(No Model.)

C. D. JENNEY.

HOLDER FOR COMMUTATOR BRUSHES.

No. 342,441. Patented May 25, 1886.

Fig. 1.

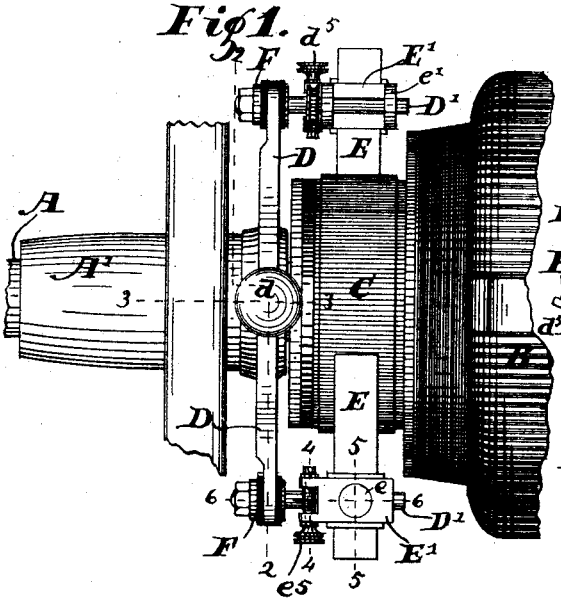


Fig. 2.

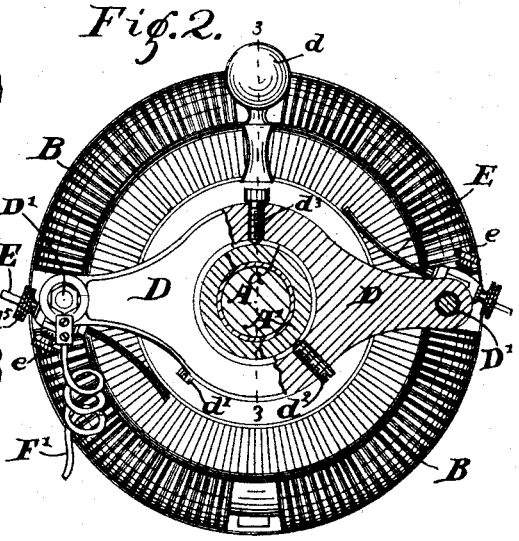


Fig. 3.

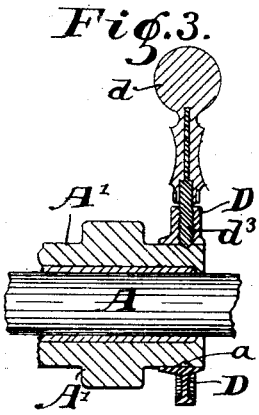


Fig. 4.

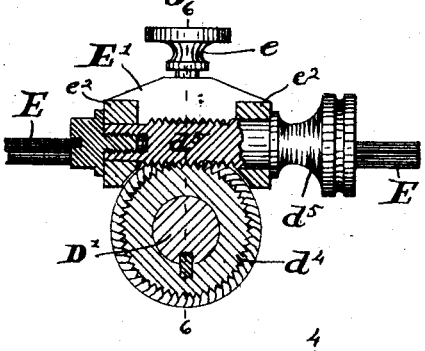


Fig. 5.

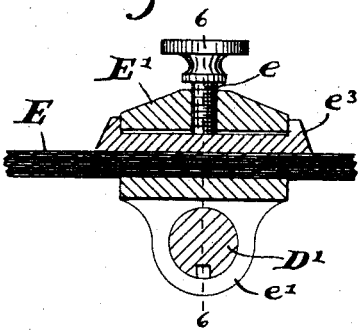
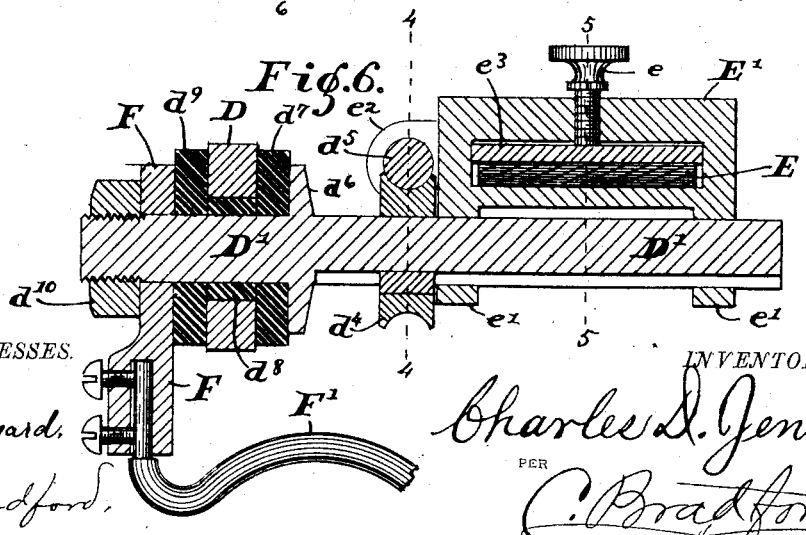


Fig. 6.



WITNESSES.

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CHARLES D. JENNEY, OF INDIANAPOLIS, INDIANA.

HOLDER FOR COMMUTATOR-BRUSHES.

