

(No Model.)

W. B. MASON.

COMMUTATOR BRUSH FOR DYNAMO ELECTRIC MACHINES.

No. 266,855.

Patented Oct. 31, 1882.

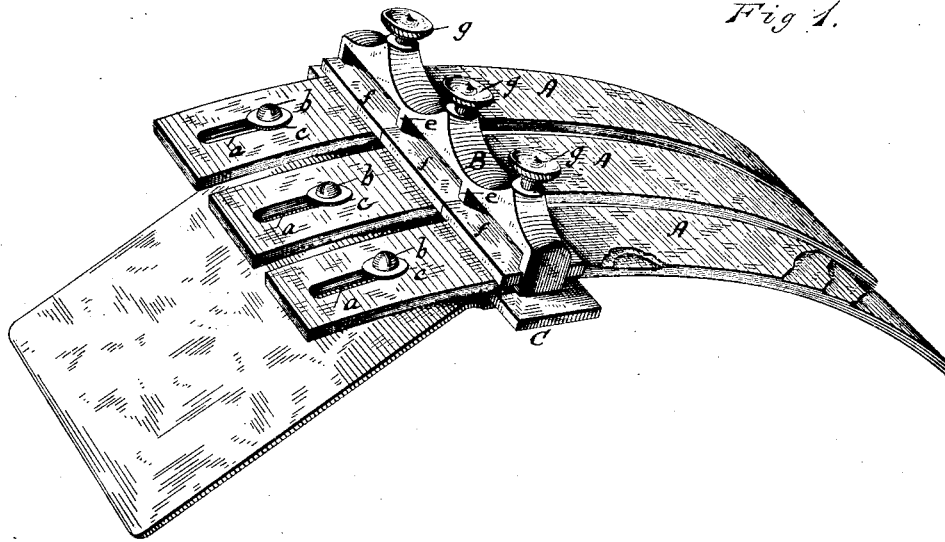


Fig 1.

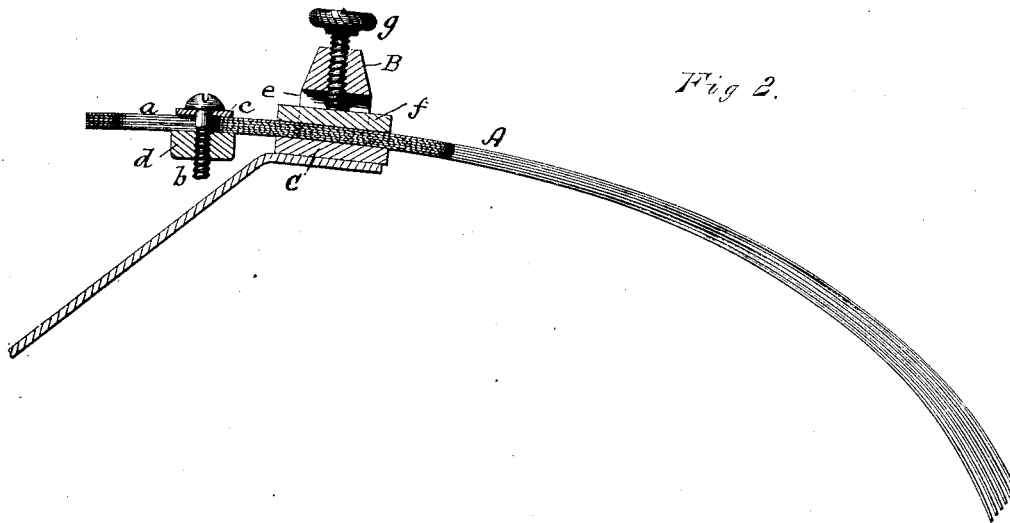


Fig 2.

WITNESSES

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WILLIAM B. MASON, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO RUFUS S. MERRILL, OF SAME PLACE.

COMMUTATOR-BRUSH FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 266,855, dated October 31, 1882.

Application filed September 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. MASON, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain
5 new and useful Improvement in Commutator-Brushes for Dynamo-Electric Machines, of which the following is a specification.

