

(No Model.)

G. E. DORMAN.
DYNAMO ELECTRIC MACHINE.

No. 567,586.

Patented Sept. 15, 1896.

Fig. 1.

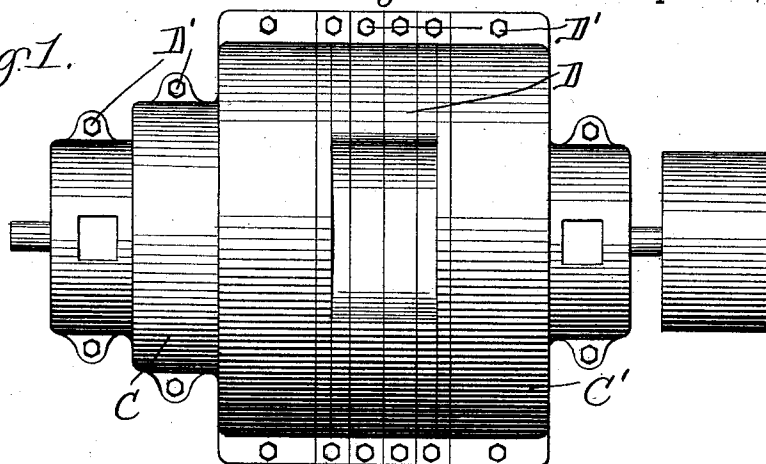


Fig. 2.

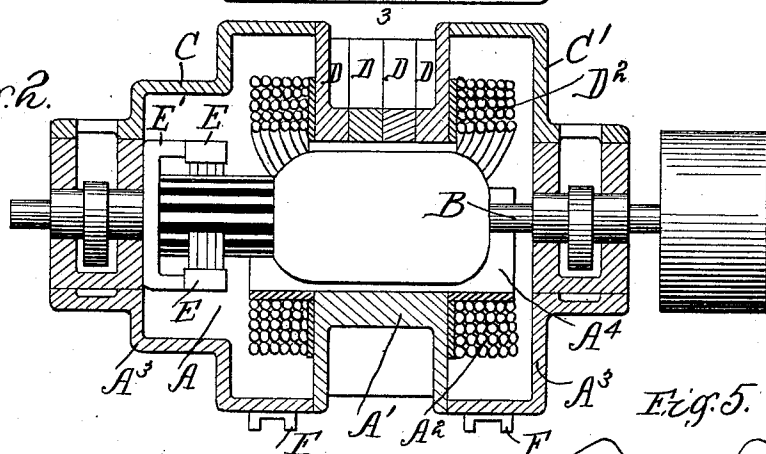


Fig. 3.

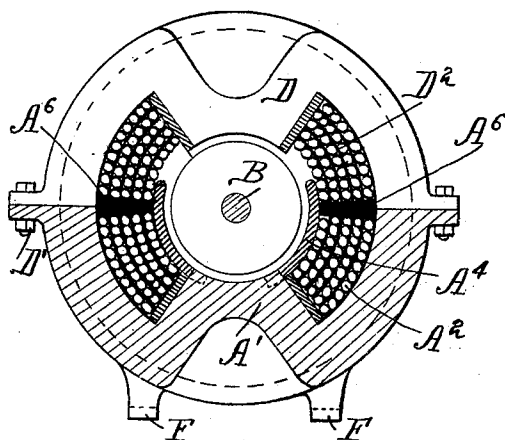


Fig. 4.

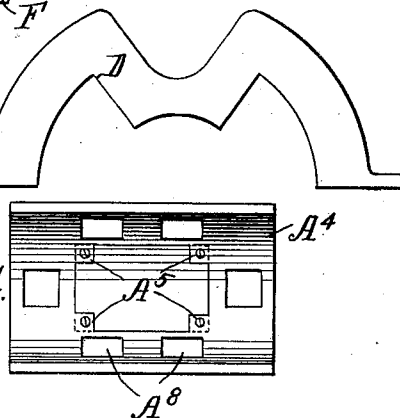
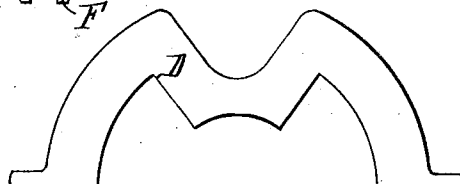


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE EDENSOR DORMAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO JOHN EHRENFRIED DORMAN, OF SAME PLACE.

DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 567,586, dated September 15, 1896.

Application filed February 4, 1896. Serial No. 573,071. (No model.)

To all whom it may concern:

Be it known that I, GEORGE EDENSOR DORMAN, a subject of the Queen of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Dynamo-Electric Machines, of which the following is a specification.

My invention relates to dynamo-electric machines such as are used for generators or motors, and has for its object to provide a new and improved machine of the kind described in which the working parts are all completely inclosed, the parts being so constructed that they can be easily removed in order to allow the interior to be inspected.

My invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of a dynamo-electric machine embodying my invention. Fig. 2 is a longitudinal section through the same. Fig. 3 is a cross-section on line 3 3, Fig. 1. Fig. 4 is a plan view of the canopy, showing the manner of attaching it to the pole-piece. Fig. 5 is a view of one of the sections of the upper pole-piece.

Like letters refer to like parts throughout the several figures.