SPECIFICATION forming part of Letters Patent No. 342,441, dated May 25, 1886.

Application filed July 20, 1885. Serial No. 172,056. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. JENNEY, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Holders for Commutator-Brushes, of which the following is a specification.

The object of my said invention is to provide a holder for the brushes of commutators of dynamo-electric and like machines, which may be easily, quickly, and conveniently adjusted to position, and there secured with certainty and accuracy. This object is accomplished by providing a rocker-arm mounted in a circumferential groove on the hub of the shaft-bearing with a clamping-screw arranged to secure the same in position; and adjustable holders secured to its ends, consisting of a stud-shaft, a screw-gear on said shaft, a clamp, also on said shaft, and a screw on said clamp, arranged to engage with said screw-gear, and thus revolve the clamp on the stud-shaft, and hold it to adjusted position, all as will be hereinafter more fully described.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a top or plan view of a commutator, my improved brush-holder, and adjacent parts; Fig. 2, an end view of the same, partly in section, as seen when looking to the right from the dotted line 2 2 in Fig. 1; Fig. 3, a detail sectional view on the dotted line 3 3 in Figs. 1 and 2; Fig. 4, a transverse sectional view of the brush-holder on the dotted line 4 4; Fig. 5, a similar view on the dotted line 5 5, and Fig. 6 a longitudinal sectional view thereof on the dotted line 6 6.

In said drawings, the portions marked A represent the shaft on which the commutator and armature of the machine are mounted; B, the armature; C, the commutator; D, the rocker or supporting arm of my improved brush-holder; E, the brushes, and F the binding-collar. The shaft A is mounted and operated, and carries the armature B and commutator C, in the usual manner. One of its bearings, A′, has a hub projecting inwardly toward the commutator, forming a bearing for the rocker-arm of the brush-holders, in the face of which is a circumferential groove, *a*, into which projections from said rocker-arm enter, whereby said rocker-arm is held thereon. Said rocker-arm D is mounted, as shown, on this projecting hub, and is provided with three projecting points, d', d^2, and d^3, which enter the groove *a* and secure it thereon. One of these points is provided with a handle, *d*, and is screw-threaded, and thus the position of said rocker-arm and this bearing can be adjusted by simply loosening this point by means of this handle, moving it around to the desired position, also by means of said handle, and again tightening said point, which holds the arms securely in the desired position. Upon the ends of this rocker-arm are located the brush-holders proper, which consist in part of stud-shafts D′, firmly secured therein and insulated therefrom, as shown. Said stud-shafts have screw-gears d^1 mounted thereon in such manner as not to revolve, but are preferably (by means of grooves in said shafts and splines fixed in said gears and projecting into said grooves) adapted to be moved longitudinally thereon. The brush-clamps E′ have ears e', which are also mounted upon this shaft, and other ears, e^2, in which screws d^5 are mounted, which engage with the screw-gears d^1 on the stud-shafts. Said screw-gears are held by their concave surfaces and the convex surfaces of said screws d^5, so as to be kept in the proper relation to said clamps. Said clamps also contain openings to receive the brushes E, and are provided with thumb-screws *e* and bearing-plates e^3, or other tightening devices, to hold the brushes therein. The binding-collars F are secured to the stud-shafts D′, preferably to their outer ends, and are the means by which the line-wires F′ are connected to the machine, as will be readily understood.

Referring now again to the connection between the brush-holders proper and their rocker-arm, the stud-shafts D′ have flanges or collars d^6 thereon, which are formed in one piece therewith or attached rigidly thereto. Inside these collars are placed washers d^7, of insulating material, and next said washers bushings d^8, of like material. The stud-shafts are then inserted through the holes in the ends of the rocker-arm, the bushings inside said holes. Washers d^9, of insulating material,

are then placed on said shafts outside the arm, which completes the insulation of said brush-holders from said arm. The binding-collars F are then placed on said stud-shafts, and nuts d^{10} are placed thereon and force the several parts tightly together, securing the whole in place. The brushes E being placed in the brush-clamps, and it being desired to adjust the force of the contact of said brushes and the commutator, the screws d^5 are turned, which carry the brush-clamps around the screw-gear d^4 in one direction or the other, and thus carry the brushes to the desired position. By means of the grooves in the stud-shafts and the short splines in the screw-gears the position of these working parts on said stud-shafts may be varied, and the brushes thus brought into any desired relative position in relation to the commutator.

It will be understood that the screw-gears could be attached to the brush-clamps, and the bearings for the screws which engage therewith to the stud-shafts, without departing from my invention, this being a mere reversal of parts.

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

1. The combination, in an electric machine, of the hub surrounding the commutator-shaft, provided with a circumferential groove, the brush-holder rocker-arm mounted upon said hub, and provided with projections which enter said groove, one of said projections having a handle by which it can be adjusted and the rocker-arm thus held in adjusted position.

2. The combination, in an electric machine, of the supporting-arm, stud-shafts mounted in the ends of said arm, insulating material between said stud-shafts and said arm, a brush-clamp upon one end of said stud-shaft, and a binding-collar for the line-wire upon the other end, said brush-clamp being adjustable circumferentially of said stud-shaft, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my hand and seal at Indianapolis, Indiana, this 18th day of July, A. D. 1885.

CHARLES D. JENNEY. [L. S.]

Witnesses:

C. BRADFORD,

E. W. BRADFORD.