

No. 700,182.

Patented May 20, 1902.

F. B. DUNCAN.
BRUSH HOLDING RING FOR DYNAMOS OR MOTORS.

(Application filed Feb. 21, 1902.)

(No Model.)

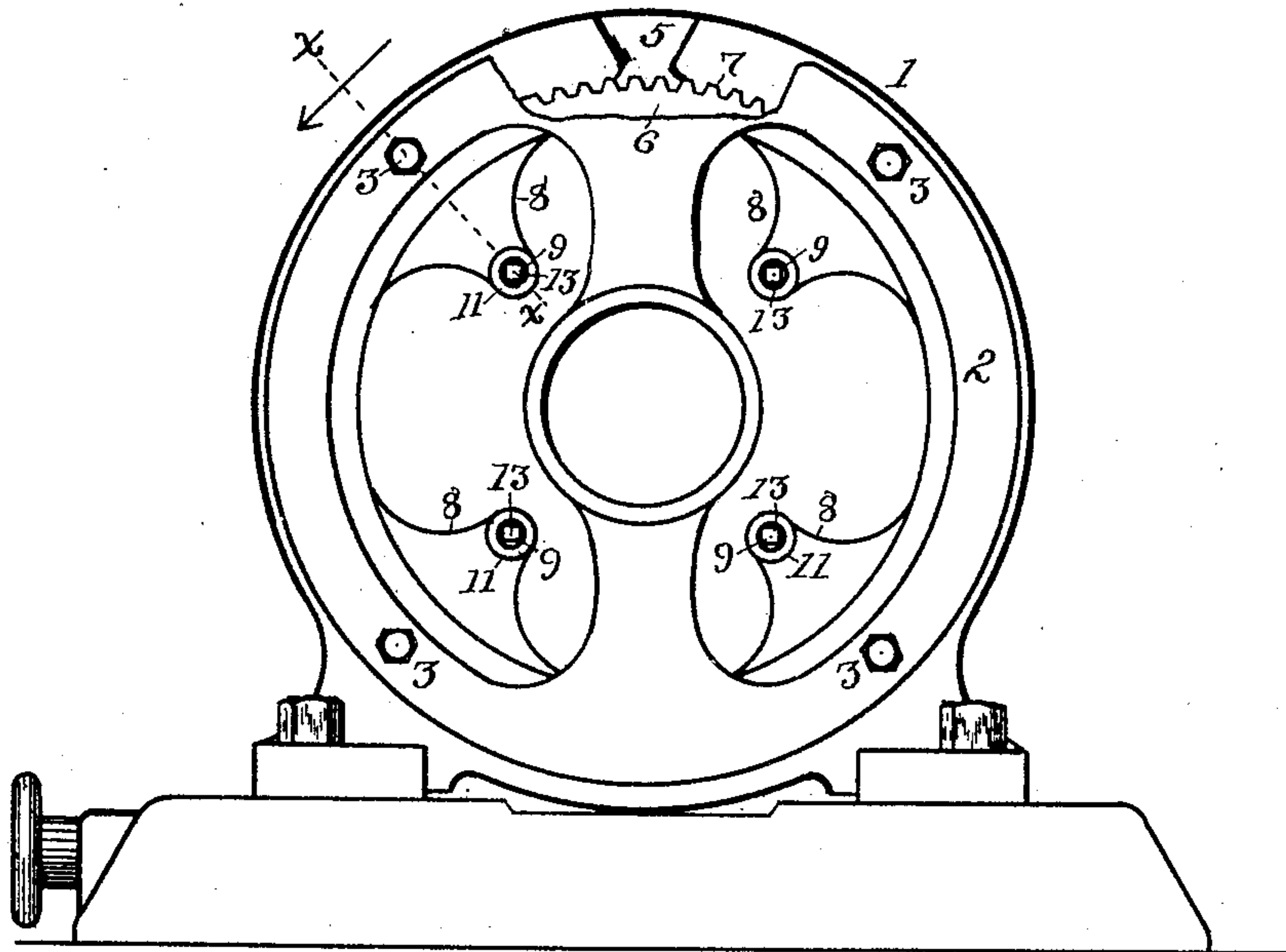


Fig. 1.

