

(No Model.)

C. O. C. BILLBERG.

COMMUTATOR CONNECTION FOR DYNAMO ELECTRIC MACHINES.

No. 465,233.

Patented Dec. 15, 1891.

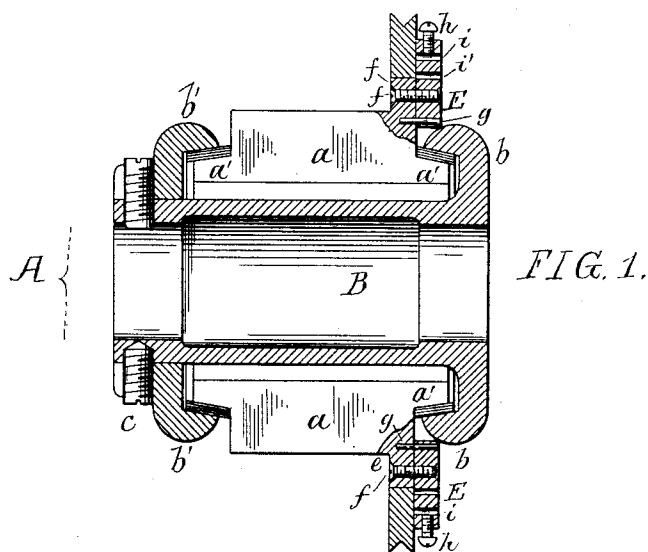


FIG. 1.

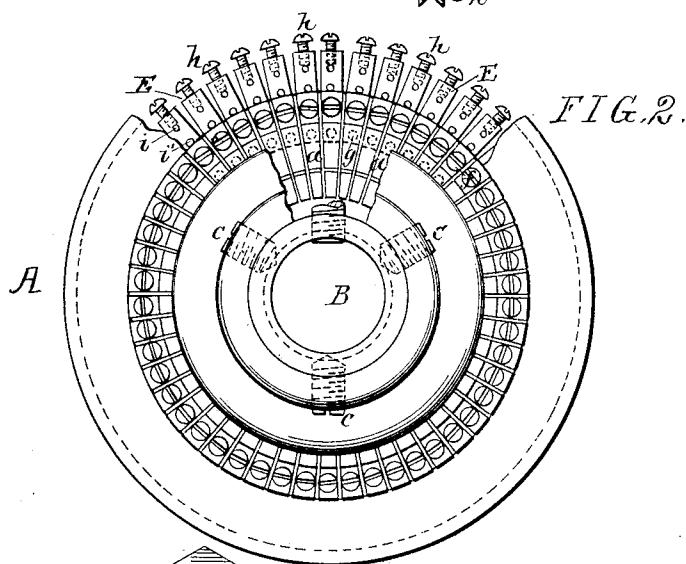


FIG. 2.

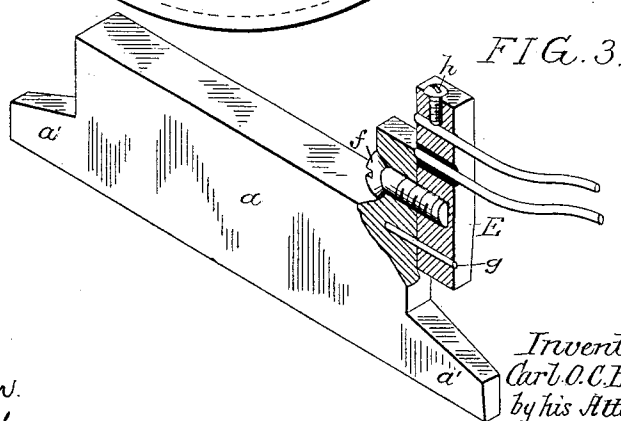


FIG. 3.

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UNITED STATES PATENT OFFICE.

CARL O. C. BILLBERG, OF PHILADELPHIA, PENNSYLVANIA.

COMMUTATOR CONNECTION FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 465,233, dated December 15, 1891.

Application filed October 7, 1890. Serial No. 367,344. (No model.)

To all whom it may concern:

Be it known that I, CARL O. C. BILLBERG, a subject of the King of Sweden, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Commutator Connections for Dynamo-Electric Machines, of which the following is a specification.

The object of my invention is to so secure the armature-wires of a dynamo-electric machine or motor to their respective commutator-strips that they can be readily detached therefrom for purposes of examination and repair, as fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a commutator of a dynamo-electric machine, showing my improvements. Fig. 2 is an end view of the same, partly in section. Fig. 3 is a perspective view of one of the commutator-strips with the wires attached.

A is the commutator, composed of the series of strips *a*, held in place on the sleeve B by the rims *b b'*, which extend over projections *a'* on each end of the strip, the rim *b'* being loose and secured to the sleeve B by screws *c*. To extensions *e* on each commutator-bar is secured a plate E, a screw *f* passing through the extension into the plate and a pin *g*, projecting from the plate, passing into the commutator-strip, thus preventing the plate E from turning on the screw. Above the screw this plate has two orifices *i i'*. A set-screw *h* enters the orifice *i*, and when one or more of the armature-wires are inserted into this orifice *i* they are held therein by the set-screw *h*, the other wire or wires being firmly soldered in the orifice *i'*, making it practically permanent with the plate E. It will be seen that while one wire is readily detachable the other wire is a fixture in the plate. Thus a

firm and sure connection is made between the armature-wires and the commutator-strips, so that it will be impossible for them to fly out when the armature is in motion, and at the same time, when it is wished to test one or more of the circuits or repair the armature, by simply unscrewing the set-screw *h* the wire *i* in the orifice can be removed, and if it is necessary to remove the plate itself the screw *f* can be readily withdrawn, permitting the removal of the plate and its wires, so as to free them from contact with the commutator-strip.

I claim as my invention—

1. The combination, in a dynamo-electric machine or motor, of the commutator-strip, the projection thereon, a plate secured to said projection, orifices in said plate, an armature-wire permanently secured in one of said orifices, and an armature-wire detachably secured in the other orifice, substantially as described.

2. The combination of the commutator-strip, a projection thereon, a bar having a pin adapted to pass into the commutator-strip, a screw passing through the projection on the commutator-strip into the bar and securing said bar to the commutator-plate, with an armature-wire permanently secured by solder in an orifice in the plate, said plate having a second orifice for a removable wire, with a set-screw for binding said wire in said orifice, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL O. C. BILLBERG.

Witnesses:

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