No. 686,162. Patented Nov. 5, 1901.

O. M. STIEGLER.

SOCKET CARBON BRUSH HOLDER.

(Application filed Mar. 15, 1901.)

(No Model.)

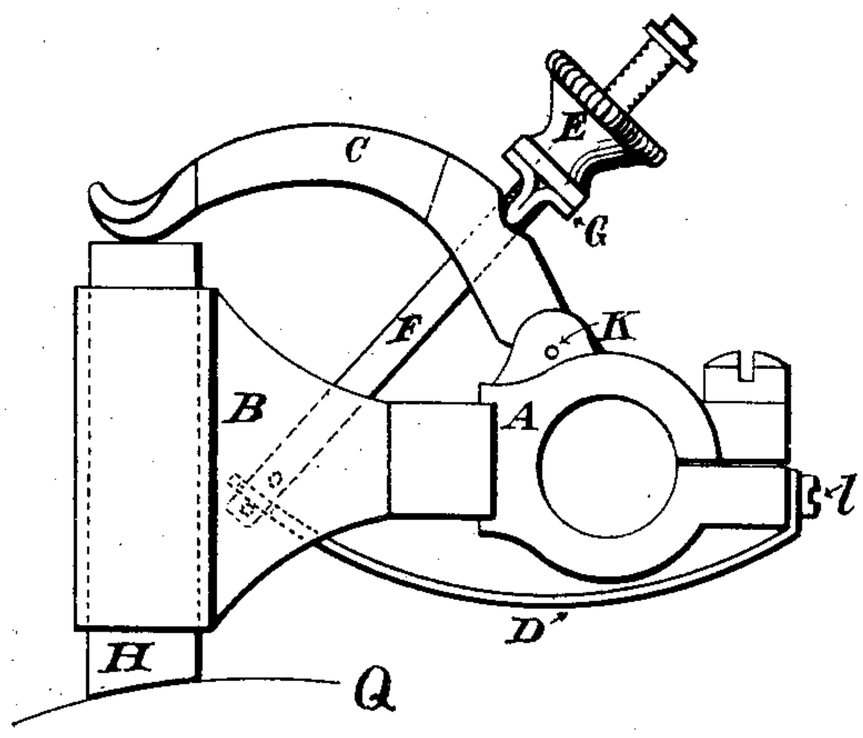

FIG. 1.

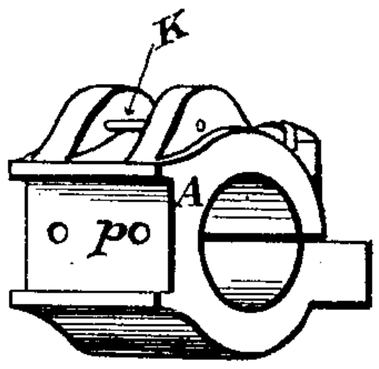

FIG. 4.

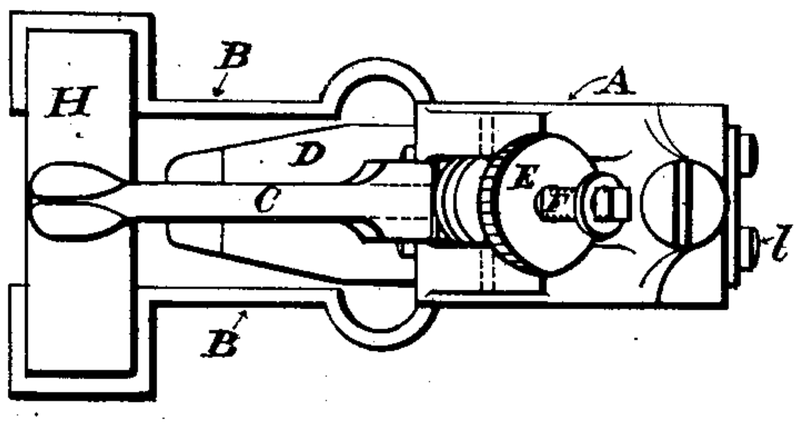

FIG. 2.

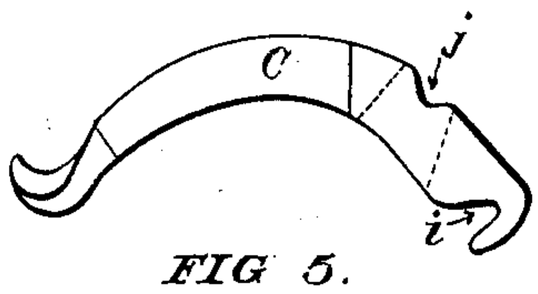

FIG 5.

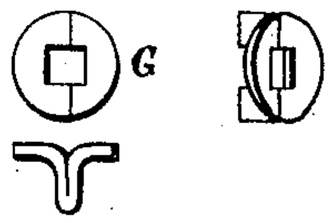

FIG. 6.