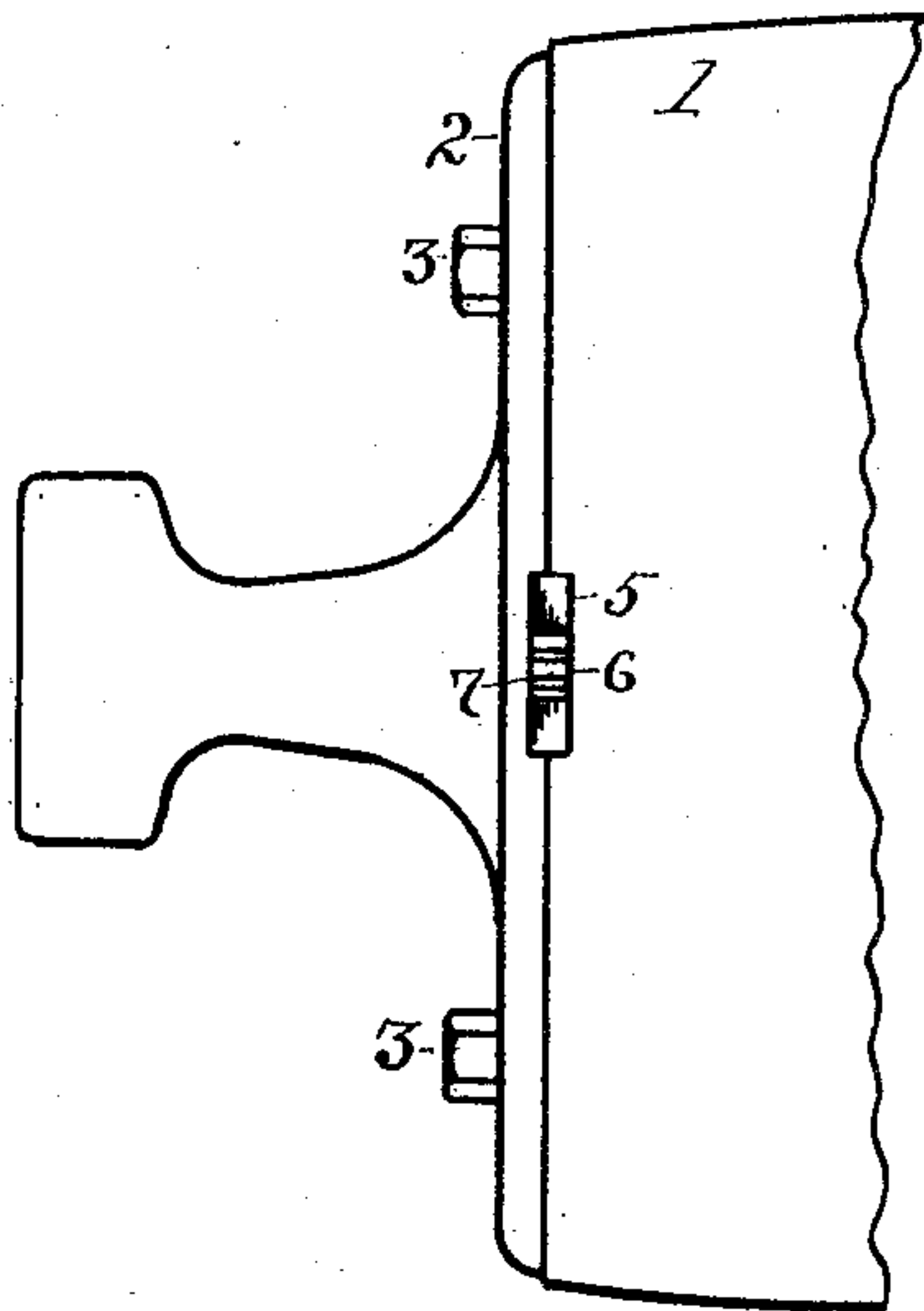


Fig. 2.

