

F. W. GARRETT.
COMMUTATOR BRUSH.
APPLICATION FILED JAN. 3, 1906.

930,067.

Patented Aug. 3, 1909.

Fig. 1.

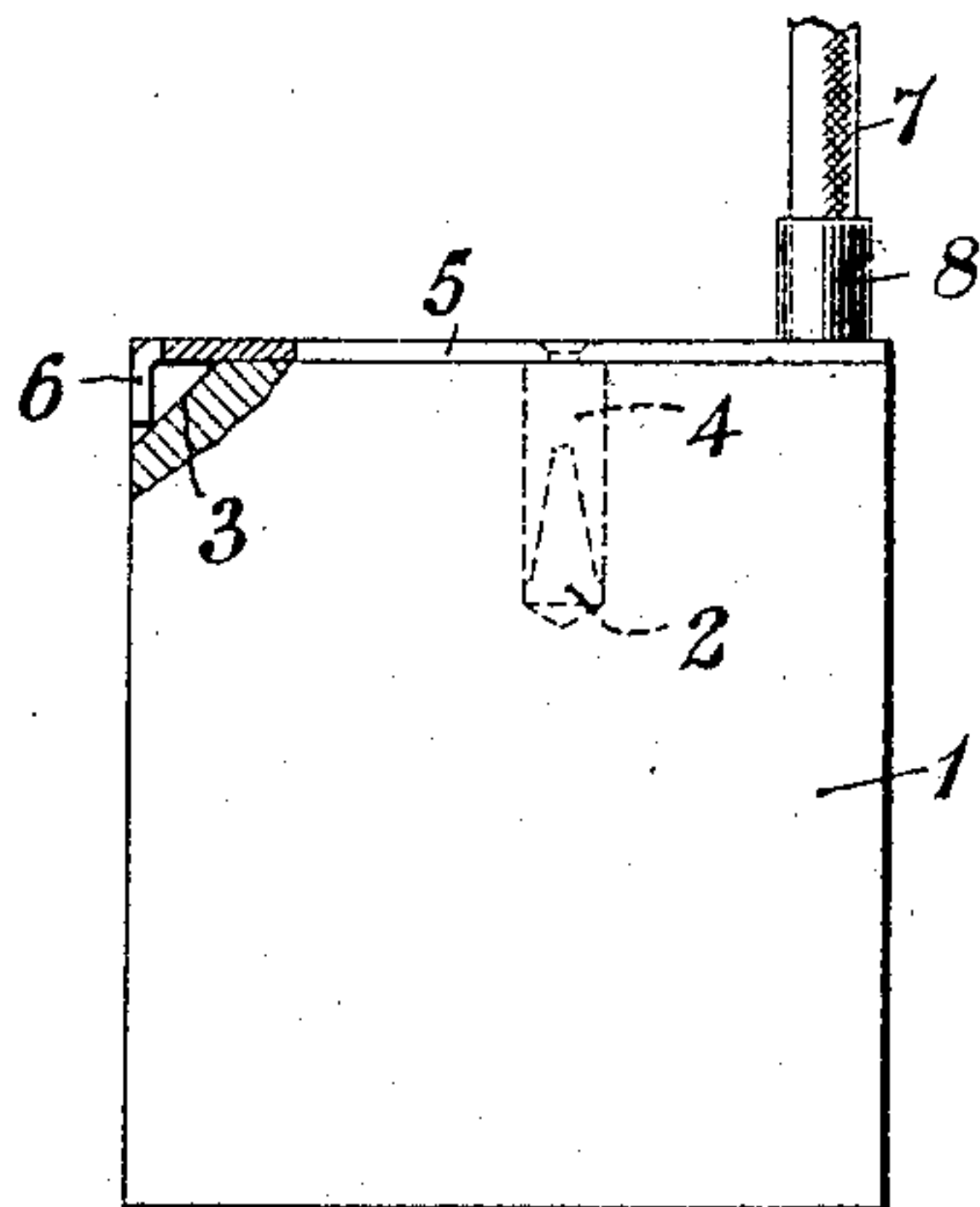


Fig. 2.

