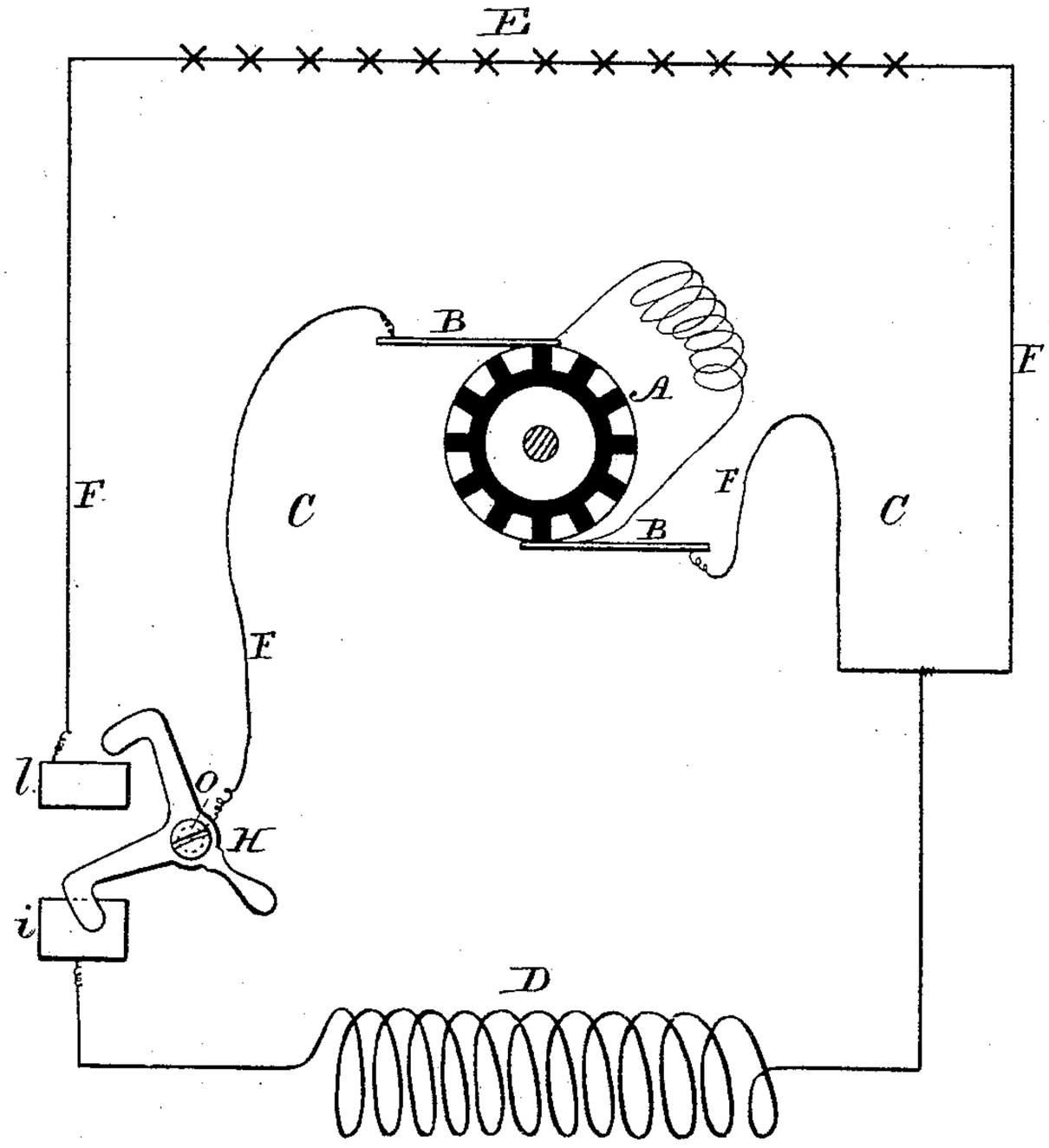
(No Model.)

