

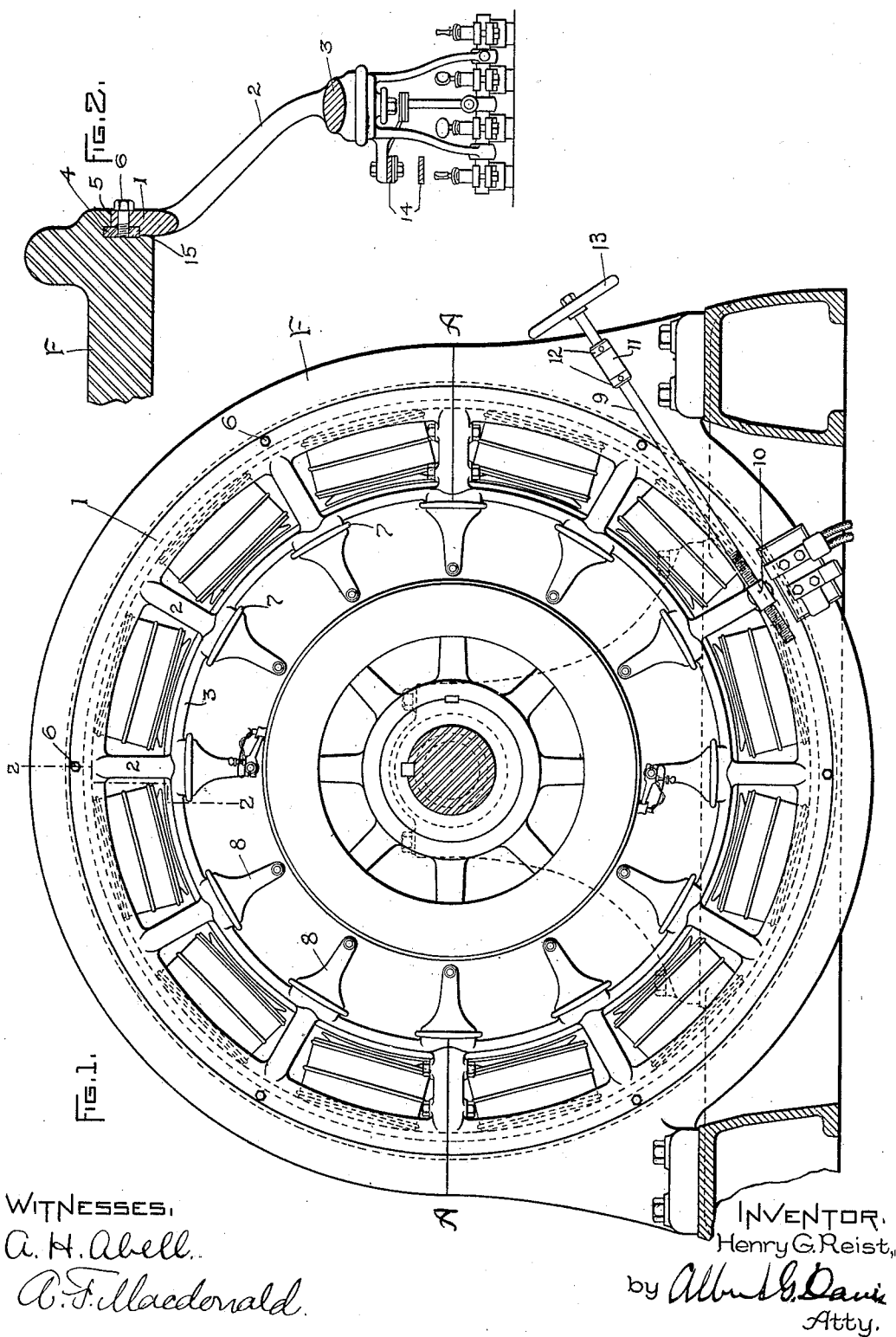
No. 656,421.

Patented Aug. 21, 1900.

H. G. REIST.
BRUSH HOLDER RING.

(Application filed Aug. 5, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

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

BRUSH-HOLDER RING.

SPECIFICATION forming part of Letters Patent No. 656,421, dated August 21, 1900.

Application filed August 5, 1898. Serial No. 687,820. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. REIST, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Brush-Holder Rings, (Case No. 816,) of which the following is a specification.

