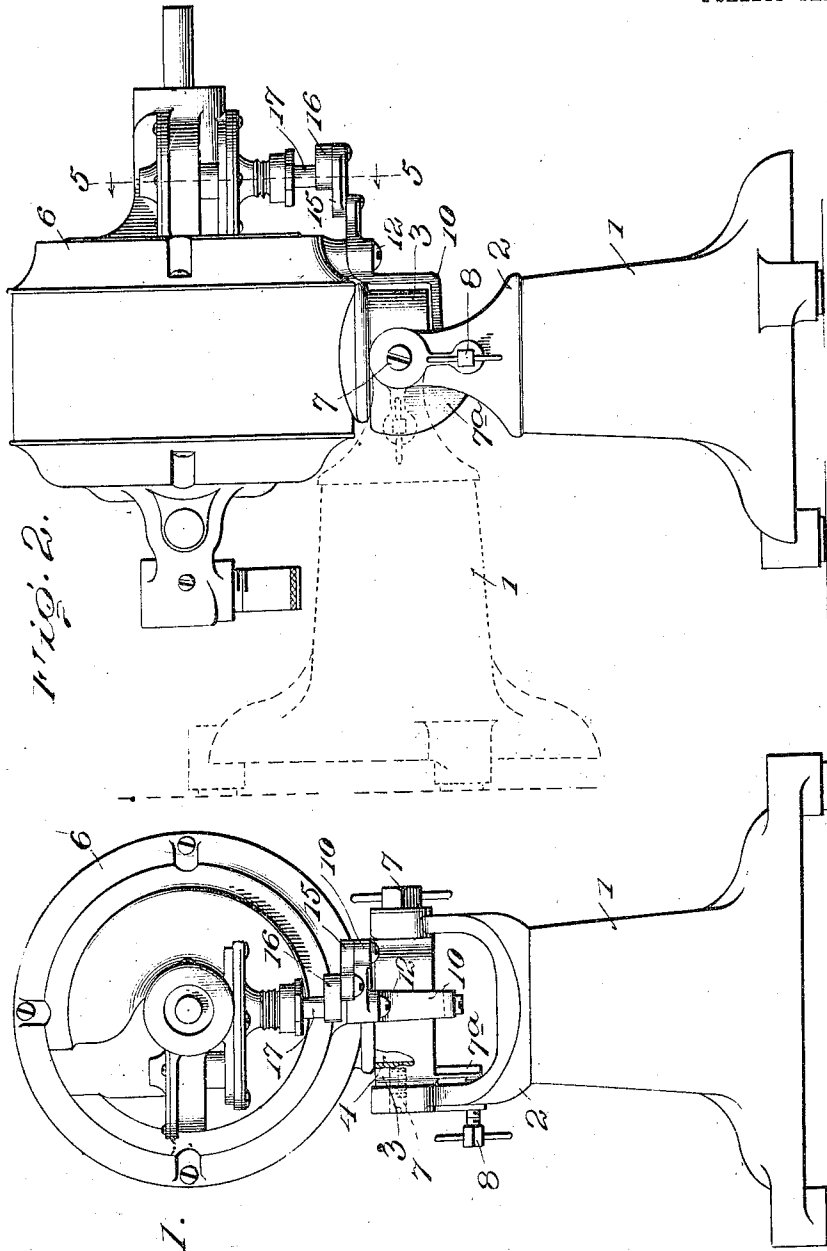


E. C. LIPPS.
 OSCILLATING FAN.
 APPLICATION FILED JULY 16, 1909.

961,703.

Patented June 14, 1910.

2 SHEETS—SHEET 1.



Inventor

Witnesses

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FIG. 1.

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3 SHEETS—SHEET 2.

Fig. 3.

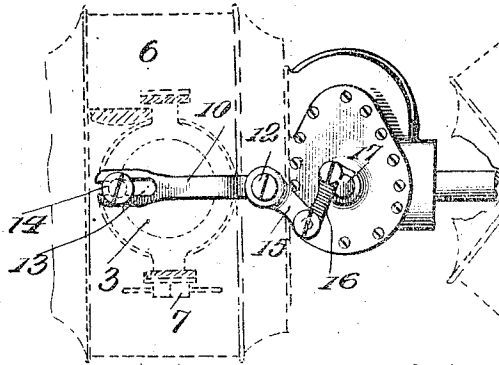


Fig. 4.

