(No Model.)

H. GEISENHÖNER.

BRUSH HOLDER.

No. 585,746. Patented July 6, 1897.

FIG. 1.

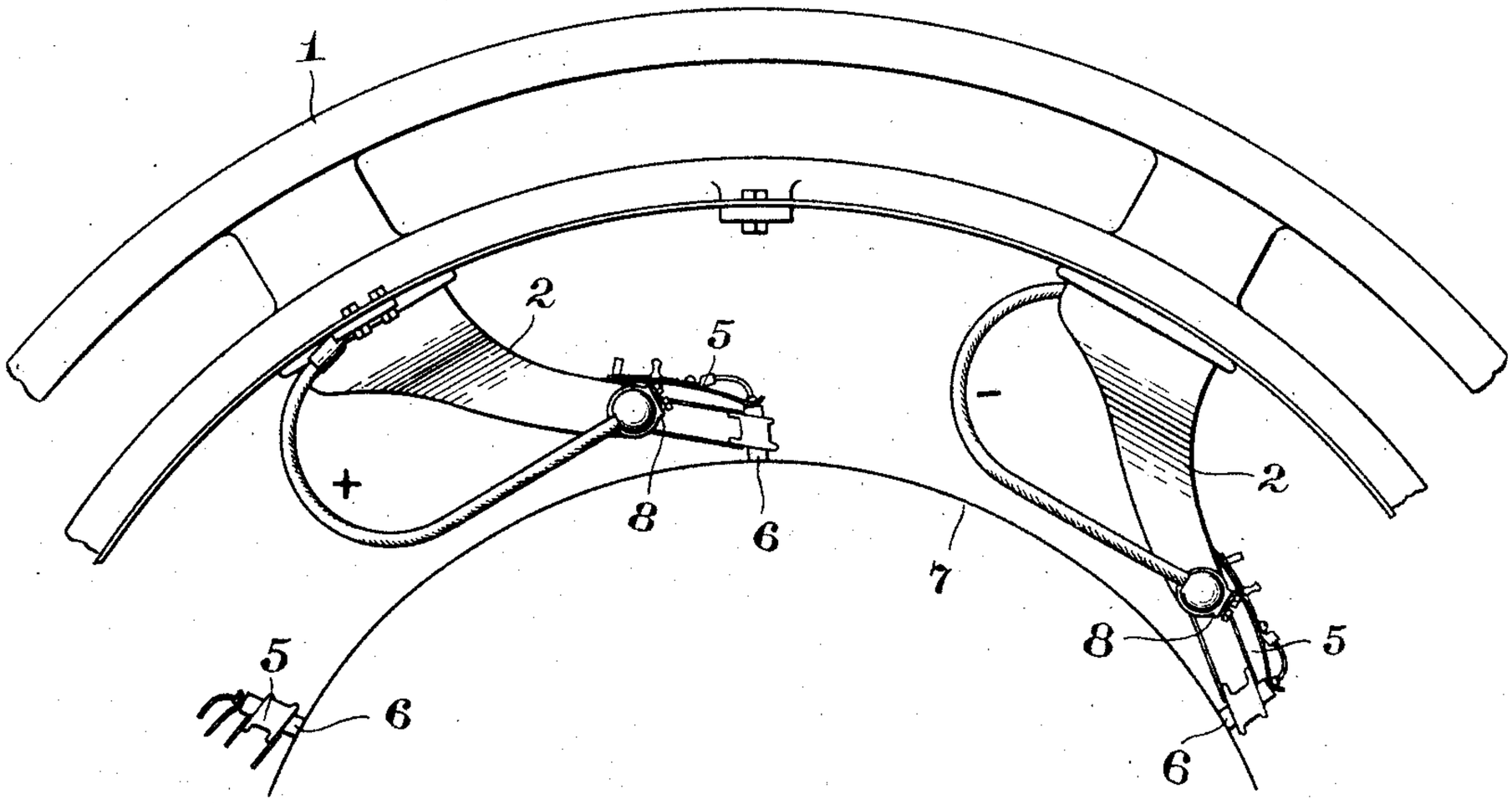


FIG. 2.

