(No Model.)

F. M. BROWN & C. B. BOSWORTH.

COMMUTATOR FOR DYNAMO ELECTRIC MACHINES.

No. 280,288. Patented June 26, 1883.

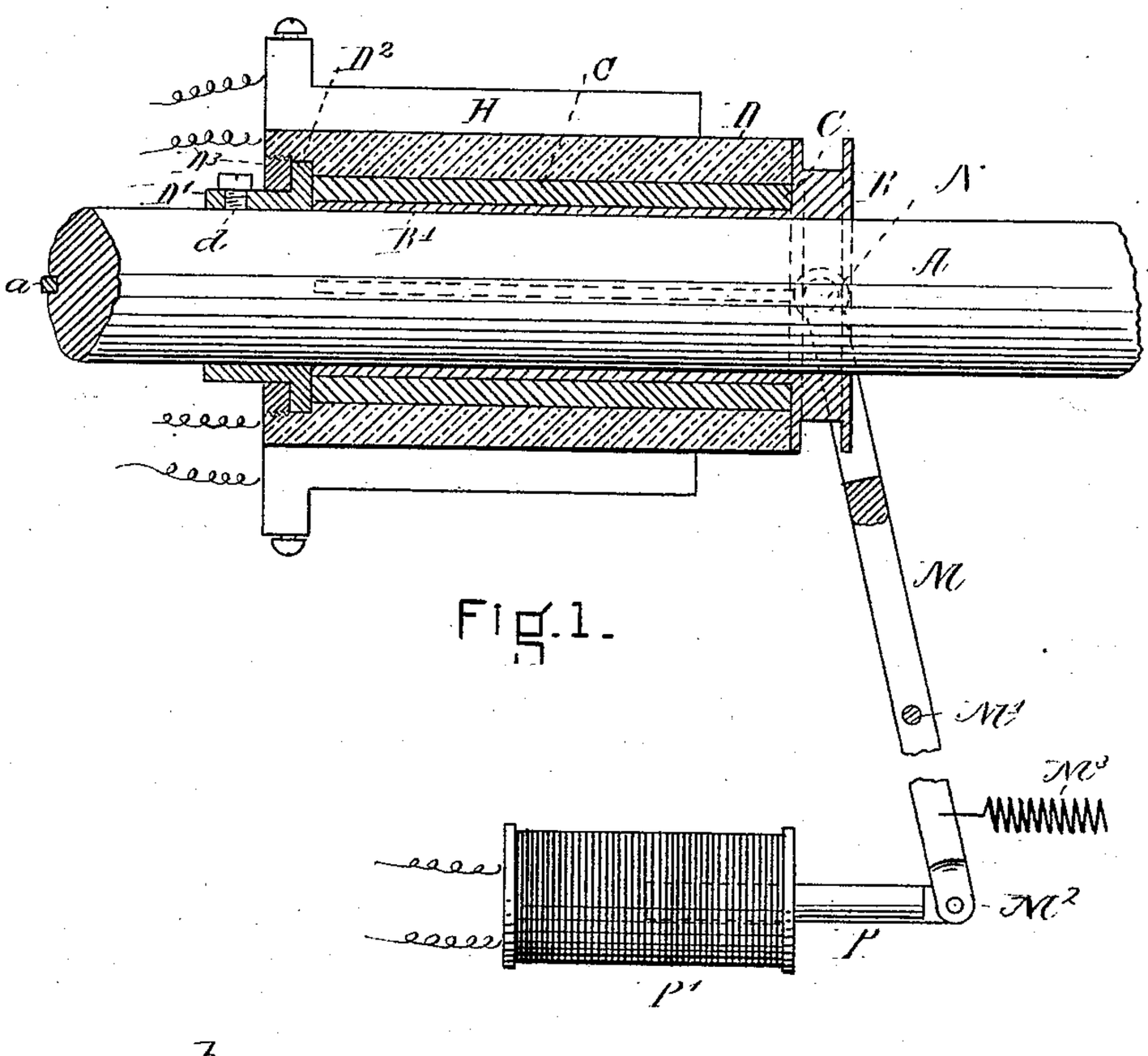

Fig. 1.

