(No Model.)

W. K. FREEMAN.

COMMUTATOR BRUSH HOLDER.

No. 264,271. Patented Sept. 12, 1882.

Fig. 1.

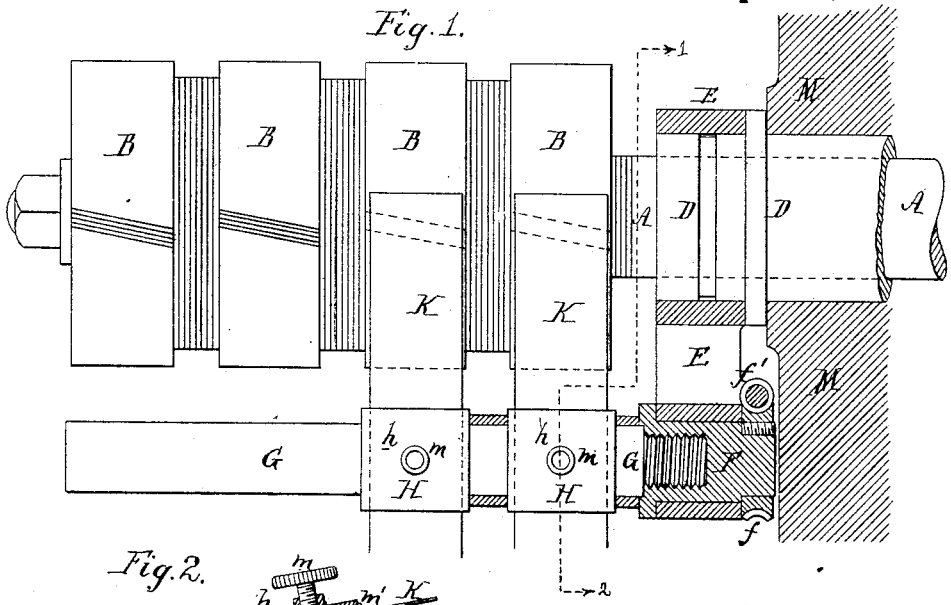


Fig. 2.

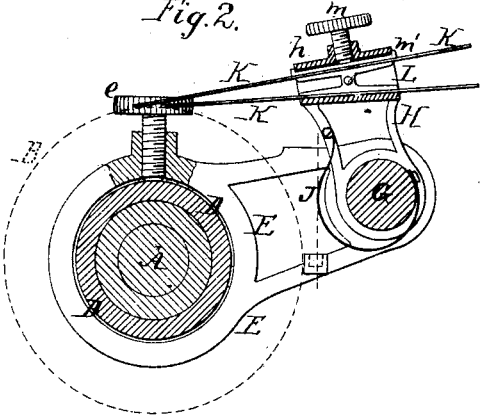


Fig. 3.

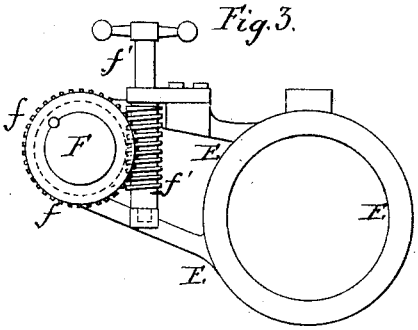


Fig. 4.

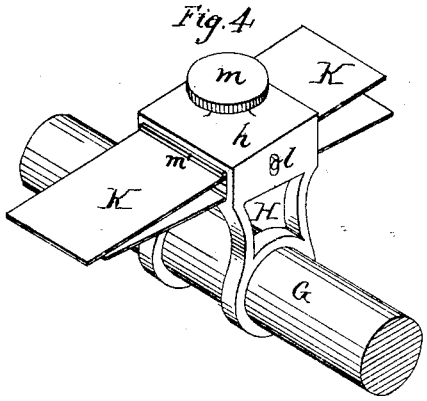
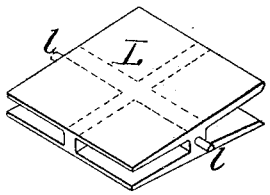


Fig. 5.



Witnesses:—
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UNITED STATES PATENT OFFICE.

WALTER K. FREEMAN, OF BROOKLYN, NEW YORK, ASSIGNOR TO W. F. JOBBINS, OF EAST ORANGE, NEW JERSEY.

COMMUTATOR-BRUSH HOLDER.

SPECIFICATION forming part of Letters Patent No. 264,271, dated September 12, 1882.

Application filed June 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, WALTER K. FREEMAN, a citizen of the United States, and a resident of Brooklyn, New York, have invented certain Improvements in Commutator-Brush Holders, of which the following is a specification.

My invention consists of certain improvements in the construction of the brush-holding devices for the commutators of dynamo-electric machines or electric motors, as more fully described hereinafter.

In the accompanying drawings, Figure 1 is a plan view, partly in section, of the commutator-wheels of a dynamo-electric machine or electric motor with my improved brush-holders and two brushes in position; Fig. 2, a section on the line 1 2, Fig. 1; Fig. 3, a side view of the bracket and adjusting devices; Fig. 4, a perspective view of one of the brush-holders, and Fig. 5 a detached perspective view of the securing-wedge for the brushes.

Referring to Fig. 1, A is the shaft, on which are mounted the insulated commutator-wheels B B—four in the present instance—whose metallic segments are connected to the terminal wires of the armature-coils in any convenient way. This shaft A passes through a sleeve, D, fixed to the frame M of the machine, and on this sleeve is mounted a bracket, E, by means of a set-screw, *e*, so that it may be adjusted on the sleeve to any desired angle, Fig. 2. In the end of this bracket is formed a cylindrical bearing for the reception of the shouldered socket F, into which is screwed the end of the arm G, preferably of wood, Fig. 2. To the end of this socket, projecting through the bearing, is secured a worm-wheel, *f*, into which gears a worm on a handled rod, *f'*, having its bearings in the bracket E.

On the rod G are mounted at intervals corresponding with the commutator-wheels the brush-holders H, (two only being illustrated in position in Fig. 1.) These brush-holders are separated from each other by washers, but are free to turn on the arm, being connected thereto by a bent spring, J, Fig. 2, which at one end is secured to the arm, and at the other bears on the holder, so as to press the brushes K onto the peripheries of the wheels, as indicated by dotted lines in Fig. 2.

In the upper part of the holder is formed a wedge-shaped socket, *h*, in which is loosely fitted a wedge, L, having pins *l*, adapted to slots in the vertical side walls of the socket, so that after the wedge and pins have once been put in place they are retained in the socket, while allowing a limited play of the wedge therein. Above the wedge is a key-plate, *m'*, on which bears the retaining-screw *m*. The two brushes are inserted through the socket on opposite sides of the wedge to the proper positions to bear on the peripheries of the wheels, and are then secured by turning down the screw *m*.

I claim as my invention—

1. The combination of commutator-wheels and frame and a bracket, E, and devices for adjusting it to different angles on the frame with an arm carrying brush-holder, and adapted to a bearing in the bracket, and worm and worm-wheel, substantially as described, for turning the arm in its bearing in the bracket.

2. The combination of commutator-brushes with a brush-holder having a wedge-shaped socket, an intermediate wedge, key, and screw.

3. A commutator-brush holder having a wedge-shaped socket and devices, substantially as set forth, for retaining the wedge in the socket, while allowing it a limited play therein.

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

WALTER K. FREEMAN.

Witnesses:
JOHN H. KATTENSTROTH,
HUBERT HOWSON.