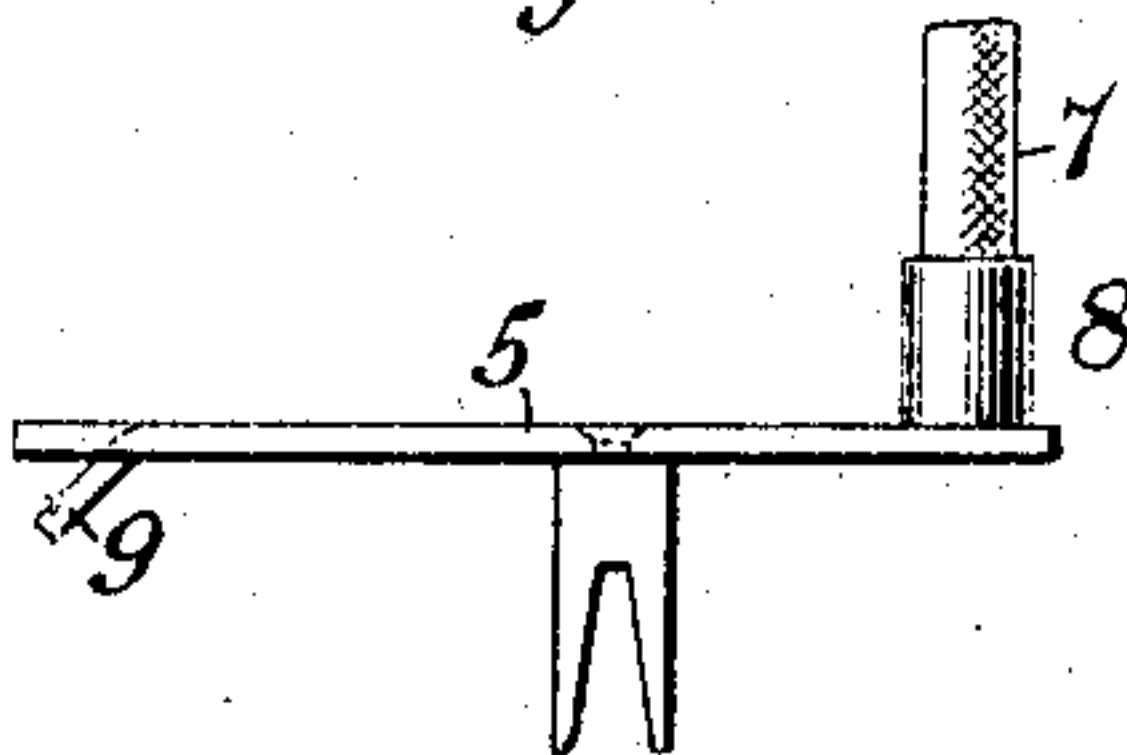
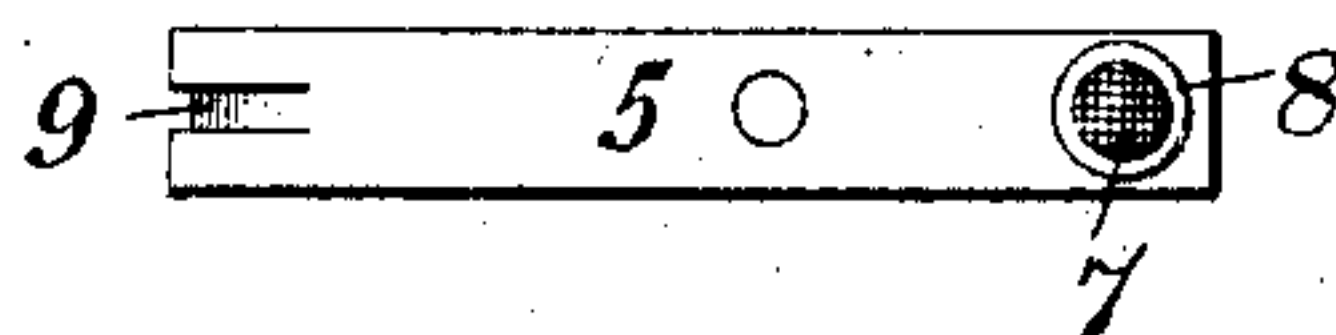


Fig. 3.



