H. C. GRANT.

BRUSH HOLDER FOR MOTORS.

APPLICATION FILED JAN. 22, 1908.

931,415. Patented Aug. 17, 1909.

Fig. 1

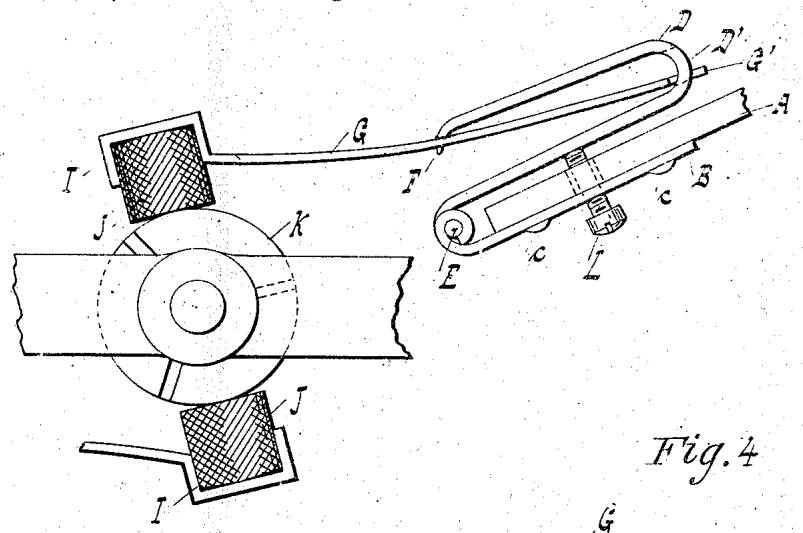


Fig. 4

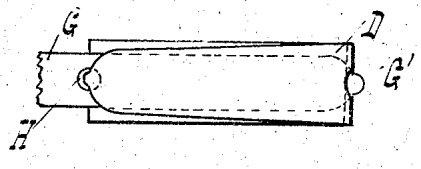


Fig. 2

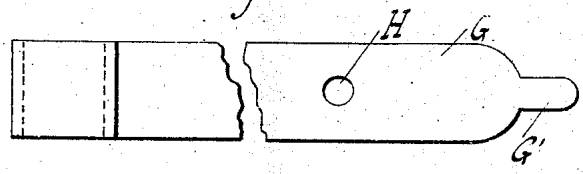
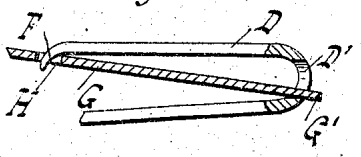


Fig. 3



Witnesses:
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L. M. van Haaften

Inventor
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By his Attorney
Frank [illegible] Ashley

UNITED STATES PATENT OFFICE.

HARRY C. GRANT, OF BAYONNE, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE LIONELL MANUFACTURING COMPANY, A CORPORATION OF CONNECTICUT.

BRUSH-HOLDER FOR MOTORS.

No. 931,415. Specification of Letters Patent. Patented Aug. 17, 1909.

Application filed January 22, 1908. Serial No. 412,052.

To all whom it may concern:

Be it known that I, HARRY C. GRANT, a citizen of the United States, and resident of Bayonne, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Brush-Holders for Motors, of which the following is a specification.

This invention relates to brush holders for dynamos and motors and a prominent object is to provide a holder of simple construction in which the brush holding member may be quickly connected and disconnected and which holds the brush in contact with a commutator and automatically adjusts itself with respect to the commutator surface.

A further object of the invention is to provide a construction in which the parts are stamped from sheet metal and in which the spring of the metal is utilized in holding the brush against the commutator.

In the accompanying drawings forming part of this specification,—Figure 1, is a side view of my novel device disposed in operative relation with a commutator. Fig. 2, is a plan view of the brush holding member, a portion thereof being broken away. Fig. 3, is a side view of a portion of the device with parts in section. Fig. 4, is a plan view of a part of the device illustrating the bearing portions and provision made for the rocking movement of the brush holding member.

A, indicates a portion of a metal strip assumed to be fastened to the frame of a motor and to which strip is connected a metal plate B, by rivets C, C, or other suitable means, and connected to the plate B, by a hinge E, is a curved member D, or if preferred, a spring presented at the point of connection by using spring metal may be utilized in place of the two part hinge, in which case, the members D and B will be integral. The bend of the member D, contains an opening D', and said member at its end terminates in a short projection F, of reduced dimensions, and is curved downward as shown. A brush holding member G, formed preferably of spring sheet metal, is provided at one end with a short projection G'; and at an intermediate point contains a hole H, and the brush carrying end of said member is preferably shaped by bending to form a rectangular socket I, in which is held a brush J, of copper gauze convolutely arranged. A carbon brush may be used if preferred. The brush J, rests on the commutator K. The projection G', on the member G, bears on the edge at the bottom of the opening D', and the point F, projects through the hole H, as illustrated, in such a manner that the member G, is supported on a line and can rock laterally on points F and G', so that if the commutator K, is cone-shaped the brush J, would readily adapt itself to the commutator surface, the member G, turning on the narrow points of support. Said member holds the brush J, to the commutator K, with a certain pressure due to the spring in member G, or if this member is made rigid by turning a screw L, which is threaded in the member B, and bears against the under side of the member D, thus forcing the latter upward and consequently forcibly pressing the brush J against the commutator.

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

1. A brush holder comprising a brush holding member containing a hole and one end having a projection, a second member containing an opening in which the projection of the first named member rests, and a point which enters the hole in said first member, the arrangement supporting the first member in rocking engagement.

2. A brush holder comprising a yoke-shaped member yieldingly supported at one end, containing an opening at its bend and having a reduced portion, a second member provided with a brush holding socket, containing an intermediately located hole in which the reduced portion is engaged, and an end projection bearing in the bend opening, and means for varying the pressure exerted by the yoke member on the second member.

3. A brush-holder comprising a yoke-shaped member of spring sheet metal, and a brush holding member also of sheet metal and engaged with the yoke member, the engagement permitting a rocking of the brush holding member relative to said yoke member.

Signed at New York city in the county of New York and State of New York this 18th day of November A. D. 1907.

HARRY C. GRANT.

Witnesses:
WM. PAXTON,
A. J. SCHARPS.

Correction in Letters Patent No. 931,415.

It is hereby certified that the name of the assignee in Letters Patent No. 931,415, granted August 17, 1909, upon the application of Harry C. Grant, of Bayonne, New Jersey, for an improvement in "Brush-Holders for Motors," was erroneously written and printed "The Lionell Manufacturing Company" whereas said name should have been written and printed *The Lionel Manufacturing Company;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 25th day of October, A. D., 1910.

[SEAL.]

E. B. MOORE,

Commissioner of Patents.