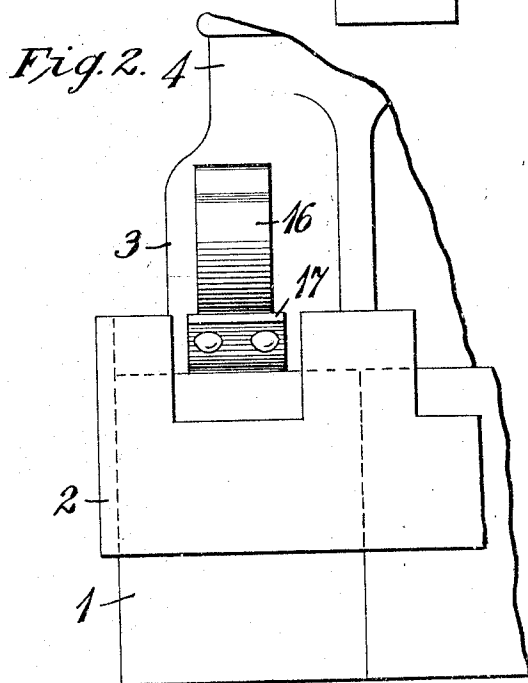
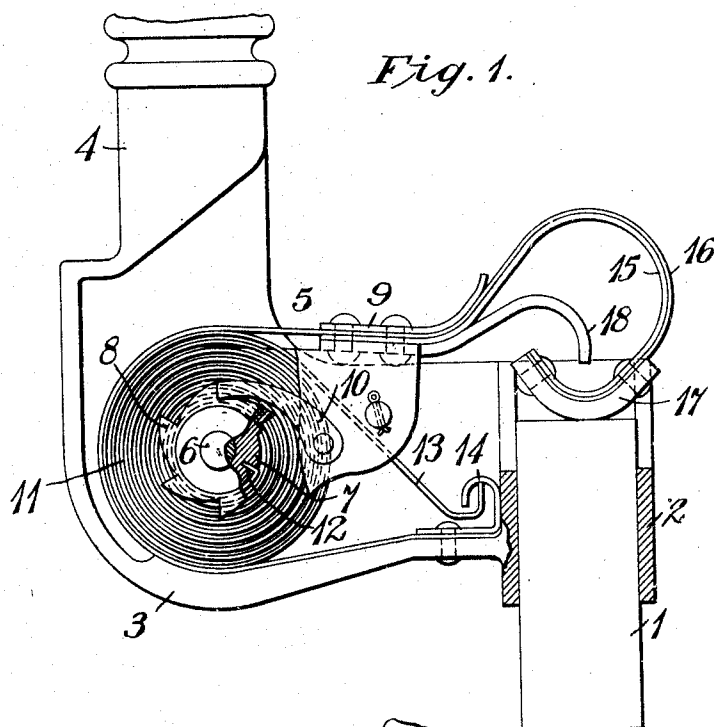


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BRUSH HOLDER FOR DYNAMO ELECTRIC MACHINES.
APPLICATION FILED MAY 4, 1908.

949,072.

Patented Feb. 15, 1910.



WITNESSES:

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WILLIAM T. HENSLEY, OF WILKINSBURG, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, OF EAST PITTSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

BRUSH-HOLDER FOR DYNAMO-ELECTRIC MACHINES.

949,072.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed May 4, 1908. Serial No. 430,789.

To all whom it may concern:

Be it known that I, WILLIAM T. HENSLEY, a citizen of the United States, and a resident of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Brush-Holders for Dynamo-Electric Machines, of which the following is a specification.

My invention relates to brush holders for dynamo-electric machines and it has for its object to provide an improved pressure mechanism and a brush-engaging finger therefor.

A well known type of brush holder comprises a box, a supporting arm therefor and a pressure mechanism comprising a brush-engaging finger and resilient means for pressing the extremity of the finger against the top of the carbon brush. On account of slight unavoidable irregularities in the outer surfaces of commutators, engaging contact brushes are preferably mounted so that they are free to adjust themselves in the box and to follow these irregularities.