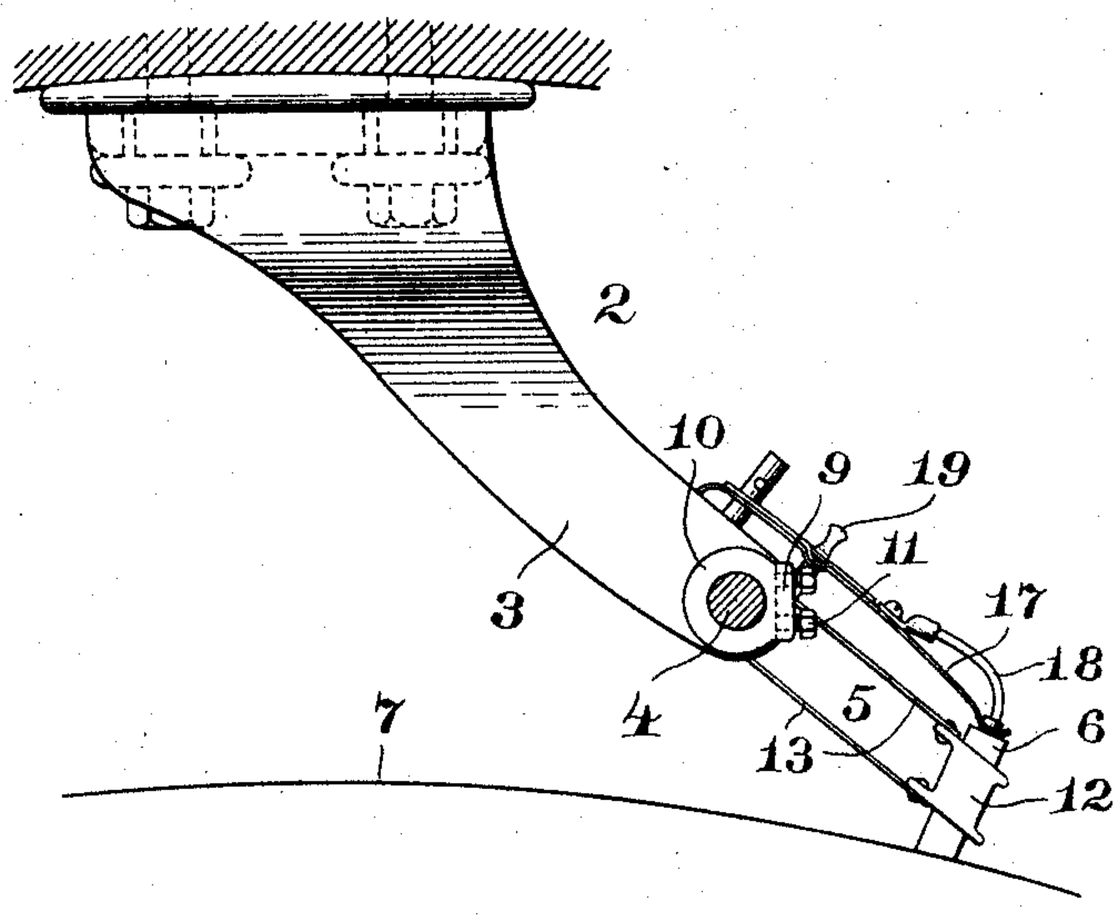


FIG. 3.