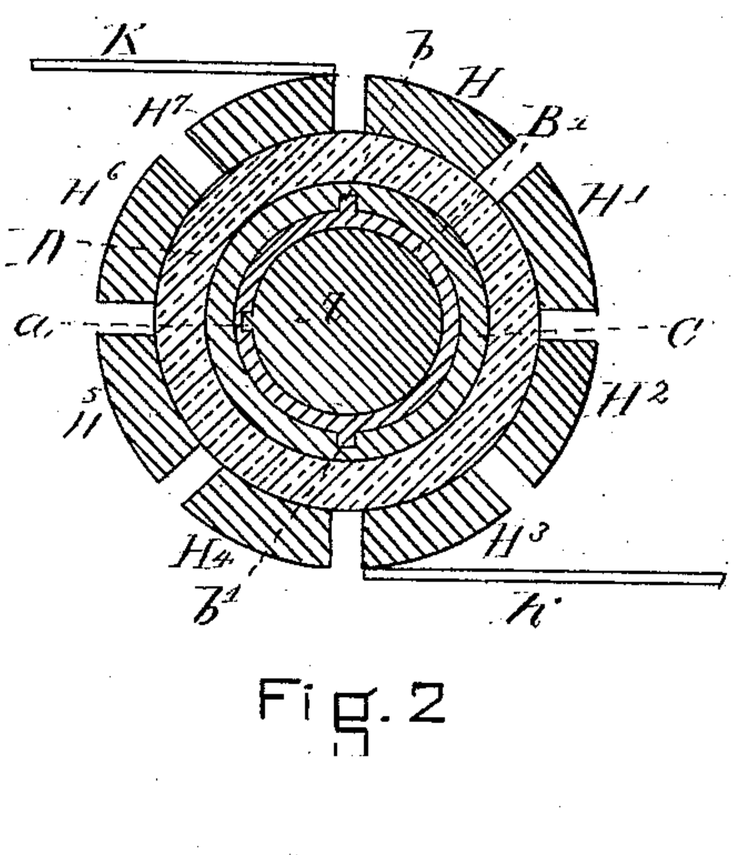

Fig. 2

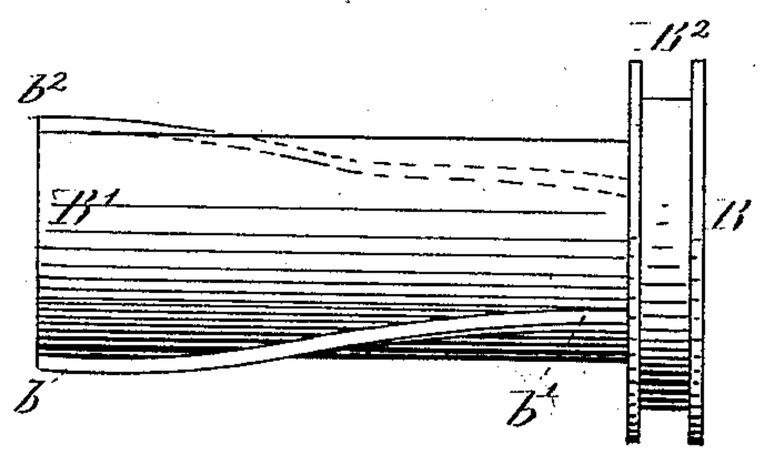

Fig. 3.

WITNESSES

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FRANK M. BROWN, OF BOSTON, AND CHARLES B. BOSWORTH, OF EVERETT, MASSACHUSETTS, ASSIGNORS TO THE HELIOS ELECTRIC LIGHT COMPANY OF MAINE.

COMMUTATOR FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 280,288, dated June 26, 1883.

Application filed February 12, 1883. (No model.)

To all whom it may concern:

Be it known that we, FRANK MORTIMER BROWN and CHARLES B. BOSWORTH, residing, respectively, at Boston, in the county of Suffolk and State of Massachusetts, and at Everett, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Commutators, of which the following is a specification.

Our invention relates to an appliance to be used in connection with dynamo-electric machines for adjusting the commutator, the object being to make an automatically-adjusted commutator which, when the dynamo is working, will promptly regulate the electric current to the work required. We attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section, showing the commutator and the shaft of the dynamo-machine. Fig. 2 is a cross-section of the same, and Fig. 3 is an elevation of a part.

In the drawings, A represents the shaft upon which the armature-bobbins are mounted.

The commutator-bars H H′ H², &c., are attached to an insulating-cylinder, D′, said cylinder being held longitudinally in place by the collar D′, Fig. 1, which is rigidly attached to the shaft A by the set-screw *d*.

D³ is an annular screw, which, being screwed into the part D, effectually holds the entire commutator longitudinally in place.

C is a metallic bushing, which is solidly affixed to the interior of the insulating-cylinder D.

On the interior of the bushing C two spiral grooves are cut, into which corresponding spiral splines, *b*, *b′*, and *b²*, made on the sleeve B′, fit. (See Figs. 2 and 3.) The sleeve B′ can slide freely longitudinally on the shaft A, but cannot turn on it, as that motion is controlled by a straight spline, *a*, on the shaft A. (See Figs. 1 and 2.) The annular grooved piece B is attached to the sleeve B′, as shown in Figs. 1 and 3, and is in working connection with a forked lever, M N. This forked lever M N is pivoted at M′, and has attached to its outer end, by a pin at M², a rod-armature, P, which is actuated by a coil, P′.

K K, Fig. 2, are the brushes, which may be made in any of the desirable methods.

The operation of our invention is as follows: The several armature-bobbins are connected to their respective commutator-bars H H′ H², &c., in the usual manner, and the brushes K adjusted in relation to the commutator-bars, armatures, and field-magnets so as to give off the greatest amount of electricity that the machine is rated for. Then the sleeve B′ is adjusted by movement of the lever M N, Fig. 1, until a medium current will be sent out by the machine. In this condition the machinery is ready to be balanced by resistance-coils, &c., to the work expected of it.

It must be understood that the moving of the sleeve B′ longitudinally by the lever M N will cause a partial revolution of the commutator in relation to the shaft A and the armature-bobbins, so that any movement of the lever M N will cause the ends of the brushes K K to occupy different positions in the commutator-blocks H H, and thus change the amount of current in the field-magnets.

We claim—

In a regulator for a dynamo-electric machine, the combination of the shaft A, sleeve B′, lever M N, armature P, and coil P′ with the commutator D H H′ H², &c., all adapted to operate substantially as described, and for the purpose set forth.

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Witnesses:
HELEN M. FEEGAN,
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