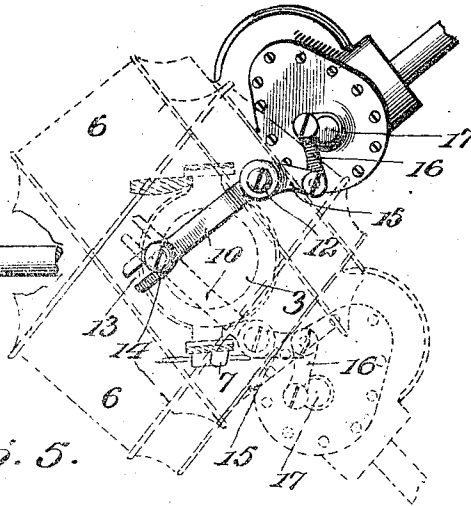
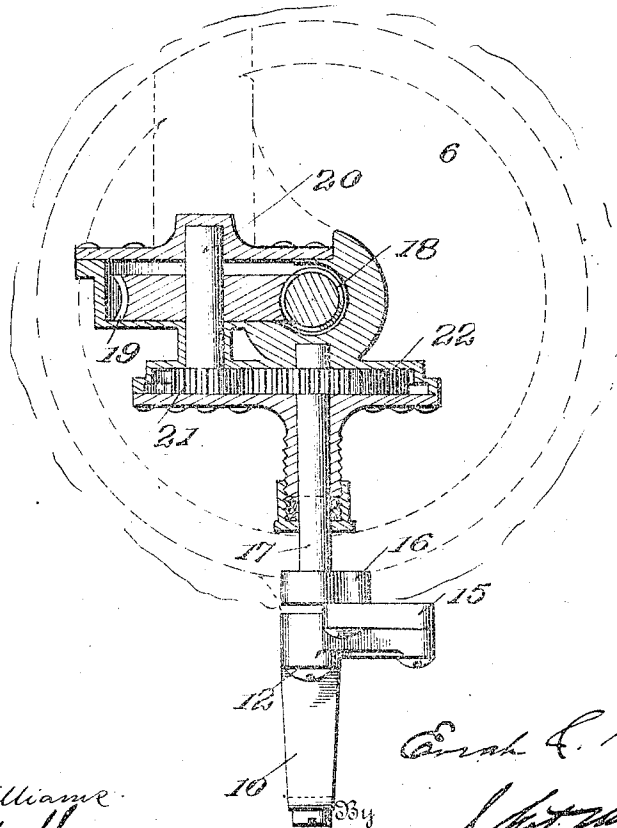


Fig. 5.



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UNITED STATES PATENT OFFICE

EVRAH C. LIPPS, OF WARREN, OHIO, ASSIGNOR TO THE PEERLESS ELECTRIC COMPANY,
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OSCILLATING FAN.

961,703.

Specification of Letters Patent. Patented June 14, 1910.

Application filed July 16, 1909. Serial No. 509,036.

To all whom it may concern:

Be it known that I, EVRAH C. LIPPS, of Warren, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Oscillating 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.

The primary object of this invention is to provide improved means for oscillating an electric fan motor regardless of whether the latter be supported on a desk or secured to a wall or partition as well as in the various positions in which the motor may be placed.

In Letters Patent of the United States No. 919,898, dated April 27, 1909, I showed and described an electric fan motor rotatably mounted on a base so as to be capable of movement in a horizontal plane, and means connecting the base to its support in a manner to permit the motor to be adjusted in a vertical plane whereby the same support may be located on a desk or table or secured to a wall or partition. By my present invention the motor may be oscillated regardless of the position it may occupy relatively to the support.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation. Fig. 2 is a side view. Fig. 3 is a bottom plan view, with the motor casing in dotted lines. Fig. 4 is a similar view showing the parts in different positions. Fig. 5 is a section on line 5-5, Fig. 2.

Referring to the drawings, 1 designates a support or bracket which may rest directly upon a desk or table or be secured to a wall or partition. This support has a yoke 2 between the arms of which is pivotally mounted a base plate 3 having a central opening to accommodate the neck 4 of the motor 6, said base plate being secured to the yoke by screws 7 after the manner contemplated by my before noted patent. In the present instance I have shown the base plate as having a depending extension 7^a with which a locking screw 8 is designed to engage for holding the base and motor in different positions relatively to the sup-

port. When the support is secured to a wall the motor and its base are turned at right angles to the positions which they normally occupy relatively to the support when the latter rests on a desk or table, but the motor may be with equal facility tilted and held at any desired angle intermediate the two extremes of movement. The plane of oscillation of the motor on the base is at right-angles to the plane of adjustment of the latter.