In multipolar dynamo-electric machines it has hitherto been customary for the brush-holders to be carried on a ring arranged to slide in bearings formed in the free ends of a plurality of brackets bolted or otherwise secured to the field-magnet frame and concentrically arranged around the armature-shaft. This construction is somewhat cumbersome and unwieldy; and it is the object of the present invention to obviate these disadvantages and to secure an arrangement of parts which is simple, compact, and easy of operation.

In the drawings, Figure 1 represents a view in end elevation of a dynamo-electric machine embodying my invention; and Fig. 2 is a sectional view, on an enlarged scale, of the field-magnet yoke and brush-supporting ring.

In carrying out my invention the side of the field-magnet frame F is annularly recessed to receive a ring 1, and the recess is preferably of such depth that when the parts are in place the ring is flush with the outer surface of the field-magnet frame, as shown in Fig. 2. The ring thus forms part of the magnetic circuit and so economizes material. The ring 1, as shown, carries a plurality of radial arms 2, extending toward the armature-shaft and outwardly from the plane of the ring and integral therewith, with a connecting-ring 3 integrally joining the inner ends of the arms for the purpose of stiffening the structure and rendering it more rigid.

In order to prevent the disengagement of the brush-holder ring from the field-magnet frame, I make use of a special locking device, which consists of a ring 4 (shown in section in Fig. 2) and to which the brush-holding ring is secured by any suitable means, as bolts 6. The ring 4 is confined in position by the lip 5 of the field-magnet frame. The field-magnet frame is commonly made in two

parts separable along the line of a diameter, as A A. For convenience in assembling the brush-holding ring, as well as its securing-ring, is split along the same line A A. In order to prevent the upper section of the securing-ring 4 from slipping out of position when the upper portion of the field-magnet is suspended, I provide the latter with an outwardly-projecting annular ledge 15, and for the sake of uniformity the lower part of the field-magnet is likewise provided with a ledge forming a continuation of that on the upper half of the field-magnet. The ring 4 is retained in position on the ledge 15 by the lip 5 and is thus prevented from disengagement. With the upper and lower portions of the field-magnet separated it will be evident that the sections of the securing-ring 4 may be readily placed in position by inserting the ends within the openings formed in the exposed sections of the field-magnet and then sliding them lengthwise and around on the arc of a circle until they assume the position shown in dotted lines in Fig. 1. It is within my invention, however, to dispense with the ledge 15, in which case I find it preferable to make the ring 4 in one piece and to assemble the parts by first placing the ring in the groove formed in the lower half of the field-magnet by the lip 5. The upper half of the field-magnet may then be lowered into position, so that the lip thereon engages the projecting upper half of the locking-ring.

Brush-holders 8 are secured to the brush-holding ring at suitable intervals and are insulated therefrom by plates of insulating material 7. Conductors 14 connect the brushes of like polarity in multiple and are shown in section in Fig. 2.

In order to rotate the brush-holding ring and so shift the position of the brushes, I provide a slightly-modified form of tangent-screw 9, having its screw-threaded portion engaging a nut 10, pivoted to the brush-holder ring, and with the other end of the screw carried in a sleeve 11, pivoted to the field-magnet frame and prevented from longitudinal movement therein by suitable collars 12. A hand-wheel 13 serves to operate the screw and shift the brushes.

If found desirable, the rings 1 and 4 instead

of being two separate structures may be formed integral with each other.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

- 5 1. In a dynamo-electric machine, the combination of a field-magnet and a brush-holder ring having a continuous bearing in the body of the field-magnet.
- 10 2. The combination of a field-magnet having an annular groove therein, and a brush-holder ring movable in said groove.
3. In a dynamo-electric machine, the combination of a field-magnet and a brush-holder ring forming part of the magnetic circuit.
- 15 4. In a dynamo-electric machine, the combination of a field-magnet having an undercut annular groove formed therein, and a brush-holder ring having its bearing in said groove.
- 20 5. The combination of a field-magnet, a brush-holder ring having its bearing in the body of the field-magnet, and means for pre-

venting the disengagement of said magnet and ring.

6. The combination of a separable field- 25 magnet having an undercut annular groove formed therein, a split ring movable in said groove, and a brush-holder ring carried by said split ring.

7. The combination of a field-magnet hav- 30 ing an undercut annular groove formed therein, an annular projecting ledge concentric with said groove, and a ring confined within said groove and bearing against said ledge.

8. In a dynamo-electric machine the com- 35 bination of a brush-holder ring and a support therefor having an annular bearing-surface.

In testimony whereof I have hereunto set my hand this 3d day of August, 1898.

HENRY G. REIST.

Witnesses:

B. B. HULL,

M. H. EMERSON.