(No Model.)

W. B. MASON.

COMMUTATOR BRUSH FOR DYNAMO ELECTRIC MACHINES.

No. 266,855. Patented Oct. 31, 1882.

Fig 1.

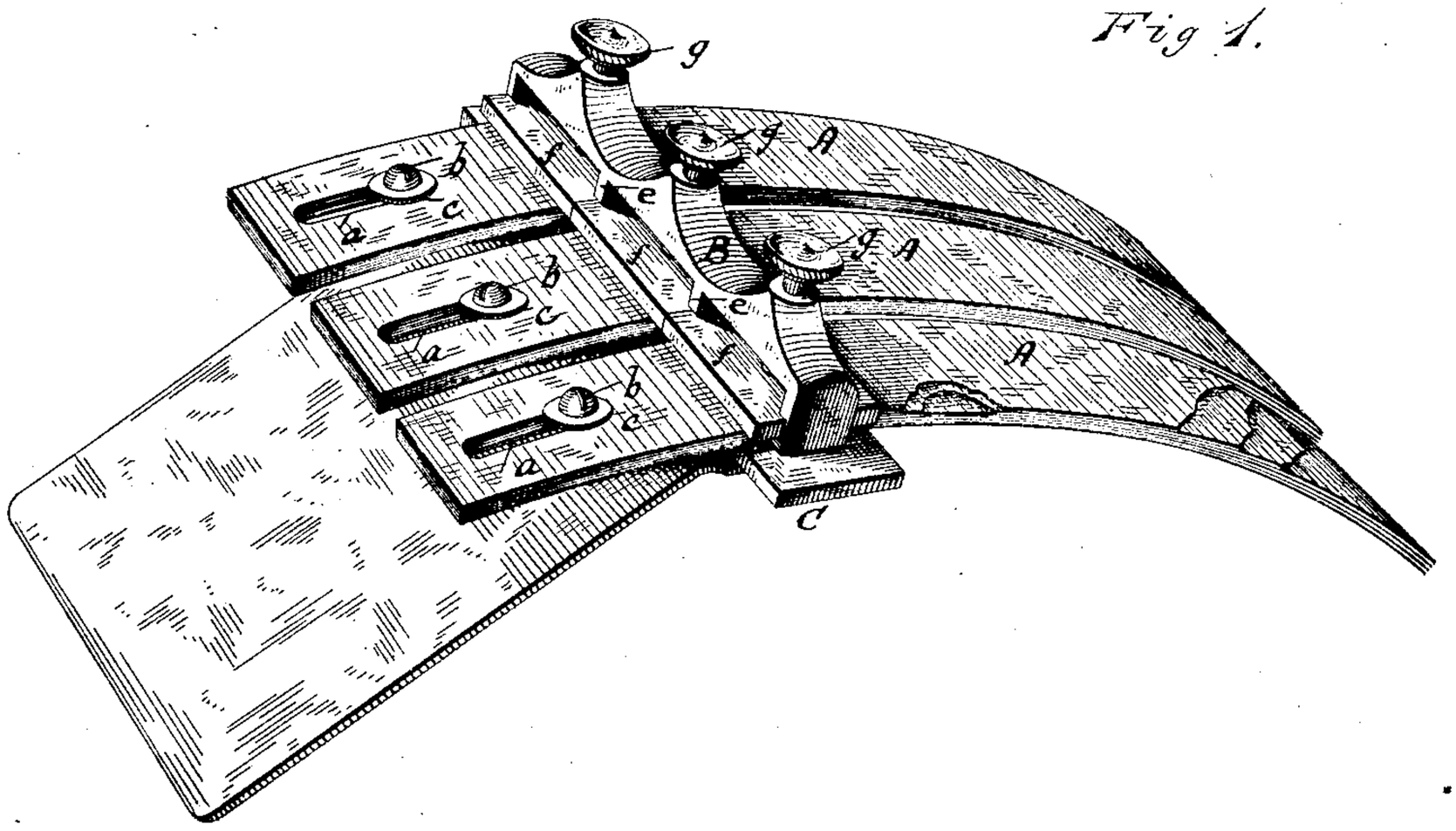
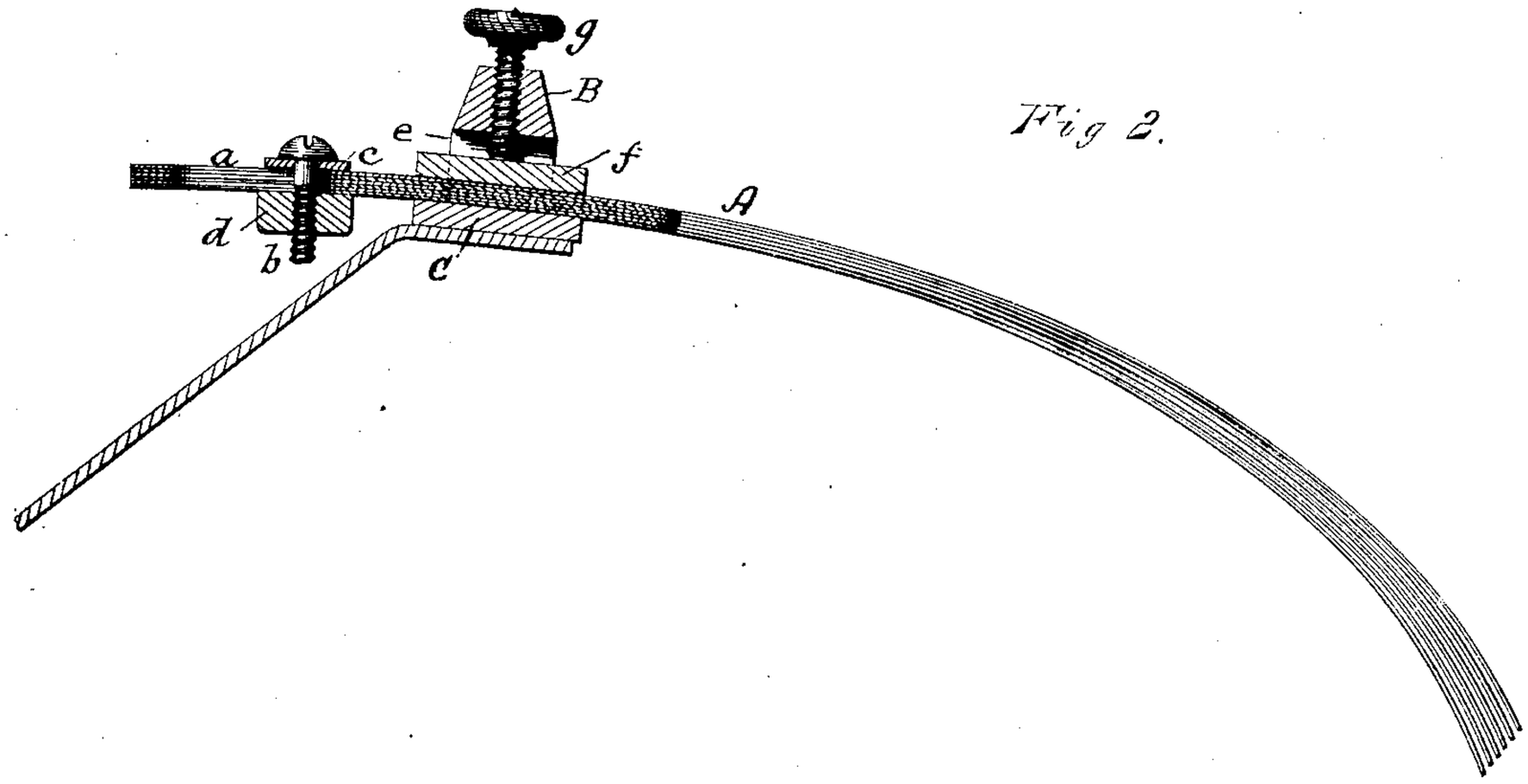


Fig 2.



WITNESSES

Wm. A. Skinkle

Harry King.

INVENTOR

William B. Mason.

By his Attorney

Marcellus Bailey

UNITED STATES PATENT OFFICE.

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 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 many instances formed of a number of a superposed laminæ 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 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 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 adjusted 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 laminæ or strips prevent them from being rearranged 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 laminæ or strips which are detachably and adjustably connected together 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 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 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 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 drawings, 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 longitudinal central section of the same.

The brush in this instance is composed of three independent piles, A, of superposed copper laminæ or strips. Through the rear ends of the strips of each pile is formed a longitudinal 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 desired 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 detachably 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 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 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 adjustable and movable independently of the others, while the individual laminæ 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 or laminæ 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—

1. A commutator-brush composed of a number of superposed laminæ or strips detachably and adjustably connected together at their rear ends by a clamp or binder, substantially as set forth.

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 hereinbefore set forth.

3. A commutator-brush composed of superposed laminæ 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 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 laminæ, 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.

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

WILLIAM B. MASON.

Witnesses:
E. FRANK. WOODBURY,
GEORGE PATTEN.