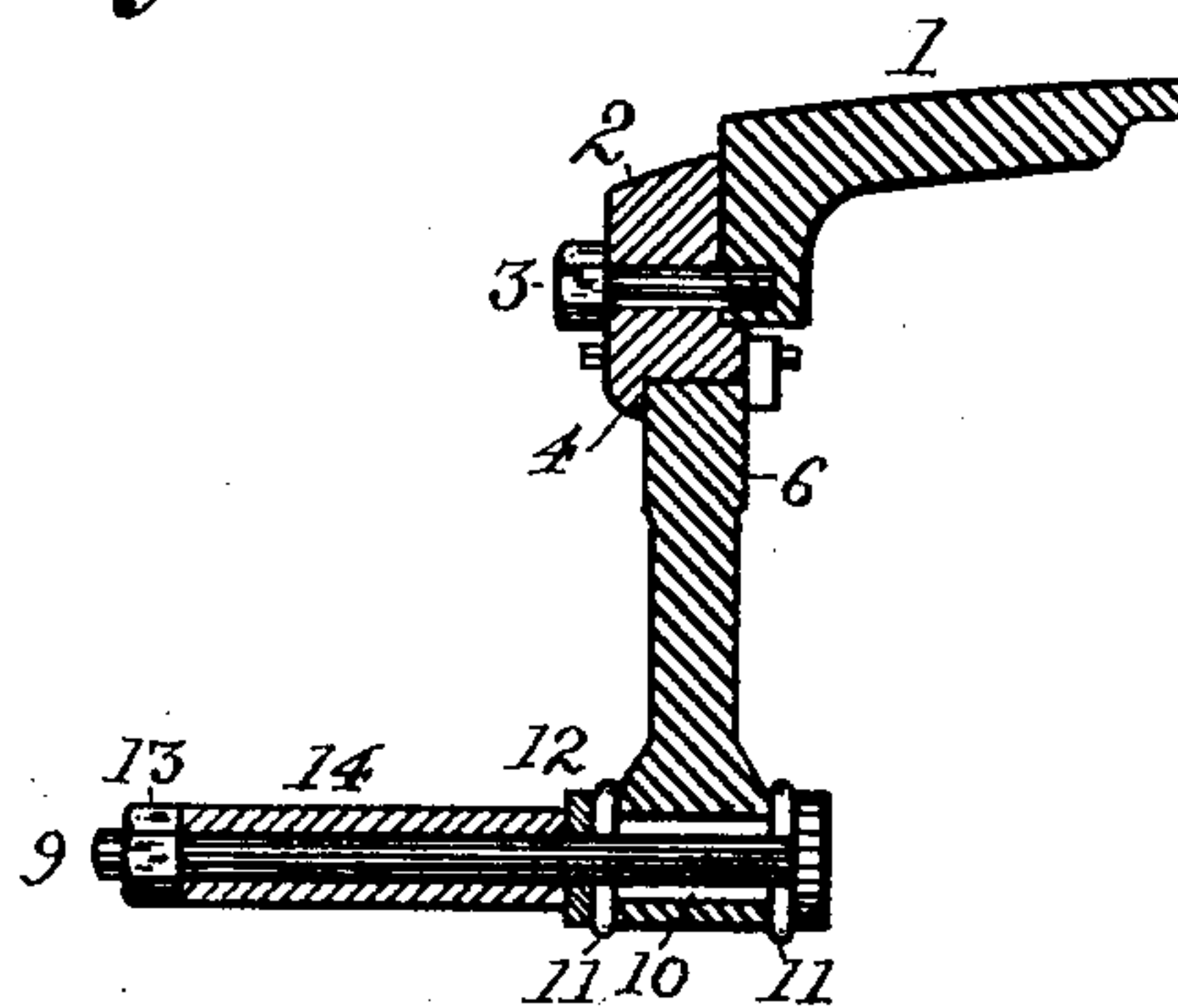


Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

FREDERICK B. DUNCAN, OF AKRON, OHIO.

