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E. SCHMOCK

SHORT CIRCUITING AND BRUSH LIFTING DEVICE FOR DYNAMO ELECTRIC MACHINES

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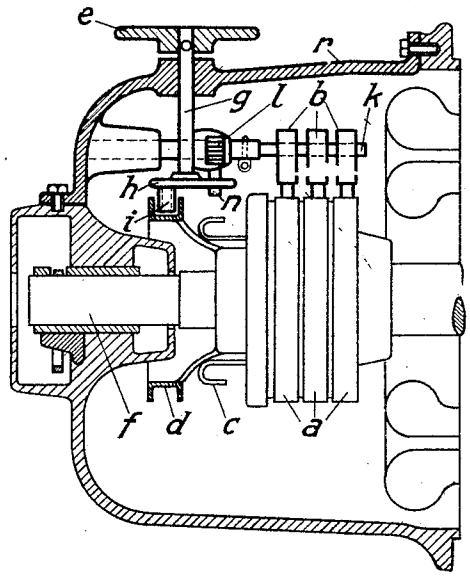

Inventor:
Erich Schmock
Thatcher & Company
Attys

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ERICH SCHMOCK, OF KIEL, GERMANY, ASSIGNOR TO DEUTSCHE WERKE KIEL, AKTIENGESELLSCHAFT, OF WERFTSTRASSE, KIEL GAARDEN, GERMANY.

SHORT-CIRCUITING AND BRUSH-LIFTING DEVICE FOR DYNAMO-ELECTRIC MACHINES.

Application filed December 16, 1925, Serial No. 75,782, and in Germany February 24, 1924.

My invention relates to short-circuiting and brush-lifting devices for dynamo-electric machines particularly for three-phase slip-ring motors.

Heretofore it has been customary to arrange the brush-holders and the elements for actuating the short-circuiting and brush-lifting devices separately from each other on the casing, whereas the object of my invention is to unite these elements.

By my invention the different elements may be constructed outside of the motor and can be fixed and taken off in the whole.

The drawing illustrates a longitudinal section of a part of a three-phase slip-ring motor bearing the short-circuiting and the brush-lifting device.

a are the slip-rings of the motor, *b* the brush-holders and *c* the short-circuiting contact-springs. The connection of the contact-springs is effected in the known manner by means of a sleeve *d* removable in the axial direction of the motor-shaft *f* and provided with an annular notch, this sleeve taking part in the rotation of the rotor.

The removal or shifting of the short-circuiting sleeve *d* is effected by means of a hand-wheel *e* which is fixed to a shaft *g*, journaled in the casing and arranged substantially perpendicular to the motor shaft. To the lower end of the shaft an eccentrical cam *h* is fixed, the crank pin *i* of which engages with the annular notch of the sleeve *d*.

The two sets of brush-holders are fastened on to two bolts or shafts, *k*, carrying each a toothed segment *l*. Both toothed segments are engaged with each other, so that the two sets of brush-holders have always the same angular position relatively to the slip-rings. A tension spring (not shown) connecting the two shafts *k* tends to press the brushes against the slip-rings. The sleeve *d* is brought to the short-circuiting position by turning the hand-wheel *e*, whereby at the same time the lifting of the brushes clear from the slip-rings is effected by the cam *h* cooperating with the pin *n* situated on the shaft *k*.

The combined construction is fixed to a cover or arm *r* which can be removed from the casing. The combined brush lifting and short circuiting devices as a whole can therefore easily be fixed to it from outside or be taken off without loosening any parts of the motor.

What I claim and desire to secure by Letters Patent is:

1. In a dynamo-electric machine, manually operated short-circuiting and brush-lifting devices, comprising an actuating member of the short-circuiting device, two brush-holders and a device for lifting said brush-holders, all combined into a unitary structure arranged to be inserted into the machine as a unit.

2. In a dynamo-electric machine, manually operated short-circuiting and brush-lifting devices, comprising an actuating member of the short-circuiting device, two brush-holders and a device for lifting said brush-holders, all combined into a unitary structure, and a supporting member for said unitary structure arranged to be inserted together with said unitary structure as a unit into the machine.

3. In a dynamo-electric machine, the combination with manually operated short-circuiting and brush-lifting devices, comprising an actuating member of the short-circuiting device, two brush-holders and a device for lifting said brush-holders, all combined into a unitary structure, of a machine casing having an opening through which said unitary structure can be inserted as a unit into the machine, and a cover for said opening adapted to support said unitary structure.

In testimony whereof I affix my signature.

ERICH SCHMOCK.