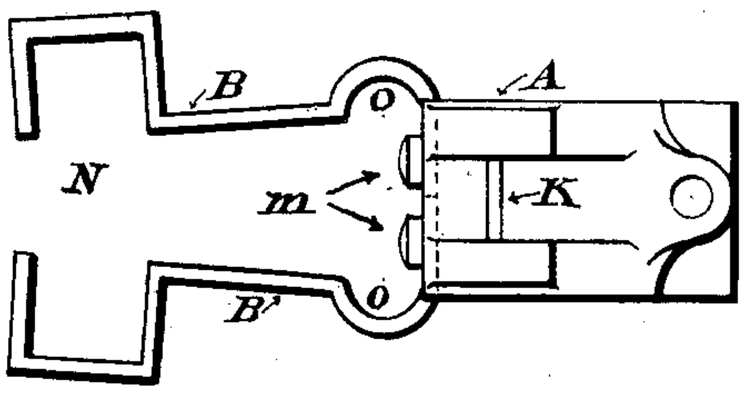

FIG. 3.

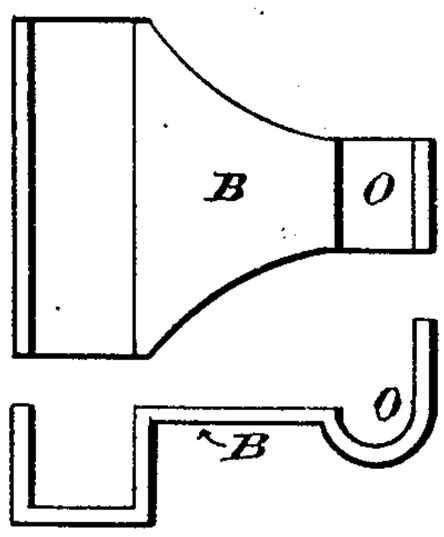

FIG. 7.

WITNESSES:

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OSCAR M. STIEGLER, OF BOSTON, MASSACHUSETTS.

SOCKET CARBON-BRUSH HOLDER.

SPECIFICATION forming part of Letters Patent No. 686,162, dated November 5, 1901.

Application filed March 15, 1901. Serial No. 51,255. (No model.)

To all whom it may concern:

Be it known that I, OSCAR M. STIEGLER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful improvements in socket carbon-brush holders used on electric dynamos and motors for the purpose of carrying the electric current, of which the following is a specification.

The objects of my invention are, first, to have sufficient contact between the carbon brush and the brush-holder without the separate connection as usually used for the purpose of contact in connection with other socket carbon-brush holders now in use; second, to be able to take the carbon brush from the brush-holder without moving the brush-holder from its position; third, to be able to adjust the brush-holder to the variations in width of carbon brushes. With these objects in view the construction of my invention consists of a metal casting, called the "head," two parts of sheet metal bent into shape so as to form an open socket, and a pressure-arm which can easily be removed from the pin in which it swings.

My invention consists also in certain details of construction, as will be more fully described, and pointed out in the claims, reference being had to the accompanying drawings.

Figure 1 is a side view of the entire socket carbon-brush holder. Fig. 2 is a top view. Fig. 3 is a top view of head A and the formed socket N, showing position of B B when the carbon brush is removed. Figs. 4, 5, 6, and 7 are detailed parts.

Referring to Fig. 1, A is the head—a metal casting. Parts B B are made of sheet metal bent into shape so as to form an open socket for the carbon brush H when attached to the head A by screws *m*, as shown in Figs. 2 and 3. Parts B B form a half-circle at point *o* for the purpose of creating a greater resiliency. Contact between the carbon brush H and the brush-holder is had by the constant pressure of B B upon the sides of the carbon brush H, each acting as a spring. C is the pressure-arm, by which the carbon brush H is pressed against the commutator, represented by circular line Q. The pressure-arm C is connected to spring D by tension-screw F. Spring D is attached to head A by screws *l*. E is the tension-nut, by which the pressure upon the carbon brush H is regulated. G is a washer, made of an oblong sheet-metal punching, with a rectangular oblong hole in the center bent into shape so as to form two elevated points on one side and a flat surface on the opposite side of the two points, leaving a square hole through the center. The two points rest in groove *j* in pressure-arm C and act as a fulcrum, while the flat surface acts as a washer for tension-nut E, as shown in Fig. 1.

Fig. 2 is a top view of the brush-holder, and shows position of B B to be rectangular when the carbon brush H is in position.

Fig. 3 shows position of B B when carbon brush H is removed.

Fig. 4 is a perspective view of head A, showing recess P, into which parts B B are screwed, thus forming the socket N, as shown in Fig. 3.

Fig. 5 is a side view of pressure-arm C. *i* shows the hook-shaped end, which hooks into pin K and is held in position by the pressure of spring D, as shown in Fig. 1. By unscrewing tension-nut E it can be removed from its position and allows the carbon brush H to be taken from the socket.

Fig. 6 represents detailed views of washer G.

Fig. 7 represents detailed views of B.

I am aware that prior to my invention socket carbon-brush holders have been made with a similar spring and pressure-arm acting upon the carbon brush in about the same manner. I therefore do not claim such a combination broadly; but

What I do claim, and desire to secure by Letters Patent, is—

1. In socket carbon-brush holders the combination of a cast head and two parts of sheet metal bent into shape so as to form an open socket for the carbon brush, when attached to said head, substantially as described.

2. In a device, the combination of a cast head and two parts of sheet metal bent into shape so as to form an adjustable socket, when attached to said head.

3. Washer G, an oblong-shaped sheet-metal punching with a rectangular oblong hole in the center, bent into shape so as to form two elevated points on one side and a flat surface on the opposite side of the two points, leaving a square hole through the center, as described and its purpose set forth.

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Witnesses:

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