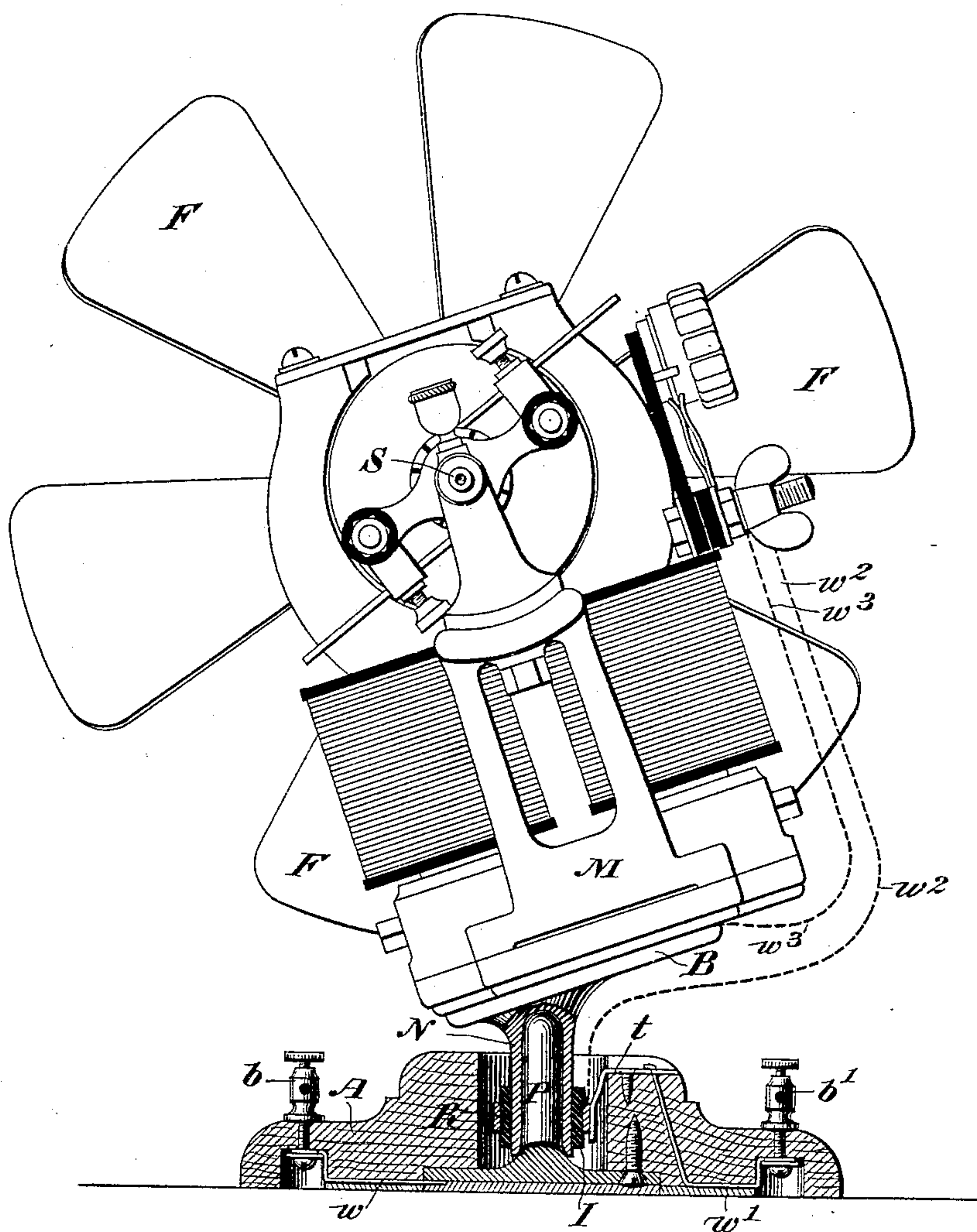


(No Model.)

F. B. CROCKER & S. S. WHEELER.  
ELECTRIC MOTOR.

No. 494,978.

Patented Apr. 4, 1893.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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PLACE.

## ELECTRIC MOTOR.

SPECIFICATION forming part of Letters Patent No. 494,978, dated April 4, 1893.

Application filed June 20, 1892. Serial No. 437,324. (No model.)

*To all whom it may concern:*

Be it known that we, FRANCIS B. CROCKER and SCHUYLER S. WHEELER, both citizens of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Electric Motors, of which the following is a specification.

Our invention is directed particularly to improvements in the application of electric motors to use in connection with rotary fans, and it will be fully understood by those skilled in the art to which it relates by referring to the accompanying drawing and to the following specification, the special features of novelty being particularly pointed out in the claims which follow.

