

No. 758,669.

PATENTED MAY 3, 1904.

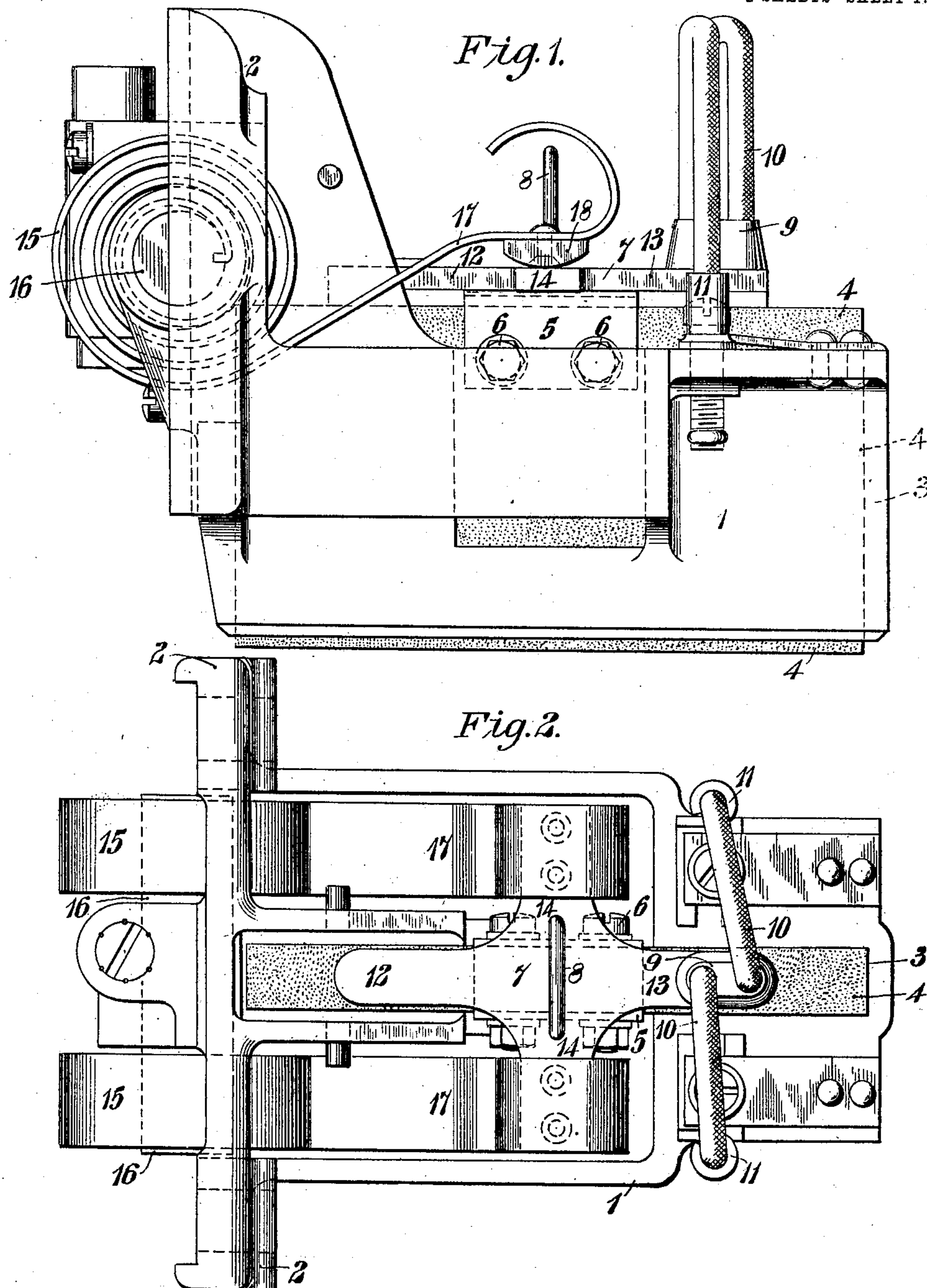
B. G. LAMME.

BRUSH HOLDER FOR ELECTRICAL MACHINES.

