No. 856,429. PATENTED JUNE 11, 1907.

R. SIEGFRIED.

COMMUTATOR BRUSH.

APPLICATION FILED JAN. 3, 1906.

Fig. 1.

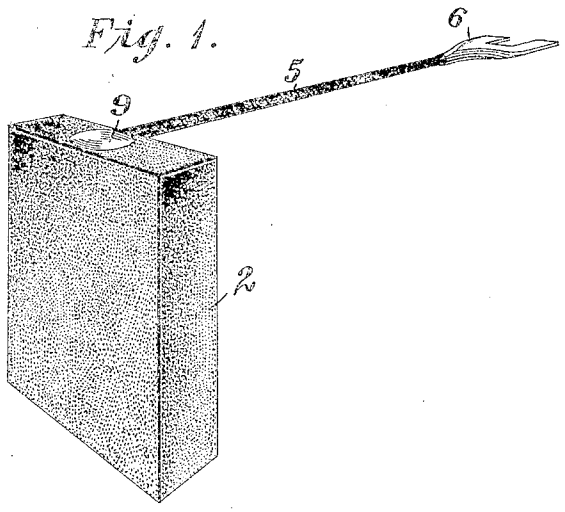


Fig. 2.

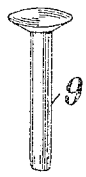


Fig. 3.

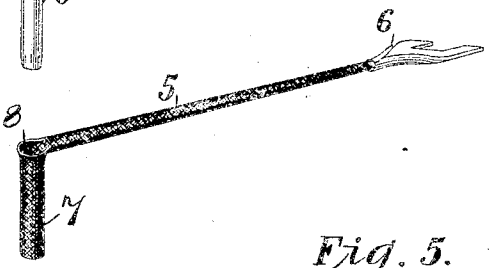


Fig. 4.

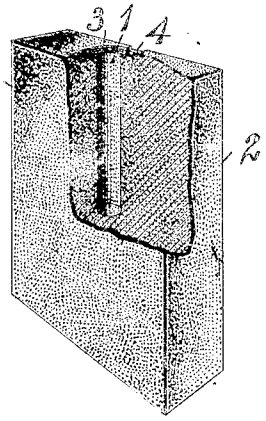
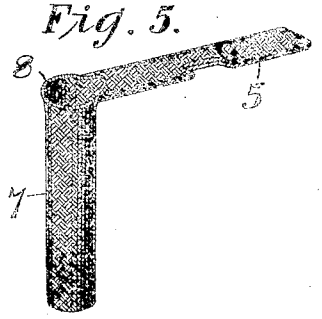


Fig. 5.



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ROBERT SIEGFRIED, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

COMMUTATOR-BRUSH.

No. 856,429. Specification of Letters Patent. Patented June 11, 1907.

Application filed January 3, 1905. Serial No. 239,537.

To all whom it may concern:

Be it known that I, ROBERT SIEGFRIED, a citizen of the United States, and a resident of Pittsburg, in the county of Allegheny and 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 carbon commutator brushes for electrical machines, and its object is to provide improved means for connecting flexible metal conductors to such brushes.

My invention is illustrated in the accompanying drawing, in which

Figure 1 is a perspective view of a brush with its shunt connection made in accordance with my invention. Figs. 2, 3 and 4 are views, in perspective, respectively of a pin, a shunt conductor and a brush which illustrate the structural details of my invention, a portion of the brush of Fig. 4 being broken away for the sake of clearness of illustration. Fig. 5 is an enlarged, detail view of one end of the shunt conductor shown in Fig. 3.

A hole 1 is bored into one end of a brush 2, the upper portion of the hole being countersunk, as shown at 3, and notched, as shown at 4. Conducting shunt 5 comprises a double web that is woven from wires or strands and a clip 6 which is soldered or otherwise secured to the free end of the shunt, by means of which connection may be made to other conducting portions of a brush holder, (not shown). The other end 7 of the conducting shunt 5 is distended to tubular form and is bent approximately at right-angles to the main, flattened portion and inserted into the hole 1 in the brush 2. The strands on the one side of the tubular portion of the shunt 5 are spread at 8 and a pin 9 is inserted and forced into the distended end 7, thereby causing good electrical contact between the brush 1 and the conducting shunt, owing to the pressure exerted by the pin 9. The head of the pin 9 occupies the countersunk portion 3 of the end of the carbon and the flattened portion of the conducting shunt projects through the notch 4.

The construction shown and described insures a good electrical connection between the shunt conductor and the top of the carbon brush and one that is readily and inexpensively made in such manner as to economize space and insure a desired relation of the parts.

I claim as my invention:

1. The combination with a brush or terminal which is provided with a hole, of a double-web conducting cable having one end inserted into said hole and a pin which pierces one side of the cable and is forced into said hole so as to distend the end of the cable.

2. The combination with a brush which is provided with a hole, of a flattened, double-web conducting cable having one end inserted into said hole, and a pin which pierces one side of the cable and forces the cable into close contact with the walls of the hole.

3. A carbon brush having a cylindrical hole in its outer end and a double-web, woven conductor, one end of which projects into said hole at an angle to its body portion, and a pin that projects into the bent end of the woven conductor to clamp it in position.

4. A carbon brush having a cylindrical hole in its outer end and a double-web, woven conductor, one end of which is inserted in said hole, and a pin that is driven into the hole through one side of the web and through the interior of the portion that is beyond the point of insertion.

5. A carbon brush having a hole in its outer end and a double-web, flexible conductor, one end of which projects into said hole at an angle to its body portion, and a pin that projects through one side of the web adjacent to the end of the brush and distends the web within the hole.

6. A contact member having a cavity formed therein, a double-web, flexible conductor, one end of which is inserted into said cavity and a wedge that projects through one side of the flexible conductor into the cavity and forces the conductor into close contact with the walls thereof.

In testimony whereof, I have hereunto subscribed my name this 30th day of December, 1904.

ROBERT SIEGFRIED.

Witnesses:

OTTO S. SCHAIRER,

BIRNEY HINES.