According to my present invention, I provide an improved brush-engaging finger which produces the necessary pressure between the brush and the commutator surface and at the same time is so constructed that a considerable movement of the brush in its supporting box is permitted without necessitating any relative movement between the engaging end of the finger and the top of the brush. By this means, a freer movement of the brush is permitted since the opposing forces of friction, which usually exist, are avoided.

Figure 1 of the accompanying drawings is a side elevation, partially in section, of a brush holder constructed in accordance with my invention and Fig. 2 is an end elevation of a portion of the brush holder shown in Fig. 1.

Referring to the drawings, the device here illustrated comprises a carbon block or brush 1, a holder or box 2 in which the brush is movably mounted, a supporting arm 3 which is integral with the box 2 and is provided with a projection 4 by which it may be secured to the frame of a dynamo-electric machine and a pressure mechanism 5. The pressure mechanism comprises a shaft 6 which is attached to the arm 3, a sleeve 7 rotatably mounted on the shaft 6 and provided

with a ratchet wheel 8, a brush-engaging finger 9 rotatably mounted on the sleeve 7 and provided with a pawl 10 to engage the ratchet wheel 8. A spiral spring 11 is coiled around the sleeve 7, its inner extremity engaging a longitudinal groove 12 in the sleeve 7 and its outer extremity 13 being held stationary by engagement with a hooked projection 14 on the arm 3. The finger 9 is made up of two parts one of which is built up of a resilient spring 15 which is bent into an arc of relatively large radius, a flexible shunt 16 of copper or other good conducting material and a contact member 17 which engages the top of the brush 1 and is riveted or otherwise secured to the parts 15 and 16. The arrangement of parts is such that a material downward pressure is exerted by the resilient spring 15 upon the top of the brush 1 while, at the same time, the length of the arc in which the spring is bent is so great as to permit a material adjustment of the brush 1 in the box 2 without necessitating any relative movement between the contact member 17 and the top of the brush. The second part 18 of the finger 9 is comparatively rigid and is bent into an arc of relatively short radius within the arc formed by the spring 15. This rigid finger is intended for emergencies and acts in the ordinary manner against the top of the brush 1 in case the spring 15 is broken or bent out of shape.

It is to be understood that structural modifications may be effected within the spirit and scope of my invention.

I claim as my invention:

1. A brush-holder for dynamo-electric machines comprising a box in which a brush is movably mounted, a looped resilient brush-engaging finger, a substantially rigid emergency finger within the loop of the resilient finger and means for creating a pressure between the extremity of the brush-engaging finger and the outer end of the brush.

2. A brush-holder for dynamo-electric machines comprising a box, a carbon brush movably supported therein, a supporting arm integral with the box, a resilient brush-engaging finger bent into the form of an open ring or loop, a rigid finger projection within the loop of the resilient finger and a pressure mechanism for forcing the extremity of the resilient finger into engagement with the outer end of the brush.

3. A brush-holder for dynamo-electric machines comprising a box, a carbon brush movably supported therein, a supporting arm integral with the box, a resilient brush-engaging finger bent into the form of an open ring or loop, a rigid finger projection within the loop of the resilient finger and an adjustable pressure mechanism for forcing the extremity of the resilient finger into engagement with the outer end of the brush.

4. A brush-holder for dynamo-electric machines comprising a box, a carbon brush movably supported therein, a supporting arm integral with the box, a resilient brush-engaging finger bent into the form of an open ring or loop, a rigid finger projection within the loop of the resilient finger and a pressure mechanism for forcing the extremity of the resilient finger into engagement with the outer end of the brush, said mechanism comprising a shaft, a sleeve rotatable on the shaft, a spiral spring secured to the sleeve at one end and to the supporting arm

at the other end and adjustable means for connecting the inner ends of the fingers to the sleeve.

5. A brush-holder for dynamo-electric machines comprising a box, a carbon brush therein, a resilient brush-engaging finger comprising a nearly closed loop at its free end and a brush-engaging member fastened to the end of the loop portion whereby movement of the brush in the box, without involving relative movement between the engaging surfaces of the brush and the engaging member, is permitted, and a pressure mechanism acting upon said finger to force said brush-engaging member against the end of the brush.

In testimony whereof, I have hereunto subscribed my name this 28th day of April, 1908.

WILLIAM T. HENSLEY.

Witnesses:

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BIRNEY HINES.