APPLICATION FILED SEPT. 16, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

J. H. Miller,
Birney Hines

INVENTOR

INVENTOR
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BY

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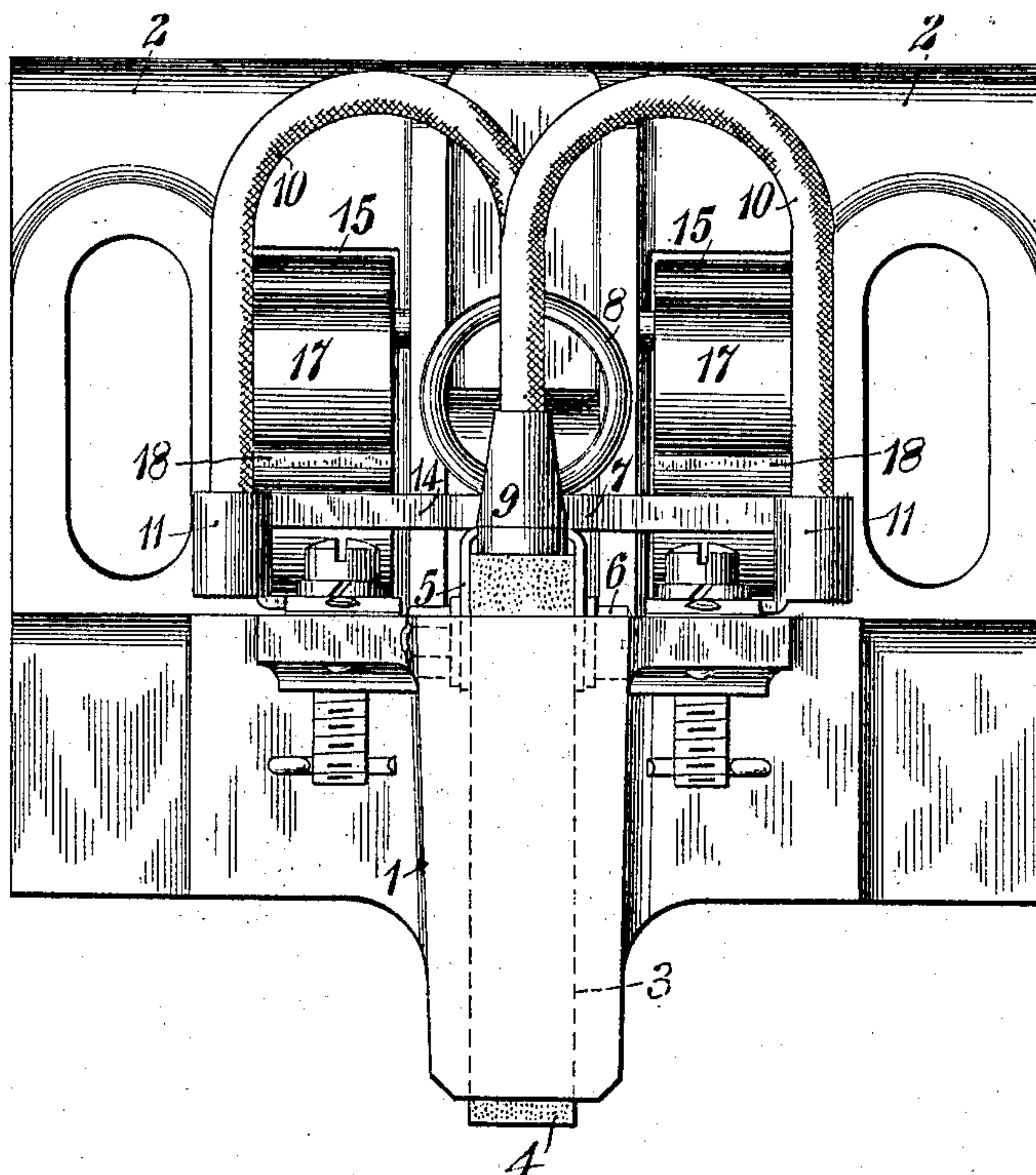
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2 SHEETS—SHEET 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

BENJAMIN G. LAMME, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO
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BRUSH-HOLDER FOR ELECTRICAL MACHINES.

SPECIFICATION forming part of Letters Patent No. 758,669, dated May 3, 1904.

Application filed September 16, 1903. Serial No. 173,485. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN G. LAMME, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Brush-Holders for Electrical Machines, of which the following is a specification.

My invention relates to brush-holders for electrical machines; and it has for its object to provide a device of this character which shall be adapted for use in relations where the space is limited both as to form and dimensions and also a device which shall be comparatively simple and inexpensive in construction and effective and durable in service.