BRUSH-HOLDING RING FOR DYNAMOS OR MOTORS.

SPECIFICATION forming part of Letters Patent No. 700,182, dated May 20, 1902.

Application filed February 21, 1902. Serial No. 95,127. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK B. DUNCAN, a subject of Edward VII, King of England, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Brush-Holding Rings for Dynamos or Motors, of which the following is a specification.

My invention has relation to improvements in that class of devices by which the brush-holders of a dynamo or motor are supported and by which the relation of the brush to the magnet-poles may be varied and regulated, and commonly known as the "brush-holder-supporting ring." Heretofore it has been customary to place these rings in a rabbeted groove around the bearings of the dynamo-shaft, with projecting handles by which they may be turned and laterally-projecting shafts on which the brushes are supported. Objection is found to this construction because of the trembling and vibration of the brushes and from the liability of the ring-handle to be accidentally struck or engaged by some passing object, thus deranging the arrangement and occasionally injuring it or its connected parts.

The object of my invention is to overcome these objections and to produce means for adjusting the brushes on the commutator with relation to the pole-pieces and not only avoid all tendency to vibration, but absolutely prevent accidental turning of the brush-holding ring.

To the accomplishment of the aforesaid object my invention consists in the peculiar and novel construction, arrangement, and combination of parts hereinafter described and then specifically pointed out in the claims, reference being had to the accompanying drawings, which form a part of this specification.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the different figures, Figure 1 is an end elevation in outline of a dynamo embodying my invention with a part broken away to illustrate the manner for turning the brush-holding ring; Fig. 2, a plan in outline of the

adjacent portion of Fig. 1, and Fig. 3 an enlarged section of a portion of Fig. 1 at the line *x x*.

Referring to the figures, 1 is the outer shell or case of the dynamo, on the end of which is secured the bonnet 2, secured by bolts 3. In the inner circumference of the bonnet is turned or otherwise formed an annular rabbet 4 and at any preferred point (preferably the top, as shown in Fig. 1) an opening 5, extending outwardly from the rabbet and preferably V-shaped, as shown, with the inner corners slightly rounded to make the inner end of the hole flaring. Resting in the rabbet 4 is a ring 6, having external gear-teeth 7, which may extend entirely about it, but for the purposes for which they are designed will only be necessary opposite the opening 5 and a short distance therefrom in each direction. The ring 6 has inwardly-projecting lugs or arms 8 with their inner ends enlarged and strengthened laterally and are bored for brush-holding rods 9. Each rod 9 is insulated in the holes in the arms 8 by a sleeve 10 and annular disks 11, of non-conducting material, and have heads that bear against the annular disk 11 on the inside of the arm 8 and a collar 12, that bears against the collar 11 on the outside, between which disk and a nut 13 is secured a brass sleeve 14; on which the brush-holder is clamped. By this arrangement the brush is entirely insulated from the ring 6.

When it is desired to adjust the brushes, any ordinary tool, as a screw-driver, is inserted in the opening 5, and by engaging the teeth 7 the ring 6 may be turned in either direction.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination in a dynamo or motor, with the case and bonnet, of a rabbeted groove in said bonnet concentric with the axis of the armature, an opening into said groove, and a toothed ring resting in said groove bearing brush-rods, substantially as shown and for the purpose specified.

2. The combination in a dynamo or motor and bonnet of a rabbeted groove in said bonnet

concentric with the axis of the armature, an
opening into said groove, a revoluble toothed
ring resting in said groove bearing insulated
brush-supporting rods, and bushings mounted
5 on said rods, substantially as and for the pur-
pose specified.

In testimony that I claim the above I here-

unto set my hand in the presence of two sub-
scribing witnesses.

FREDERICK B. DUNCAN.

In presence of—

C. P. HUMPHREY,

C. E. HUMPHREY.