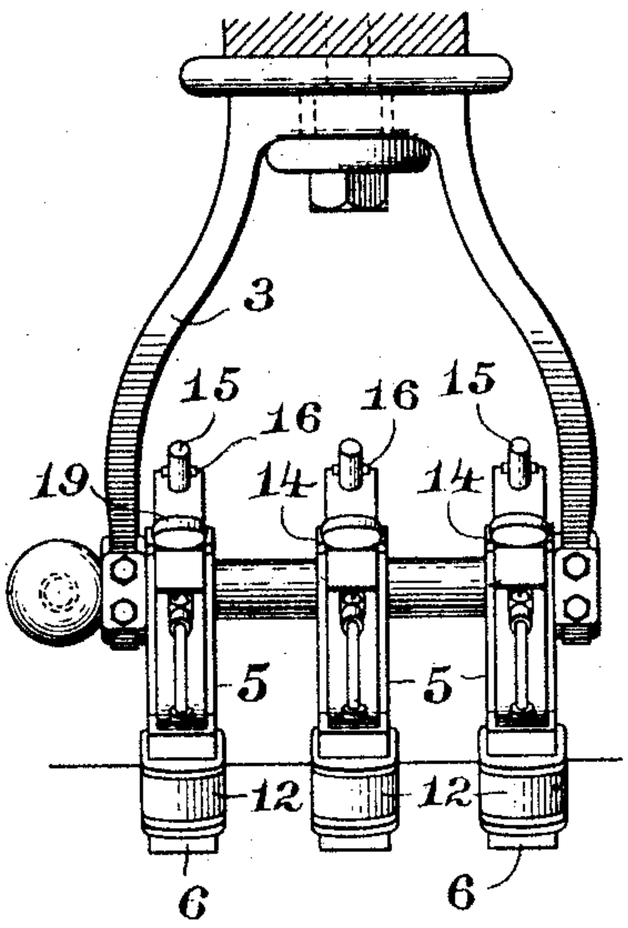
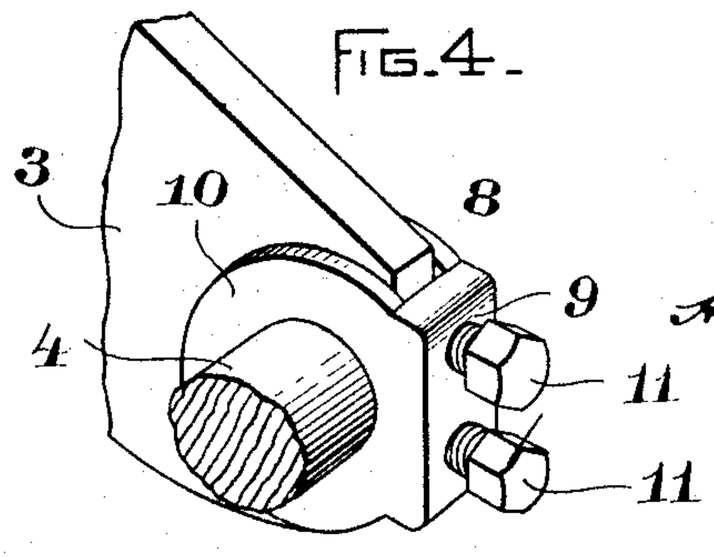


FIG. 4.



WITNESSES.

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A. Macdonald.

INVENTOR.

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UNITED STATES PATENT OFFICE.

HENRY GEISENHÖNER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO THE GENERAL ELECTRIC COMPANY, OF NEW YORK.

BRUSH-HOLDER.

SPECIFICATION forming part of Letters Patent No. 585,746, dated July 6, 1897.

Application filed November 20, 1896. Serial No. 612,850. (No model.)

To all whom it may concern:

Be it known that I, HENRY GEISENHÖNER, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Brush-Holders, (Case No. 483,) of which the following is a specification.

This invention relates to brush-holders for dynamo-electric machines, and has especial reference to holding in a fixed position the stud on which the brush-holders are mounted and to releasing the stud, so that it may be rotated in its support.

The invention has for its object to hold from rotation in a fixed position a brush-holder stud and prevent it from turning, and also to permit of its being released to rotate in its support when it is desired to swing the brush-holders into and out of operative position.

In the accompanying drawings, Figure 1 is a detail view of a portion of a dynamo-electric machine, showing carbon-brush holders with the invention applied. Fig. 2 is an enlarged detail side view of one of the brush-holders and its support shown in Fig. 1. Fig. 3 is a front view of the same, and Fig. 4 is an enlarged detail view of a portion of the brush-holder support and stud and clamp securing the stud from turning.

