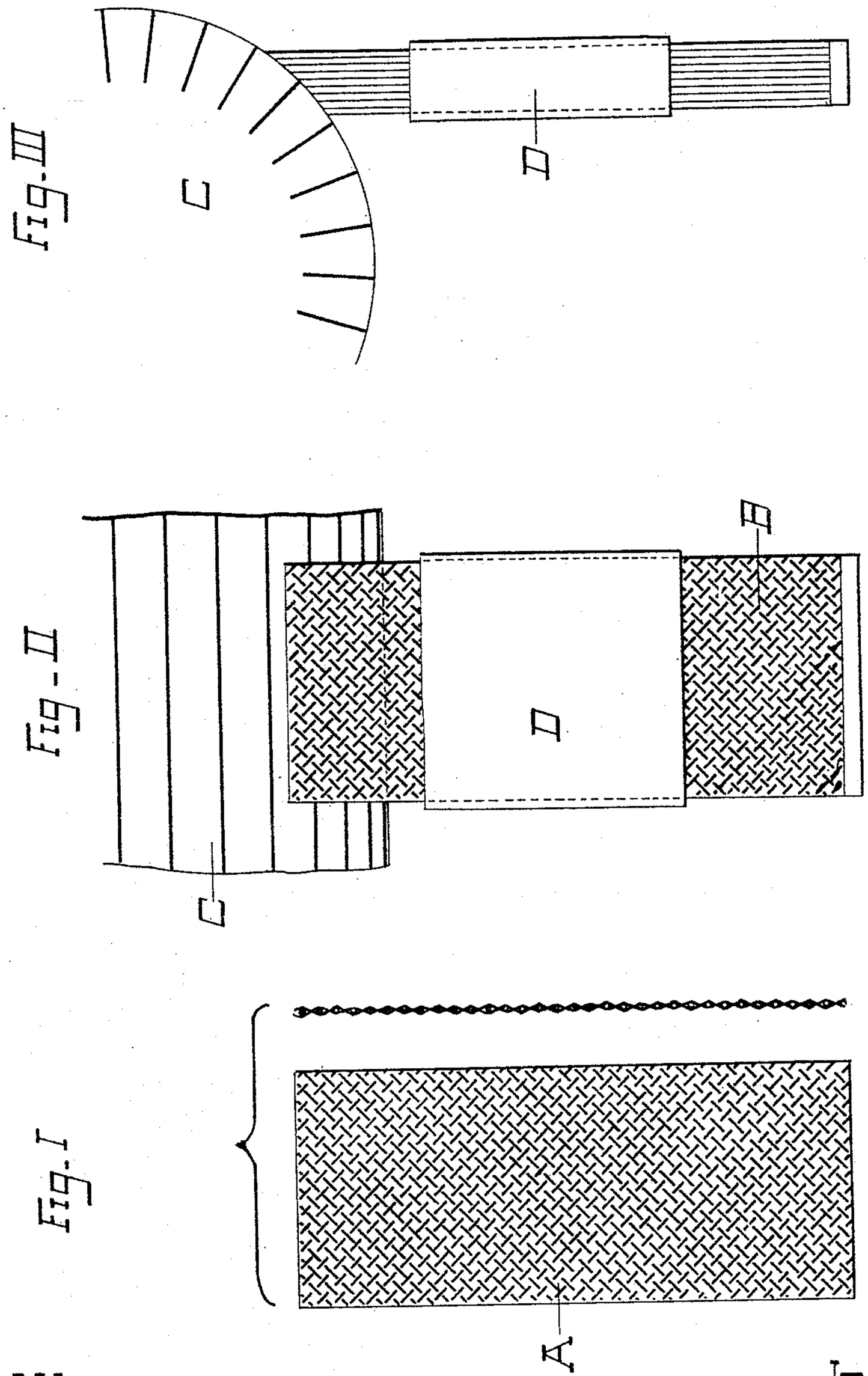
(No Model.)

F. O. BLACKWELL.

COMMUTATOR BRUSH.

No. 410,265. Patented Sept. 3, 1889.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANCIS O. BLACKWELL, OF NEW YORK, N. Y.

COMMUTATOR-BRUSH.

SPECIFICATION forming part of Letters Patent No. 410,265, dated September 3, 1889.

Application filed May 14, 1889. Serial No. 310,724. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS O. BLACKWELL, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Commutator-Brushes, of which the following is a specification.

My invention relates to commutator-brushes for dynamo-electric machines or motors of any description; and it consists in a number of layers of wire-gauze, cut so that the wires of which the gauze is woven lie in a direction diagonal to the axis of the commutator. A number of layers of wire-gauze cut in this manner are placed together in a sleeve through which they may slide easily, and at their rear ends are soldered together to form a complete brush.

My invention is illustrated in the accompanying drawings, in which—

Figure I shows a single layer of wire-gauze both in plan and in elevation, with the wires running diagonally across it. Fig II is a plan of a commutator-brush made up of several layers of wire-gauze resting on the commutator. Fig. III is a side elevation of Fig. II.

In the drawings, A represents a single sheet of wire-gauze cut so that the individual wires run at right angles to each other, but at an angle of about forty-five degrees to the edge of the sheet. A number of sheets of wire-gauze so cut are made up, as shown in Figs. II and III to form a brush B, resting upon the commutator C. This brush B is surrounded by the sliding sleeve D, and the layers of gauze are soldered together at E to form a unitary brush. A brush of this character and formed of brass wire has been found to give superior contact and cause less sparking than the ordinary brush formed of layers of sheet metal. The brush may be fixed in a holder of any well-known description, so as to bear at the proper angle on the commutator.

By reason of the individual wires being placed diagonally to the axis of the commutator a much better wearing-surface is secured, while if the individual wires are placed so that one course lies in a line parallel to the axis of the commutator the end wire would be raveled out and drawn onto the commutator, thereby creating a flash and doing injury.

What I claim as new, and desire to secure by Letters Patent, is—

1. A commutator-brush composed of one or more layers of wire-gauze, having the individual wires in a line diagonal to the axis of the commutator.

2. A commutator-brush made up of two or more layers of wire-gauze, fastened together at their rear ends and provided with a surrounding sleeve.

3. A commutator-brush made up of two or more layers of wire-gauze, secured together at their rear ends and having the individual wires in a line diagonal to the axis of the commutator.

4. A commutator-brush made up of a number of layers of wire-gauze, secured together at their rear ends and surrounded by a sliding sleeve.

5. A commutator-brush made up of a number of layers of wire-gauze, having their forward ends placed in contact with the commutator and their rear ends secured together.

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