N. McCARTY.

CIRCUIT CONNECTION FOR DYNAMO ELECTRIC MACHINES

No. 337,010. Patented Mar. 2, 1886.



Witnesses

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atty

UNITED STATES PATENT OFFICE.

NORMAN McCARTY, OF HOOSICK, NEW YORK, ASSIGNOR TO JOHN B. TIBBITS, OF SAME PLACE.

CIRCUIT CONNECTION FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 337,010, dated March 2, 1886.

Application filed July 3, 1885. Serial No. 170,593. (No model.)

To all whom it may concern:

Be it known that I, NORMAN McCARTY, of Hoosick, in the county of Rensselaer and State of New York, have invented an Improvement in Circuit-Connections for Dynamo-Electric Machines, of which the following is a specification.

My improvement relates to that class of machines known as "derived circuit or shunt machines," in which the line or lamp circuit is connected at the terminals of the machine as a branch or shunt circuit, the strength of the field and the amount of current generated in the machine depending on the resistance of this outside or lamp circuit. In starting machines of this kind, owing to the low resistance of the line-circuit, the machine does not become magnetized and operate to its full capacity as rapidly as desired. In order to obviate this difficulty I combine with the dynamo-machine and the line-circuit a compound switch constructed in such a manner that when the switch is turned the exciting-circuit is first closed, so that the current generated passes entirely through the helices of the field-magnets, to energize the same and instantly develop the working capacity of the dynamo. The further movement of the switch closes the external line-circuit so that the same becomes a shunt or branch, and the current is divided between the external and internal circuits. By this means the lights or other line devices in the external circuit are brought into action fully and instantaneously, instead of being developed gradually, as is the case with the dynamo and circuit connections heretofore made use of.

In the drawing my invention is represented by a diagram.

A represents the commutator-plates, B the brushes, C the armature-helices, and D the field-helices. These are connected in the circuits of the machine in any usual manner.

E represents the lamps or other working devices in a circuit, F, that is a branch or shunt to the circuit in the machine.

I make use of a switch, H, upon a pivot, O, and *i* and *l* are contact-blocks forming terminals to the exciting and line circuits respectively, and one terminal of the circuit is connected to the pivot O of the switch H. The contact-blocks *i* and *l* are so arranged in relation to the switch H that when such switch is swung upon its pivot O one arm of the switch H will come in contact with the blocks *i*, closing the exciting-circuit through B C O H to the helices D before the other portion of the switch H comes into contact with the block *l*. Thereby the magnetism of the field-magnets is instantly developed to the maximum intensity; hence the dynamo-electric machine is brought up to its working condition before the line-circuit is closed; hence the lights or other devices in such circuit are developed to their full capacity as soon as the switch H reaches the contact-block *l*.

It is to be understood that the contact-block *i* is of sufficient size to allow of the movement of the switch in closing against the contact-block *l* without the switch separating from such contact-block *i*.

I do not confine myself to this particular kind of switch as there are other methods by which the same results may be obtained, the object of the device being to allow the exciting-circuit to be closed through the field-magnets while the circuit through the lamps is broken.

I claim as my invention—

1. The combination, with the dynamo-electric machine having an exciting-circuit passing through the field-magnets, of a line-circuit that is a branch of the exciting-circuit and contains the lights or other working devices, a two-part switch and contact-blocks connected at the junction of the external and exciting circuits and arranged to close the exciting-circuit before closing the external circuit, for the purposes and substantially as set forth.

2. The combination, with the dynamo-electric machine having an exciting-circuit passing through the field-magnets, of a line-circuit that is a branch of the exciting-circuit and contains the lights or other working devices, and a switch and contact for the same arranged to close the line or working circuit after the exciting-circuit has been closed and the dynamo brought up to its maximum capacity, substantially as set forth.

Signed by me this 14th day of February, A. D. 1885.

NORMAN McCARTY.

Witnesses:

D. P. GRIFFITH,

G. H. MYERS.