(No Model.)

J. W. EASTON.

SAFETY CONTACT BRUSH FOR DYNAMO ELECTRIC MACHINES.

No. 363,127. Patented May 17, 1887.

Fig. 1.

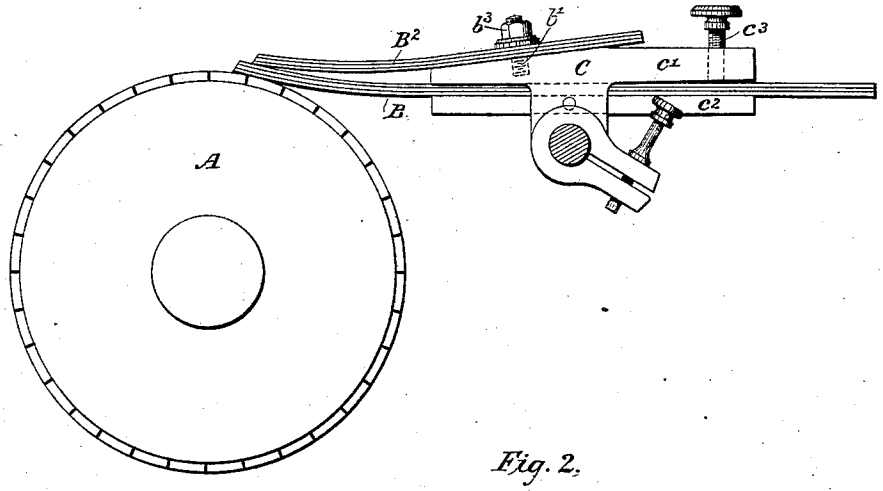
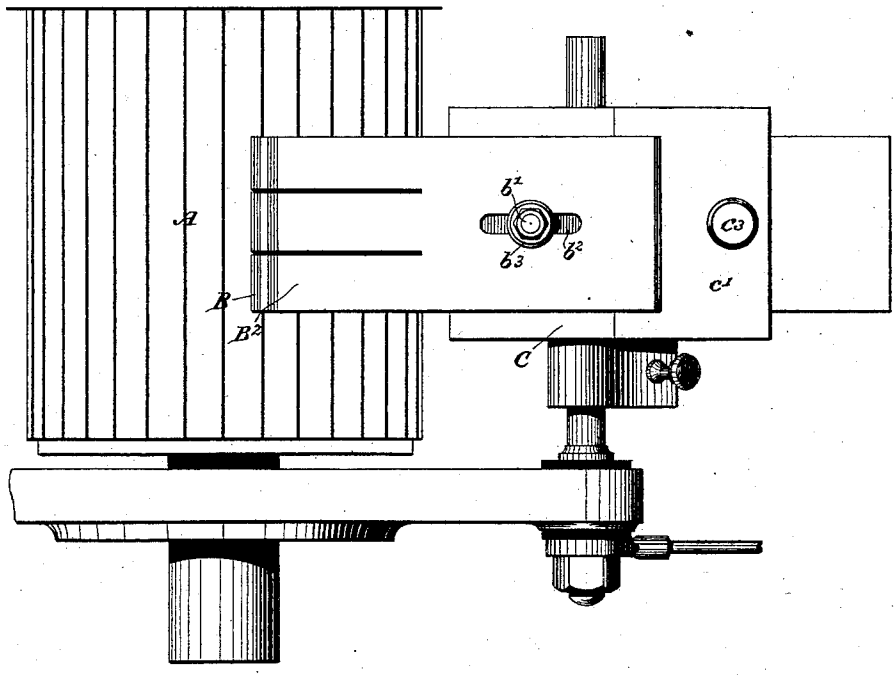


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES W. EASTON, OF NEW YORK, N. Y.

SAFETY CONTACT-BRUSH FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 363,127, dated May 17, 1887.

Application filed March 17, 1886. Serial No. 195,516. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. EASTON, a subject of the Queen of Great Britain, residing in New York, in the county and State of New York, have invented certain new and useful Improvements in Safety Contact-Brushes for Electric Machines, of which the following is a specification.

The invention relates to the construction of commutator or collector brushes employed upon the commutators of dynamo-electric generators.

The object of the invention is to provide means for preventing an interruption of the current when a brush is removed from the commutator for the purpose of repairing or replacing it.

The invention consists in applying to the commutator an auxiliary contact-brush which, while normally out of contact with the commutator-plates, is capable of coming into contact therewith the moment the main brush is removed, or is worn away a sufficient distance to interfere with its proper operation. The auxiliary brush is preferably placed in the same holder as the main contact-brush, and it terminates a slight distance back of the same, its end resting upon the upper surface of the main brush. When the main contact-brush is removed from the holder, the auxiliary brush is immediately pressed against the commutator-plates by the holder, and serves in lieu thereof as long as may be necessary. The same result is effected by the wearing away of the end of the main commutator-brush.

It has been proposed to employ adjustable pressure-springs for holding the contact-brush against the commutator and to compensate for the wearing away of a contact-strip thus held against the commutator.

In the accompanying drawings, Figure 1 is a side elevation, and Fig. 2 is a plan view, of a commutator and its holder, having a brush adapted to the purposes of the invention.

Referring to the figures, A represents a commutator of any suitable character, and B' a commutator or collector brush. The brush is carried in a suitable holder, C, which in this instance consists of a plate, c', and a clamping-plate, c^2, pivoted thereto. The brush is inserted between these two plates, and is held in position by the pressure of a screw, c^3, extending through the plate c' and against the upper surface of the brush B'. The entire holder is pressed toward the commutator A in any convenient manner.

Upon the upper plate, c', there is fastened a second collector-brush, B^2, which is in electrical connection with the holder, as also with the brush B'. The brush B^2 is preferably secured to the holder by a post, b', extending through a slot, b^2, and fastened in place by a nut, b^3. The slot b^2 is of sufficient length to permit the brush to be adjusted back and forth along the length of the brush B'. The brush B^2 is preferably secured in position with the end a slight distance back of the end of the brush B'.

It is necessary to frequently remove the collector-brushes from the machine for the purpose of trimming the ends and resetting them while the machine is still in motion, and it is desirable that this should be accomplished without interrupting the operation of the machine.

It will be evident that upon removing the brush B' the brush B^2 will be allowed to come in contact with the commutator by reason of the pressure of the holder toward the same, and thus the current will be collected without interrupting or interfering with the operation of the machine. When it is desired to again place the brush B' in its former position, it is inserted between the two plates c' and c^2, and as it comes into contact with the commutator it presses the auxiliary brush upward out of its path.

It is not desired to confine the invention to the precise form of holder described, nor to the mechanical construction shown, as it is evident that numerous modifications may be readily devised.

I claim as my invention—

The combination, substantially as herein-before set forth, of a commutator or collector, a contact-brush applied thereto and pressing, by reason of its own resilience, against the commutator, and a second brush normally out of contact with the commutator or collector, but coming in contact therewith upon the removal of the first-named brush.

In testimony whereof I have hereunto subscribed my name this 1st day of March, A. D. 1886.

JAMES W. EASTON.

Witnesses:
THOS. TRYON,
CHARLES A. TERRY.