The drawing is an elevational view of a well known form of electric motor having a fan attached to its armature shaft, the said motor being sustained upon an inclined base or support carried by a vertical pivot provided with electrical connections running to binding posts in a fixed base, said base, pivot and electrical connections being illustrated in section.

Referring to the drawing in detail: M represents the motor, S its armature shaft and F the rotary fan attached to the rear end thereof.

B is a metallic support having a hollow downwardly projecting neck N which constitutes the movable portion of a pivot adapted to revolve or rotate about a fixed vertical pivot pin P also of metal and secured to the bottom of a wooden or other nonconducting base A. This metallic pivot pin P is connected on one side by a conductor  $w$  with a binding post  $b$ .

I is an insulating ring carried near the base of the downwardly extending neck N, and supporting in turn a conducting ring R, this conducting ring and the inclined metallic support B being connected by conductors  $w^2 w^3$  shown in dotted lines with the binding posts of the motor.

$t$  is a yielding conducting spring or plate secured to the base A by one or more screws, its free end resting against the conducting ring R and its fixed end connected by a conductor  $w'$  with the other binding post  $b'$  secured to the base A.

It will be observed that the base or support B which sustains the motor is inclined at an angle and that the armature shaft S is eccentric to the pivot pin P. The motor M is secured to the inclined base or support B by screws or in any preferred manner, and preferably in such way that the center of gravity of the motor and its attached parts is substantially in a line with the axis of the fixed pivot P, while the armature shaft S is located to one side of the line.

The operation of the apparatus is as follows: The binding posts  $b b'$  being connected in any source of electrical supply not shown, the current passes by binding post  $b$ , conductor  $w$ , pivot P, inclined base or support B, conductor  $w^3$ , through the field magnets and armature of the motor back to the conducting ring R carried by, but insulated from the downwardly extending neck N, thence through the yielding conducting spring  $t$ , conductor  $w'$ , binding post  $b'$  back to the source of electrical supply. As the motor is set in operation therefore the eccentric location of the armature shaft S causes it under the reactive influence of the fan F upon the air to rotate around the point of support. There results therefore as the motor and fan continuously rotate a series of successive puffs of air about the room in planes parallel with the armature shaft S.

When it is desired to detach the motor one has simply to lift it and its inclined supporting base upward from its socket support, thus affording a cheap, simple and efficient connection for such a type of fan motor.

We are aware of patent granted to William R. Polk, Jr., No. 421,014, on the 11th of February, 1890, and make no claims hereinafter broad enough to include such a structure. Our invention is directed to a specific improvement upon the invention disclosed in said patent to Polk. In the aforesaid patent the entire motor and its attached parts are sustained at one side of a vertical or upright shaft and upon a horizontal arm thereby giving to the apparatus an unstable equilibrium, while with our structure by simply tilting the motor and its attached parts in the manner shown and supporting them upon an inclined base or socket, we are enabled to place the



center of gravity of the mass in substantial alignment with the axis of the pivot and at the same time so locate the armature shaft and its supported fan that the same rotary effect will take place as is had with the apparatus described in the aforesaid patent.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

10 1. An electric motor having a fan attached to its movable part the motor and its attached parts being sustained in an inclined position on a pivot support with electrical connections whereby the motor and fan are carried about  
15 the point of support substantially as described.

2. An electric motor sustained on an inclined base pivotally supported and having a fan attached to its armature shaft whereby  
20 the motor and its attached parts rotate around the pivotal support when the fan is set in motion substantially as described.

3. An electric motor having a fan attached to its armature shaft supported by a pivotal  
25 bearing the center of gravity of the mass being substantially in alignment with the pivot axis while the armature shaft and fan are eccentric thereto, substantially as described.

4. An electric motor supported by an in-

clined pivotal bearing or support, the mass of  
30 the motor and its attached parts being so located upon the support that its center of gravity is in substantial alignment with the axis of the pivot while the armature shaft is eccentrically located with relation to the same part  
35 and supports or sustains a rotary fan substantially as described.

5. A nonconducting base provided with a socket and a conducting pivot pin in combination with an electric motor an inclined base  
40 or support for the motor and electrical connections with binding posts carried by the base substantially as described.

6. An electric motor having a fan attached to its rotary part; an inclined base or support  
45 for the motor provided with detachable socket connections and an insulating base substantially as described.

7. An insulating base having circuit connections running to a pivotal socket one part  
50 of which is inclined and supports a rotatable electric motor, substantially as described.

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Witnesses:

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