For the purpose of oscillating the motor, regardless of its position relatively to the support, I contemplate utilizing the motion of the armature shaft of the motor. The means shown comprises a lever 10 which is secured by a screw 12 to a boss of the motor casing and one arm is carried downwardly and bent rearwardly beneath the base, and at its rear end is provided with an open-end slot 13 which takes in a lug or screw 14 depending from such base. The forward end of the short arm of lever 10 is connected by a link 15 to the outer end of a crank 16 of a shaft 17 mounted at right angles to the armature shaft by which it is driven through intermediate reducing gearing. For this purpose I have shown the armature shaft provided with a worm 18 in mesh with a pinion 19 on a shaft 20 which carries a second but smaller pinion 21 which in turn meshes with a larger pinion 22 on shaft 17. This gearing is inclosed in casings forming part of or attached to the motor casing. The crank shaft is located in the same vertical plane as the armature shaft of the motor; the lever 10 is fulcrumed in the same plane, and the sliding engagement of its slotted end with the stop formed by lug 14 is likewise in the same plane. Thus the entire device is made compact and free from projecting parts which are unsightly and require additional room in the use of a fan. The rotation of the armature shaft is thus communicated at a reduced speed to the crank shaft, and the turning of the latter, through the connection of link 15 with lever 10, and the action of the lever against the stop formed by lug 14, effect the gradual oscillation of the motor. By thus transmitting the motion of the armature shaft to the motor the latter may be moved back and forth on its base regardless of the angle at which the motor is located relatively to its support. This is rendered possible by reason of the fact that

the motor is itself capable of being turned on an axis at right angles to the axis of the pivoted base.

Although I have shown the reducing gearing at the front of the motor, it is obvious that it may, if desired, be located at the rear thereof. In fact, it is immaterial, from certain view points, how the power is transmitted from the armature shaft to effect the oscillation of the motor, since various means may be employed for this purpose.

I claim as my invention:—

1. In combination, a support, a base pivotally mounted on said support, means for holding said base in different positions relatively to said support, a motor rotatably mounted on said base so as to be capable of movement in a plane at right angles to the plane of adjustment of such base, means for oscillating said motor relatively to said base comprising a crank shaft, a lever fulcrumed on the motor and extended beneath said base, a stud extended from the base with which said lever has a sliding engagement, and means for actuating said crank shaft.

2. In combination, a support, a base pivotally mounted on said support, means for holding said base in different positions relatively to said support, a motor rotatably mounted on said base so as to be capable of movement in a plane at right angles to the plane of adjustment of such base, means for oscillating said motor relatively to said base comprising a crank shaft located in the same vertical plane as the armature shaft of the motor, a lever fulcrumed on the motor in the same vertical plane as the crank shaft and the armature shaft, said lever being extended beneath said base and having a sliding connection therewith at a point in the same vertical plane as the armature shaft, and means actuated by said armature shaft for rotating said crank shaft, which latter is connected to one arm of said lever.

3. In combination, a support, a base pivotally mounted on said support, means for holding said base in different positions relatively to said support, a motor rotatably mounted on said base so as to be capable of movement in a plane at right angles to the plane of adjustment of such base, means for oscillating said motor relatively to said base

comprising a crank shaft at right angles to and on the same vertical plane with the armature shaft, reducing mechanism intermediate the two shafts actuated by the armature shaft, a lever fulcrumed on the motor in the same vertical plane as the crank shaft and extended beneath said base, a stop extending from the base in the same vertical plane as the fulcrum of the lever with which the latter has a sliding engagement, and a link connecting said lever to said crank shaft.

4. In combination, a support, a base pivotally mounted on said support, means for holding said base in different positions relatively to said support, a motor rotatably mounted on said base so as to be capable of movement in a plane at right angles to the plane of adjustment of such base, means for oscillating said motor relatively to said base comprising a crank shaft at right angles to the armature shaft, reducing mechanism intermediate the two shafts actuated by said armature shaft, a lever fulcrumed on said motor at one side of the base and in the same vertical plane as the armature shaft and having its long arm pivoted and extended downwardly and beneath said base and formed with a slot, a projection extending from said base through said slot, and a link connecting the other arm of said lever to said crank shaft.

5. The combination with a supporting base, of a motor mounted thereon, and means for oscillating the motor on said base, such means comprising a lever fulcrumed on the motor at one side of the base and on the same vertical plane as the armature shaft of the motor, the long arm of said lever being extended beneath said base and having a slot therein, a stop extending from the base in the same vertical plane as said armature shaft and with which the slotted portion of the lever has a sliding engagement, and means operated by the armature shaft for actuating the said lever.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

EVRAH C. LIPPS.

Witnesses:

GEO. B. SAWYER,
J. CARL HOFFMAN.