The bottom of my machine consists of a tube or casting A, which is provided at its center with the upwardly-projecting pole-piece A', carrying the field-coil A². The ends A³ A³ of this lower half or tube are preferably made thin, as shown, and extend outwardly, so as to form supports for the armature-shaft B. The upper half of the machine consists of the end brackets C C', which are preferably made as thin as the metal will allow, and the sections D D, which form the upper pole-piece of the machine. The sections D D and the end brackets C C' are fastened to the lower part of the machine in any convenient manner, as by means of the bolts D' D'. The upper field-coil D² surrounds the upper pole-piece, as shown. To the bottom pole-piece A' is attached a canopy or frame A⁴ of non-magnetic material. This canopy may be connected with the pole-piece in any convenient manner. As shown in the drawings, said canopy is provided with an opening, so that it may be slipped over the pole-piece in order to make its upper surface flush with the upper

surface of said pole-piece. Said canopy is provided with the projecting corner-pieces A⁵ A⁵, by which it is rigidly fastened to the pole-piece, said pole-piece being cut away so that the upper surface of the projecting corners A⁵ and the canopy will be continuous with the surface of the pole-piece. This canopy holds the field-coils in position and prevents them from approaching too near the armature. The upper and lower field-coils are separated by the insulating-strips A⁶ A⁶. The armature-shaft B is provided with any desirable self-oiling bearings. The brushes E E of the machine are connected with the rocker-arm E' in the ordinary manner, said rocker-arm brushes being inclosed and completely protected by the end brackets of the machine. The lower part of the machine is provided with the grooved supports F F, adapted to rest upon guides and so constructed as to allow the machine to be moved along said guides in order to vary the tension of the belt.

I have described these several parts in detail, but it is evident that they may be varied in form, construction, and arrangement without departing from the spirit of my invention, and I therefore do not wish to be limited to the exact construction shown.

The connecting-wires (not shown) pass through holes in the castings. The canopy A⁴ is cut away, as shown at the points A⁸, so as to decrease its weight.

The principal magnetic portion of these machines, which is the central, may obviously be, as is already used in other types, the manufactured or laminated iron, both as regards the top and the bottom of the machines, as these parts can be readily stamped out in an undivided condition.

The use and operation of my invention are as follows: When it is desired to set the machine up, the lower field-coil is placed in position on the lower pole-piece and the canopy then attached to said pole-piece. The armature is then placed in position and the upper field-coils placed thereover, so as to rest upon the insulation at the top of the lower field-coil. The end brackets C C' and the sections D D of the pole-piece are then placed in position and firmly secured to the lower part of the machine by means of the bolts or in any

other convenient manner. It will now be seen that the entire machine, including the brushes and commutator, is completely inclosed, so as to be protected from dirt and water or any other material. A machine constructed in this manner may therefore be successfully used in dusty and dirty places and even under water, as the mechanism will be entirely protected. By making the end brackets thin I lessen the number of lines of force that pass around the ends.

If it is desired to inspect the interior of the machine, the end brackets or any of the sections of the upper pole-piece may be taken off at pleasure, each being independent of the other.

I claim—

1. A dynamo-electric machine comprising a base or lower portion provided with an upwardly-projecting pole-piece, a second pole-piece opposite said first pole-piece and consisting of two or more independent sections adapted to be independently connected with said lower portion, and an armature mounted between said pole-pieces.

2. A dynamo-electric machine comprising a base or lower portion provided with an upwardly-projecting pole-piece, a cover or top portion provided with a projecting pole-piece, the said top portion consisting of independent sections adapted to be connected with the base, an armature adapted to rotate between said pole-pieces, and a commutator and brushes associated with said armature, the whole so constructed that the working parts of the machine are completely inclosed and protected.

3. A dynamo-electric machine comprising a base or lower part, provided with an upwardly-projecting pole-piece, a cover or top portion provided with a downwardly-projecting pole-piece made up of two or more independent sections adapted to be connected with said base, and independent end brackets

also adapted to be connected with said base, and an armature mounted between said pole-pieces, substantially as described.

4. A dynamo-electric machine comprising a base or lower portion provided with an upwardly-projecting pole-piece, a cover or top portion provided with a downwardly-projecting pole-piece made up of two or more independent sections adapted to be connected with said base, and independent end brackets also adapted to be connected with said base, said end brackets made of comparatively thin material, and an armature mounted between said pole-pieces, substantially as described.

5. A dynamo-electric machine comprising a semicircular base provided with an upwardly-projecting pole-piece, a field-coil surrounding said pole-piece, a cover or top portion provided with a downwardly-projecting pole-piece, a coil surrounding said pole-piece, an armature mounted between said pole-pieces, and a canopy connected with said lower pole-piece and adapted to hold said coils away from the armature.

6. The combination in a dynamo-electric machine of a semicircular base provided with an upwardly-projecting pole-piece, a coil surrounding said pole-piece, a cover or top portion provided with a downwardly-projecting pole-piece, a coil surrounding said pole-piece and supported upon said lower coil, the two coils being separated by insulation, an armature mounted between said pole-pieces, a canopy connected with said lower pole-piece and adapted to hold the field-coils away from the armature, said cover or top portion being composed of independent sections adapted to be connected with said base so as to completely inclose and protect the working parts of the machine.

GEORGE EDENSOR DORMAN.

Witnesses:

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