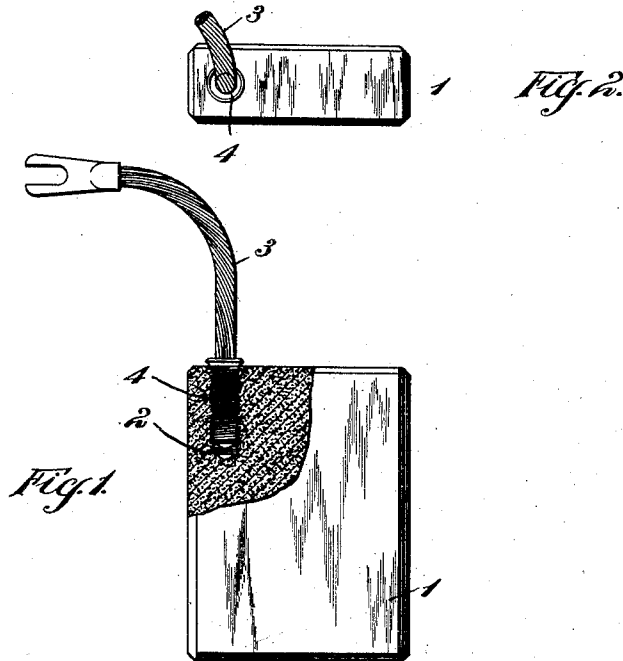
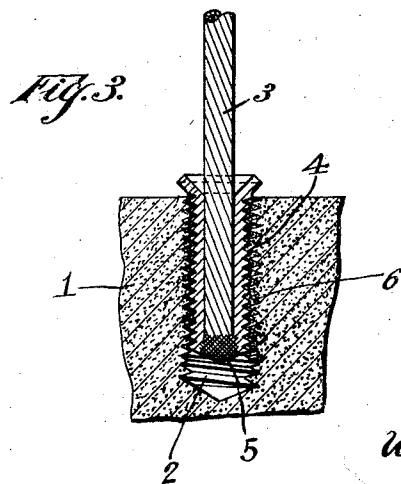


W. S. CLICK.
COMMUTATOR BRUSH.
APPLICATION FILED OCT. 29, 1920.

1,425,632.

Patented Aug. 15, 1922.



WITNESSES:

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COMMUTATOR BRUSH.

1,425,632.

Specification of Letters Patent. Patented Aug. 15, 1922.

Application filed October 29, 1920. Serial No. 420,538.

To all whom it may concern:

Be it known that I, WILLIAM S. CLICK, a citizen of the United States, and a resident of Turtle Creek, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Commutator Brushes, of which the following is a specification.

My invention relates to commutator brushes and it has particular relation to conductor or shunt attachments therefor.

One of the objects of my invention is to provide means whereby a conductor may be quickly and easily secured to a carbon commutator brush without necessarily employing solder, bolts, amalgam or the like.

Another object of my invention is to provide means for attaching a conductor to a brush that will insure proper electrical contact therebetween under all normal conditions.

Briefly stated, my invention consists in providing a carbon brush with a screw threaded aperture adapted to receive and retain a correspondingly screw threaded sleeve member. One end of a conductor or shunt is inserted within the screw threaded sleeve and spot-welded thereto.

Heretofore, in devices of this general character, it has been customary to employ various types of fastening means for this purpose, such as solid rivets, screws, bolts, solder, amalgam and the like, some of which materially added to the expense of manufacture. It has been observed, that, when solid rivets were employed for this purpose, great care was necessary in upsetting or riveting the ends thereof to avoid fracturing or breaking the fragile carbon brush, and that solder, when utilized, melted when the brush, from any cause, became excessively heated.

It has been further observed that certain forms of amalgam, when employed as a fastening means, lost its electrical conductivity upon a rise in temperature. When such a condition arose, all of the current passed directly to the brush-box and resulted in pitting both the brush and the box and shortening the life of each.

By my invention, I provide means for

attaching a conductor to a carbon brush that will avoid the disadvantages heretofore encountered.

In accompanying drawings,

Fig. 1 is a view, partially in vertical longitudinal section and partially in side elevation, of a commutator brush embodying my invention.

Fig. 2 is a top plan view of the structure illustrated in Fig. 1.

Fig. 3 is a vertical sectional view, on an enlarged scale, of the screw threaded sleeve member illustrating a conductor spot-welded therein.

Referring to the drawings, 1 indicates a commutator brush, of any preferred composition or material. A substantially vertically disposed screw threaded aperture is drilled, molded, or otherwise suitably formed in the upper portion of the brush. The aperture 2 is preferably disposed adjacent to one side of the brush to permit of the unobstructed operation of the customary resilient brush finger, not shown.

One end of a conductor or shunt 3 is inserted within an exteriorly screw threaded sleeve 4 and is spot-welded thereto, at its lower extremity, as is indicated at 5. The sleeve is then tightly screwed into the aperture 2.

A powdered material 6 having a relatively high coefficient of electrical conductivity may be so inserted within the aperture 2 and around the threaded portion of the sleeve 4 as to effect a proper electrical contact between the sleeve and the brush.

I claim as my invention:

1. A commutator brush having an aperture therein, a conductor disposed within said aperture, means for retaining said conductor in said aperture, and a powdered material having a relatively high coefficient of electrical conductivity disposed intermediate said retaining means and said brush.

2. A commutator brush having a screw-threaded aperture formed therein, an exteriorly screw threaded tubular member disposed within said aperture, and a conductor having one end thereof disposed within said tubular member and welded thereto at its lower extremity, and a conducting ma-

terial disposed between said tubular member and said brush to fill the interstices therebetween.

3. A commutator brush having an aperture therein, a fastening member disposed within said aperture, a conductor secured to said fastening member, and a powdered

material having a relatively high coefficient of electrical conductivity disposed intermediate said fastening member and said brush. 10

In testimony whereof, I have hereunto subscribed my name this 25th day of October 1920.

WILLIAM S. CLICK.