1 indicates a portion of the frame of a dynamo-electric machine having mounted thereon, as shown in Fig. 1, a couple of supporting-frames 2, shown in Fig. 3 as consisting of two diverging arms 3, having mounted in their lower ends the rotatable cylindrical stud 4, on which are mounted three carbon-brush holders 5, each carrying a carbon brush 6, bearing against the commutator 7.

8 is a clamp (shown specially in Fig. 4) which is composed of a piece of metal formed with the middle portion 9 and rearwardly-extending wings 10, perforated to permit the stud 4 to be slid through the wings 10. The middle portion 9 of the clamp 8 when placed in position abuts against the lower projecting end of arm 3 of the holder 2, and the wings 10 project upon each side of and bear against the sides of said arm 3. 11 are set-screws mounted in the middle portion 9 of clamp 8, adapted to bear against the end of said holder 2. The carbon brushes 6 are each mounted in a supporting-piece 12, connected by arms 13 to clamping-jaws 14, gripping the stud 4, and secured thereto by a screw 15, having wings 16, by means of which the jaws 14 may be tightened together by a spanner-wrench or other suitable tool.

The carbon brush 6 is mounted in the supporting-piece 12 so as to be freely movable vertically therein. Upon the top of the carbon brush 6 rests the outer end of the spring-arm 17, having secured thereto a curved arm 18, having its outer end bearing against the outer end of the spring-arm 17. The pressure of the carbon brush 6 against the commutator 7 is adjusted by means of the thumb-screw 19, extending through and connecting the jaws 14. As shown, the clamp 8 is mounted on the end of each arm 3 of the supporting-frame 2, and from one end of the stud 4 extends the lead to the minus pole, as shown at the right in Fig. 1, and a lead to the plus pole, as shown at the left in Fig. 1.

After the carbon-brush holders 5 are mounted and adjusted in suitable position on the stud 4 the latter is rigidly secured in position by tightening the set-screws 11 against the end of each arm 3 of the frame 2, thus drawing the wings 10 outwardly against the stud 4 and rigidly holding the stud 4 in position. By means of this construction after the carbon brushes have been mounted and adjusted in the desired position relatively to the commutator they are securely held in such position by tightening the clamps 8, as set forth. The advantage of this construction is as follows: In addition to firmly holding the stud from rotation when the brushes are in operative position, when it is desired to turn the brush-holders out of position the clamps 8 may be released, thereby permitting the stud 4 to be rotated and the brush-holders to be lifted out of operative position; or instead of releasing the clamps 8 a single brush-holder may be released individually and turned back on the stud without affecting the other brush-holders.

I claim—

1. In a carbon-brush holder, a rotatable stud, one or more brush-holders adapted to

be rotated on and adjustably held in fixed position on said stud, and means for adjustably clamping and holding in fixed position said stud, as set forth.

2. In a carbon-brush holder, a rotatable stud, one or more brush-holders adapted to be swung on said stud and adjustably held in fixed position, a clamp engaging the stud, and means for tightening the clamp and stud in its bearings and holding the latter from rotating, as set forth.

3. In a carbon-brush holder, supporting-arms, a rotatable stud mounted on and adapted to rotate in said arms, brush-holders mounted upon and adapted to swing independently on and be secured in fixed position on said stud, clamps engaging the said stud-supporting arms, and means for clamping and adjustably holding the stud in fixed position in its bearings, as set forth.

4. In a brush-holder, a main support, a rotatable stud mounted in said main support, brush-holders mounted on said stud and adapted to independently swing thereon, with means for adjustably holding them in fixed position on said stud, clamps engaging the main support and the stud, and set-screws for drawing and tightening the clamps and stud into fixed position on the main support, as set forth.

In witness whereof I have hereunto set my hand this 6th day of November, 1896.

HENRY GEISENHÖNER.

Witnesses:

B. B. HULL,

J. LE D. LANGDON.