Brushes for the commutators of dynamo-electric machines and similar machines are in
10 many instances formed of a number of a superposed laminae or thin strips of a conducting metal—such as copper—and it is to this kind of brush that my improvement relates. Heretofore, so far as I am aware, the thin superposed strips of the brush have been piled
15 loosely one upon the other in the brush-holder, by which they are clamped and held in proper position with reference to the commutator; or where the strips composing the
20 pile have been fastened together they have been soldered or otherwise permanently united together at their rear ends. In the former case when the clamp of the brush-holder is loosened so as to permit the brush to be ad-
25 justed the component strips of the brush are apt to become disarranged and thrown out of place relatively to one another. In the latter case the permanent joining of the laminae or strips prevent them from being rearranged
30 and placed in a different order one above the other. I have remedied these and other objections by forming the brush of a series of superposed laminae or strips which are detachably and adjustably connected together
35 at their rear ends, so that while the brush can be fitted to and adjusted in the brush-holder with as much certainty and ease as though it were a solid plate each of its component strips can, whenever required, be adjusted or moved
40 and placed in any desired position in the pile.

The simplest and best way known to me of obtaining a brush possessing the above characteristics is to longitudinally slot the rear ends of the superposed strips, and to pass through the
45 slot a clamping or binding screw, which, while adapted to hold the strips tightly or immovably together, can be loosened so as to allow any of the strips to be adjusted within the range of movement permitted by the slot, or

can be entirely removed, so as to permit any
50 one of the strips—as, for instance, the under one—to be turned over upon its opposite face, or to be shifted to a different position in the pile. A commutator-brush of this construction is represented in the accompanying draw-
55 ings, to which I will now refer, in order to explain more fully the nature of my improvement.

Figure 1 is a perspective view of the device, together with the brush-holder. Fig. 2 is a
60 longitudinal central section of the same.

The brush in this instance is composed of three independent piles, A, of superposed copper laminae or strips. Through the rear ends of the strips of each pile is formed a longitudinal
65 slot, *a*, and through this slot passes a screw, *b*, which extends through a washer, *c*, above, and screws through a nut, *d*, below the pile. By tightening the screw the strips will be bound tightly together at the rear; and when it is de-
70 sired to adjust them or change their position in the pile the screw can be either loosened or entirely removed, as circumstances may require. Each of the three piles of adjustably and detach-
75 ably connected strips which compose the brush can, as an entirety, be moved and adjusted independent of the others. For this purpose their holder consists of a base, C, a bridge, B, and partitions *e*, extending from the bridge to the base, which divide the space intervening
80 between the bridge and base into three independent receivers, one for each set or pile A. In each receiver is a vertically-movable clamp-plate, *f*, and extending through the bridge centrally over each clamp-plate is a pressure
85 or binding screw, *g*, by which the clamp-plate is forced upon its pile A. Thus each of the three piles or “compound strips,” as they may be termed, that compose the brush is adjust-
90 able and movable independently of the others, while the individual laminae of each compound strip are also adjustable and movable independently of one another.

The construction of the holder, as well as of the clamp or binder, of the superposed strips
95 or laminae can manifestly be varied without departure from the spirit of my invention; but I consider the device shown in the draw-

ings to be, on the whole, the best embodiment of the same.

What I claim as new and of my invention is—

- 5 1. A commutator-brush composed of a number of superposed laminae or strips detachably and adjustably connected together at their rear ends by a clamp or binder, substantially as set forth.
- 10 2. In a commutator-brush, the combination of a number of superposed strips longitudinally slotted at their rear ends with a clamp or binding screw, which passes through said slots, substantially as and for the purposes
- 15 hereinbefore set forth.
3. A commutator-brush composed of superposed laminae or strips, adjustably and detachably connected at their rear ends by a clamp or binder, in combination with a brush-

holder, in which the compound strip is held 20 and can, as an entirety, be adjusted, substantially as set forth.

4. A commutator-brush composed of two or more separate and independent piles or compound strips, formed of superposed detachably and adjustably connected laminae, as described, in combination with a brush-holder provided with separate and independent clamping or holding devices, one for each pile or compound strip, substantially as hereinbefore set forth. 25 30

In testimony whereof I have hereunto set my hand this 28th day of August, 1882.

WILLIAM B. MASON.

Witnesses:

E. FRANK. WOODBURY,
GEORGE PATTEN.