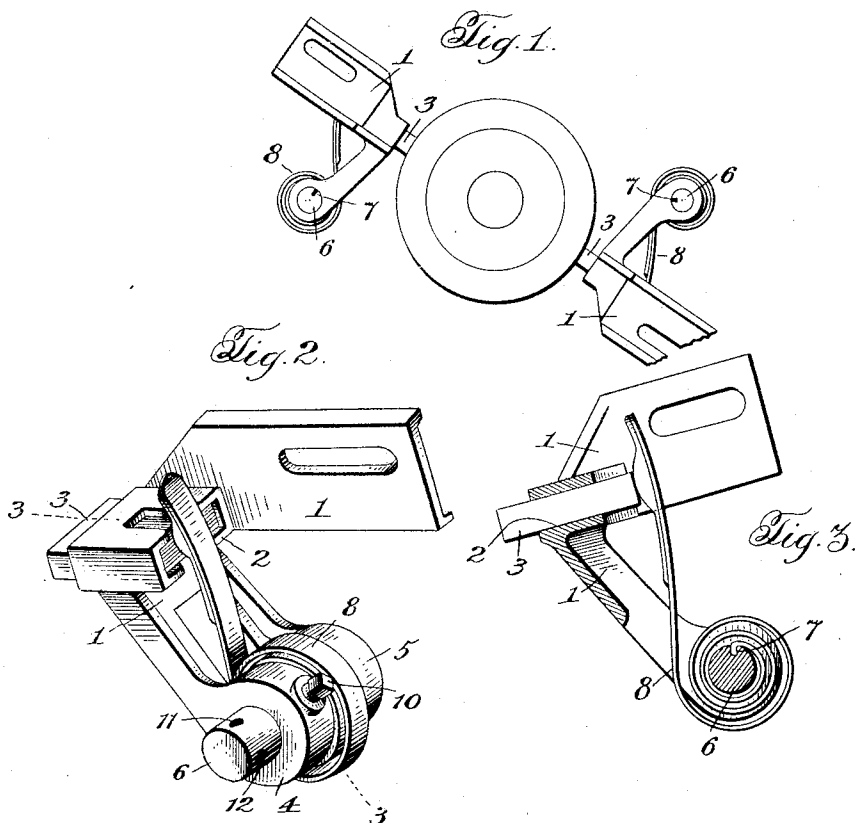


D. B. FLOWER.
BRUSH HOLDER.
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1,220,082.

Patented Mar. 20, 1917.



Witnesses
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UNITED STATES PATENT OFFICE.

DAVID B. FLOWER, OF GLENSIDE, PENNSYLVANIA.

BRUSH-HOLDER.

1,220,082.

Specification of Letters Patent.

Patented Mar. 20, 1917.

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To all whom it may concern:

Be it known that I, DAVID B. FLOWER, citizen of the United States, residing at Glenside, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Brush-Holders, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to brush holders for electrical machines such as direct current motors and generators, and particularly to that type employed in connection with street railway service, the invention being a division of an application filed by me under date of January 29, 1910, the same having issued as Patent No. 1101917, dated June 30, 1914.

The object of this invention is to provide a brush holder of simple construction, very efficient in point of service, and comprising a small number of parts, which parts may be readily adjusted in proper relation one to the other for effectually performing the functions for which they are intended. To this end the structure embodies a brush holder having a resilient member secured at one end to a stud rotatably mounted upon a suitable support, and adapted to bear with its other end upon the brush, said stud capable of being rotated within its bearings for adjusting the tension of the resilient member, suitable improved means, which form the principal feature of this invention, being also provided for holding said stud in any of its adjusted positions.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the drawings:—

Figure 1 is an end view of a portion of a motor having brush holders constructed according to my invention;

Fig. 2 is a perspective view of the brush holder detached from the electric machine and showing the parts in assembled relation;

Fig. 3 is a vertical section of the same taken on the line 3—3 of Fig. 2.

Referring to the drawings, it is to be noted that the brush holder comprises a bracket 1 provided with a guideway 2 to re-

ceive the brush 3, and also having bearings 4 and 5 to receive a stud 6. The stud 6 is recessed at a point indicated at 7 to receive and support the resilient member 8, one end of which is forced into the recess as clearly shown in Fig. 3. This resilient member 8 is coiled about the stud 6 and bears with its free end against the brush 3, and in this relation, the tension of the resilient member may be varied to obtain any desired pressure against said brush, the same being accomplished by tightening the coiled part of said member by my improved adjusting means to be hereinafter more fully set forth.

As has heretofore been mentioned, the resilient member 8 may be adjusted to vary the tension thereof and the consequent pressure of the brush against the commutator, and this adjustment is brought about by means of the rotatable stud 6, which as the same is rotated within its bearings 4 and 5 in one direction serves to tighten the coiled part of said resilient member, and as will be obvious, allows said coiled part to unwind when the same is rotated in an opposite direction. Passing through bearing 4 is a set-screw 10, which coöperates with the outer surface of the stud and serves to hold and retain the same in adjusted position. Furthermore, the stud is transversely bored at the points 11 and 12 for the purpose of receiving a rod or tool of any desired description, by means of which the stud may be rotated within said bearings for adjusting the resilient member.

It will thus be seen that a very simple and efficient means is provided for adjusting the tension of the resilient member, and that a wide range of adjustment may be had. Furthermore, the parts may be easily disconnected and assembled, which is a particular advantage in the renewing of worn-out and broken parts.

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

1. In a brush holder, the combination of a support, a stud rotatably mounted on said support, a resilient member secured at one end to the stud and adapted to bear with its other end upon a brush, means for rotating the stud for adjusting the tension of the resilient member, and means carried by the support and adapted to coöperate with the stud at any point around the periphery

thereof for holding said stud in any desired position of adjustment.

2. In a brush holder, the combination of a support, a stud rotatable in bearings on said support, a resilient member detachably secured at one end to the stud and adapted to bear with its other end upon the brush, means for rotating the stud to adjust the tension of the resilient member, and a set screw passing through the bearing for the stud and adapted to cooperate with the stud at any point around the periphery thereof for holding said stud in any desired position of adjustment.

3. In a brush holder, the combination of a support, a stud rotatably mounted in bearings on said support, a resilient member detachably secured at one end to the stud and

adapted to bear with its other end upon the brush, said stud having an extension beyond the sides of the bearings which extension is provided with a transverse bore for receiving a tool for the purpose of rotating the stud to adjust the tension of the resilient member, and a set-screw passing through the bearing for the stud and adapted to cooperate with said stud at any point around the periphery thereof for holding the stud in adjusted position.

In testimony whereof I have affixed my signature in presence of two witnesses.

DAVID B. FLOWER.

Witnesses:

HARRY RENNINGER,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."