

(No Model.)

J. M. McMAHAN.

DYNAMO AND MAGNETO ELECTRIC MACHINE.

No. 281,904.

Patented July 24, 1883.

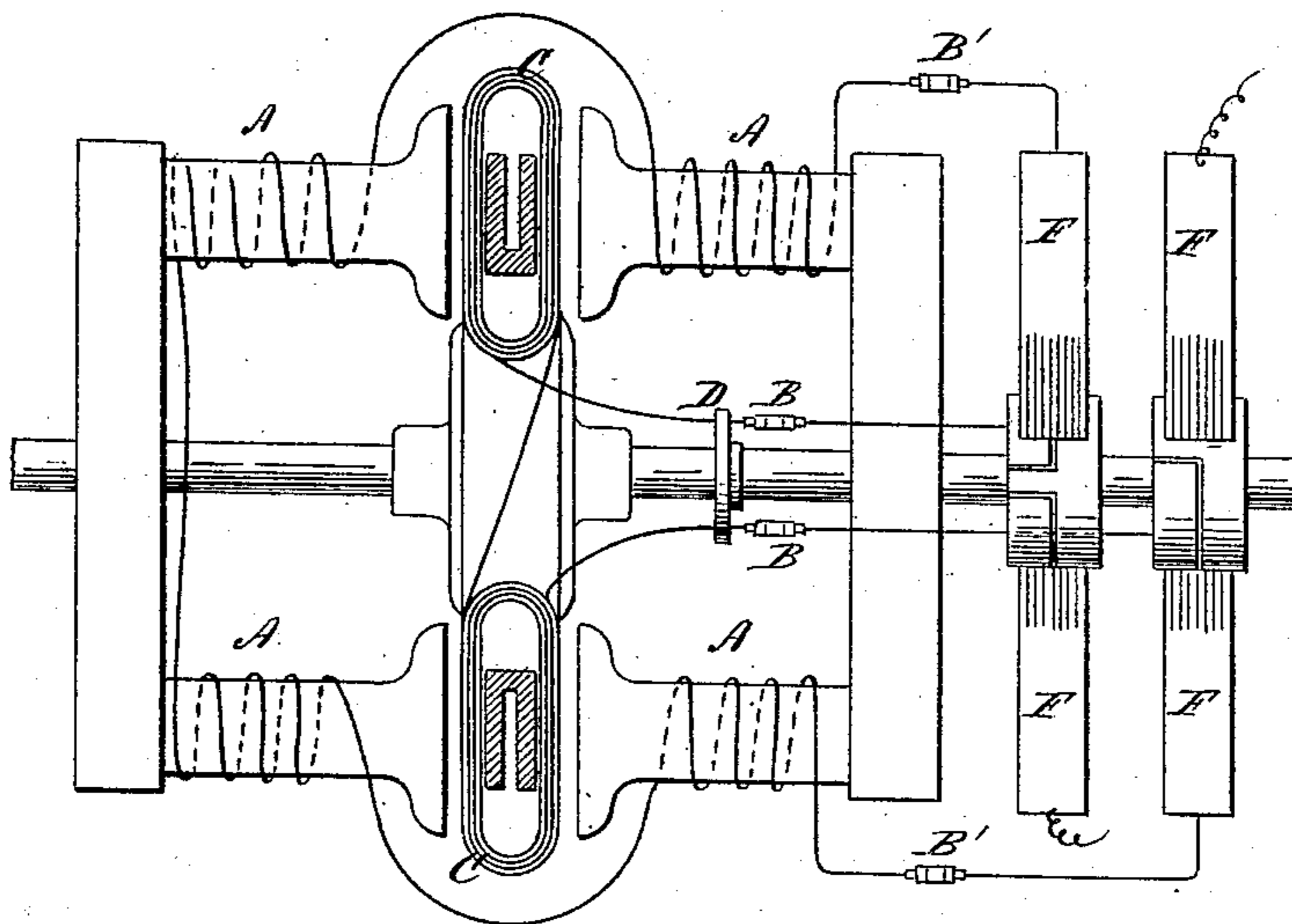


Figure 1.



Figure 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN M. McMAHAN, OF JERSEY CITY, NEW JERSEY.

DYNAMO AND MAGNETO ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 281,904, dated July 24, 1883.

Application filed April 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. McMAHAN, of Jersey City, New Jersey, have invented a new and useful Improvement in Dynamo and Magneto Machines and Motors, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

My invention relates to a method of preventing destruction of dynamo-machines or electric generators by reason of accidental short-circuiting within the machine itself, which is an accident which has frequently occurred, and by which many machines have been greatly injured.

My invention consists in interposing in circuit within the machine a fusible plug of such a nature as that if there be an accidental closed circuit formed upon the commutator neither the armature-coils nor the field-magnet coils will be destroyed.

My invention is distinguished from the fusible plugs heretofore employed by the circumstance that those plugs will not prevent the destruction of the machine by short-circuiting within itself.

My invention will be readily understood from the accompanying drawings, in which Figure 1 represents a Brush machine with my invention applied, and Fig. 2 illustrates the method of application of the fusible plug.

A A A A represent the field-magnet coils, C C the armature-coils, of the Brush machine. These coils are connected in the usual way with the commutator-brushes F F F F. In the circuits between the brushes and the field-magnet coils, and between the commutator and the armature-coils, I interpose fusible plugs B' B' B B, which may be of the form shown in Fig. 2. I also, preferably, cause the wires leading from the armature to pass through a re-

taining-ring, preferably of insulated material, or similar device, which will prevent their flying outward and injuring the machine when released by the fusible plug. This retaining-ring I have marked D in Fig. 1.

The operation of my apparatus will be readily understood. The plugs are so made as to fuse before injury is done to the coils of the machine, and if it should happen that a short circuit were made between the sections of the commutator at any time, or the apparatus were otherwise internally short-circuited, the immediate melting of the plugs would prevent the otherwise unavoidable destruction of the machine.

It is obvious that my plugs could be arranged in many different places within the machine without departing from my invention, and, also, that they are applicable to other forms of machine beside that known as the "Brush" machine.

I am aware that fusible plugs have before now been employed in electric circuits, and I do not claim, generally, such use; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a dynamo or magneto machine with one or more fusible plugs interposed in the circuit of said machine between the armature and the commutator, substantially as described.

2. The combination of a dynamo or magneto machine with one or more fusible plugs interposed in the circuit of said machine between the field-magnet and a brush connected with the commutator, substantially as described.

JOHN M. McMAHAN.

Witnesses:

GEO. H. EVANS,
WM. POLLOCK.