WITNESSES:

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COMMUTATOR-BRUSH.

No. 930,067.

Specification of Letters Patent.

Patented Aug. 3, 1909

Application filed January 3, 1906. Serial No. 294,420.

To all whom it may concern:

Be it known that I, FRANK W. GARRETT, a citizen of the United States, and a resident of Pittsburg, 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 for dynamo-electric machines, and it has for its object to provide novel and improved means for securing flexible conductors thereto.

My invention is especially applicable to alternating current motors of the commutator type and to other dynamo-electric machines in which thin carbon brushes are essential to the most successful operation.

It has been proposed to provide two or more cavities in the outer end of a commutator brush to receive split pins or other resilient wedges that project from the inner face of a cap plate to which a flexible conductor is connected. With such a structure, unless the cavities and the pins are spaced equal distances apart and are parallel, it is difficult to apply the cap plate and to make the parts interchangeable, and the object of my invention is to so improve the structure as to obviate these difficulties.

Figure 1 of the accompanying drawing is a side view of a commutator brush embodying my invention and Figs. 2 and 3 are views of a modification of a portion of the structure shown in Fig. 1.

The outer end of a commutator brush 1 formed of carbon or other suitable material is provided with a cavity 2 and one of its outer corners is provided with an inclined slot or saw-cut 3. A split pin 4 or other suitable resilient wedge that is riveted or otherwise secured to a plate 5 projects into the cavity 2 and, by reason of the spreading of the prongs of the fork, makes good electrical connection with the cavity walls. In order to prevent rotation of the plate 5 upon the pin 4 as an axis, a narrow extension 6 at one end of the plate is bent downwardly into the slot 3. One end of a flexible conductor 7, whereby the brush may be connected to a holder (not shown), or to any other portion of an electrical circuit, is secured in the upper

end of a boss 8 that is riveted or otherwise attached to the plate 5.

Instead of providing the plate 5 with an extension such as that shown at 6 in Fig. 1, a portion 9 may be partially severed therefrom and bent downwardly into the slot 3, as shown in Figs. 2 and 3, or a suitable projection may be provided in any other manner.

It is obvious that with such a structure no difficulty will be experienced in applying the cap plates to the brushes, and it is to be understood that the plates may serve as wearing pieces for the ends of spring-pressed levers with which the brush holders are provided. Since no portion of the plate projects laterally beyond the side faces of the brush, the latter may be freely moved through the holder.

I claim as my invention:

1. The combination with a commutator brush having a cavity and a slot in its outer end, of a cap plate for the outer end of the brush only, said plate having a portion that projects into the slot and a resilient stud that projects into the cavity.

2. The combination with a commutator brush having a cavity and a slot in its outer end, of a cap plate the length and width of which correspond to the width and thickness of the brush, said plate having a portion that is bent inwardly into the slot and a resilient stud that projects into the cavity.

3. The combination with a commutator brush having an end cavity and a slot in one corner, of a cap plate having a portion that projects into the slot and a resilient stud that projects into the cavity.

4. A commutator member comprising a carbon block having a cavity in its outer end and an inclined slot or groove in one of its outer corners, a cap plate having its edges flush with the sides of the block and provided with a spring stud that projects into the cavity and with a bent portion seated in said slot or groove.

In testimony whereof, I have hereunto subscribed my name this 30th day of December, 1905.

FRANK W. GARRETT.

Witnesses:

M. MACLAREN,
BIRNEY HINES.