My invention was primarily designed for use in connection with single-phase alternating-current railway-motors, and in order to illustrate the importance of the features of construction embodied in it, but without any intention of limiting its use to this specific type of electrical machine, it may be stated that such motors employ a considerable number of brushes, and the space in which such brushes and their holders may be mounted is very limited and is so located that only brush-holders of special form and dimensions may be employed.

My present invention, which is specially designed and adapted for use in relations where the space is contracted and peculiarly located, is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, Fig. 2 a plan view, and Fig. 3 an end elevation, of a brush-holder and its brush.

The brush-holder frame 1 is provided at one end with a bracket 2, by means of which it is attached to and supported by a supporting or collector ring, (not shown,) and it is also provided with an opening or guide space 3 of suitable form and dimensions to receive a carbon brush 4, said brush being mounted in said space so as to be movable edgewise against the commutator-cylinder.

Fastened to the outer edge of the brush 4 by means of clips 5, which extend some dis-

tance downward along the sides of the brush and are fastened thereto by means of screws 6, is a cross-shaped plate 7, having a handle in the form of a ring 8 for lifting the brush from the commutator-cylinder when desired and having also at its outer end a lug or boss 9, having sockets in which are located the ends of the shunt-conductors 10, the other ends of such shunts being inserted in openings in bosses 11, with which the frame 1 is provided.

Two arms, 12 and 13, of the plate 7 extend along and rest upon the outer edge of the brush, and extending at right angles thereto are the arms 14, the function of which will be hereinafter described.

Mounted in the bracket 2 of the frame are two spiral springs 15, their inner ends being attached to a short shaft or rod 16, which may be rotatably adjusted by any suitable means to vary the pressure exerted by the spring, such means being well known in the art. These springs 15 are disposed in planes parallel to that of the brush 4 and at the sides of the same, and their free ends 17 extend forward and above the arms 14 and at these points are severally provided with blocks 18, having convex lower surfaces which bear upon the arms 14, these blocks being riveted to the springs, as indicated in Fig. 1.

The operation of the invention will be readily understood without specific description thereof.

I claim as my invention—

1. The combination with a carbon brush and a casing in which said brush is mounted to move edgewise, of a metal plate attached to the outer edge of said brush and projecting laterally at both sides thereof, a pair of spiral springs, the planes of which are parallel to that of the brush, and blocks fastened to the free ends of the springs and resting upon the ends of said metal plate.

2. The combination with a carbon brush and a frame having guideways in which said brush is mounted to move edgewise, of a pair of spiral springs mounted in said frame parallel to said brush, a plate attached to the outer edge

of the brush and having laterally-projecting arms and blocks fastened to the free ends of said springs, the outer faces of which are curved and bear upon said arms.

5 3. The combination with a carbon brush and a frame having guideways in which said brush is mounted to move edgewise and having a bracket at one end, of a plate attached to the outer edge of the brush and having laterally-
10 projecting arms, a pair of spiral springs mounted in said bracket parallel to the brush and convex-faced blocks fastened to the free ends of the springs and bearing upon said plate-arms.

15 4. The combination with a carbon brush and a frame having guideways for said brush and a bracket, of a plate attached to the outer edge of the brush and provided with a handle, a pair of spiral springs mounted in the bracket
20 parallel to the brush and convex-faced blocks fastened to the free ends of said springs and bearing upon said plate.

5. The combination with a carbon brush and a frame having guideways for said brush, of a
25 plate fastened to the outer edge of the brush,

a pair of spiral springs mounted in the frame parallel to the brush and blocks fastened to the free ends of the springs and bearing upon said plate.

6. The combination with a carbon brush and 30 a frame having guideways therefor, of a plate fastened to the outer edge of the brush, a pair of spiral springs mounted in planes parallel to that of the brush and having blocks fastened to their free ends that bear upon said 35 plate.

7. The combination with a carbon brush and a frame having guideways therefor, of a plate fastened to the outer edge of the brush, a pair of spiral springs mounted in the frame in 40 planes parallel to that of the brush and having convex-faced blocks fastened to their free ends to bear upon said plate.

In testimony whereof I have hereunto subscribed my name this 1st day of September, 45 1903.

BENJ. G. LAMME.

Witnesses:

J. C. MORSE,
BIRNEY HINES.