(No Model.)

C. J. VAN DEPOELE.

DYNAMO ELECTRIC MACHINE.

No. 304,378. Patented Sept. 2, 1884.

Fig. 1

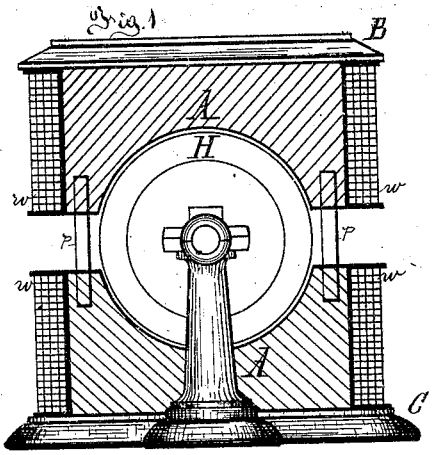


Fig. 2

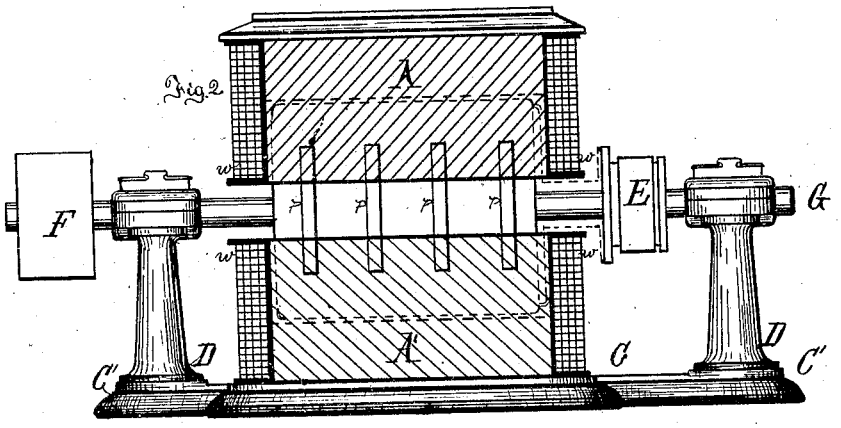
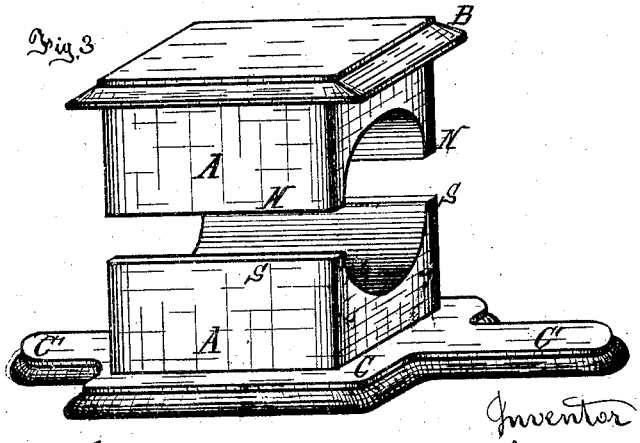


Fig. 3



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES J. VAN DEPOELE, OF CHICAGO, ILLINOIS.

DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 304,378, dated September 2, 1884.

Application filed March 20, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. VAN DEPOELE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dynamo-Electric Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to new and useful improvements made in dynamo-electric machines; and it consists, especially, in the simplification of construction of the field-magnets of such machines.

The following is a description of the same, reference being had to the annexed drawings, forming part of this specification.

In the accompanying drawings similar letters indicate similar parts.

Figure 1 shows an end view of the machine, partly in section; Fig. 2, a side elevation of the same, also partly in section. Fig. 3 is a perspective view of the two field-cores of the machine.

A is the top field-magnet core, made in one solid iron casting. The projection B is cast thereto and intended to hold the wire in place.

A′ is the lower field-magnet core, cast in one piece with the projection C and extensions C′.

D are the posts carrying the armature-shaft G.

E is the commutator, F the driving-pulley, and H the armature.

p p p, &c., are brass pins or studs engaging in the lower electro-magnet, A′, and supporting the top electro-magnet, A, which is simply set on top of said pins. It will be seen that my aim in the present case has been to reduce the expense of construction by making the field-magnets of two independent parts, needing no planing, fitting, nor, in fact, any of the work which in other types of dynamos adds considerably to the cost of production. I find in practice that it is not necessary to connect the two ends of the field-magnet cores together, as I have done in my former dynamos, provided I give proper proportions to the field-cores as compared to the armature. As above stated, the electro-magnets are kept the proper distance apart by means of the brass studs, no screws or bolts being used. The only planing required is on the extensions C′, to which the posts D D are properly bolted from below.

The winding over the magnet-cores is done as shown in Figs. 1 and 2, where *w w* represent coils of wire which envelop said cores on all four sides. In the case of electroplating-machines the wire is replaced by long sheets of copper properly insulated, as is usual. The armature H is shown in dotted lines in Fig. 2, and revolves freely within the interior of the field-magnets. In operation a powerful field of force is produced between the two cores A and A′ and around the armature H. The iron core of the armature tends to concentrate the magnetism within the field where it revolves. As shown in the different figures, the ends of the field-cores are open, so that the wire or copper conductors can react directly upon the revolving armature.

The field-magnet cores can be varied as to shape without departing from the spirit of my invention, provided the two magnetic poles are placed in proper relation with each other, and not connected magnetically, so as to form a common magnetic frame of the two independent cores. As shown, the top core presents a north pole to the top of armature, while the lower core presents a south pole to the under side of armature. (See Fig. 3.)

Having described the different parts of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a dynamo-electric machine, the field-magnets consisting of two independent iron cores, each cast in one solid piece, and so wound and connected with proper conductors as to present two poles of dissimilar name facing each other, in combination with an armature arranged to revolve between the said iron cores, one side of the armature to be influenced by the north and the other by the south pole of the field-magnets, as described, and for the purpose set forth.

2. In a dynamo-electric machine, field-magnets consisting of two independent magnet-cores, each cast in one piece, one of said cores being provided with extensions from its bottom, intended to carry the posts or boxes in which the armature-shaft is to revolve concentrically with the inner face of said magnet-core, and the other core provided with a rim

or projection on its top for keeping the wire in place, the inner face of said cores being of proper circular form, so as to envelop nearly one-half of the armature, substantially as described.

3. A dynamo-electric machine consisting of an armature rotating between two independent field-magnets, the latter being held apart about the armature by a non-magnetic substance dividing the two electro-magnets, so that one reacts on one side of the armature, and the other on the other side of the armature, substantially as described.

4. In a dynamo-electric machine, two independent electro-magnetic cores having no magnetic connection between them, wound and connected as described, whereby they present one a north and the other a south pole with regard to the armature, which is arranged to revolve between the said independent electro-magnets, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

CHARLES J. VAN DEPOELE.

Witnesses:
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