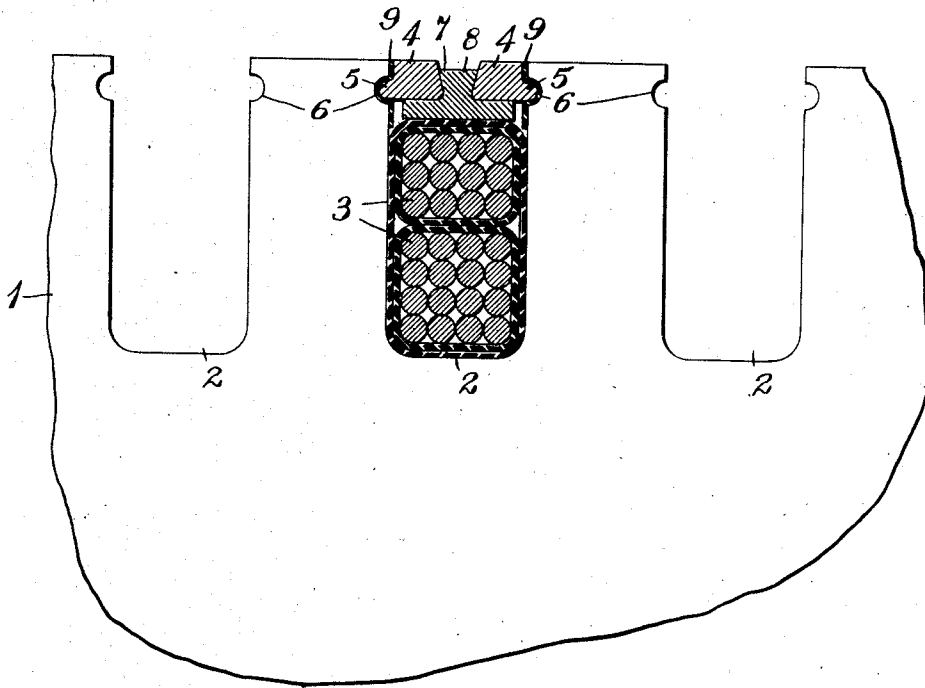


R. J. DEARBORN.  
DYNAMO ELECTRIC MACHINE.  
APPLICATION FILED OCT. 7, 1908.

1,042,408.

Patented Oct. 29, 1912.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## DYNAMO-ELECTRIC MACHINE.

1,042,408.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed October 7, 1908. Serial No. 456,604.

*To all whom it may concern:*

Be is known that I, RICHARD J. DEARBORN, a citizen of the United States, and a resident of Edgewood Park, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Dynamo-Electric Machines, of which the following is a specification.

My invention relates to electrical machines, and it has special reference to magnetizable core members which are provided with coil-containing slots.

The object of my invention is to provide a simple and durable means for effectually holding the coils of open-slot machines in position against the action of centrifugal, magnetic and other forces tending to displace them and, at the same time, to provide the operating advantages which pertain to machines having partially closed slots.

Induction motors and other dynamo-electric machines are often utilized in rolling mills and in other places where continuous operation is desired and where a material loss would result if considerable time was required for repairing their windings. In such cases, it is especially desirable that the core slots be of the open type having substantially parallel side walls so that injured coils may be removed without difficulty.

According to my present invention, I provide means for holding the coils of open-slot machines in position and, at the same time, secure the well known advantages incident to the use of partially closed slots.

The single figure of the accompanying drawing is a partially sectional view of a portion of a dynamo-electric machine embodying my invention.

Referring to the drawing, the magnetizable core structure 1, having a plurality of peripheral slots 2 in which coils 3 are disposed, is provided with an improved means for holding the coils in position in the slots. My improved wedge structure comprises a pair of magnetizable strips 4 having their adjacent edges beveled and their outer edges provided with longitudinal beads 5 which are adapted to engage semi-cylindrical grooves 6 near the opening in the core slot, and a key 7 of non-magnetizable material which comprises a flat strip having a lateral projection 8 of dove-tail section.

In applying the wedge structure to a

dynamo-electric machine after the coils are in position, the magnetizable strips are first placed in position, with thin strips 9 of insulating material separating them from the core structure and from the walls of the grooves 6. The key 7 is then forced into place so that the magnetizable strips 4 are pressed firmly against the sides of the slot, with the beads 5 in the grooves 6, and the coils 3 are forced inwardly so that it is impossible for them to be displaced by the forces to which they are ordinarily subjected.

It will be observed that the form of the core teeth usually found in machines having partially closed slots is closely approximated, while the magnetizable strips are separated by a slight amount of insulation from the core proper, in order to avoid eddy current losses. In addition to the foregoing, the parts of which the wedges are constructed are all simple and the magnetizable members are interchangeable so that the expense of manufacture and assembly is reduced to a minimum. The fact that the magnetizable members are not driven into place is also of advantage, since a very thin insulating fabric, which would otherwise be destroyed during the assembling process, may be employed.

Since structural modifications may be effected within the spirit and scope of my invention, I desire that only such limitations shall be imposed as are indicated in the appended claims.

I claim as my invention:

1. In a dynamo-electric machine, the combination with a magnetizable core member having a plurality of coil-containing slots, of wedges adapted to be assembled in the mouths of the slots for holding the coils in position independently of the coil reaction, each of which comprises magnetizable side strips having adjacent edge faces that diverge outwardly and a non-magnetizable key forced between said strips and having surfaces that closely fit the inner side and edge faces thereof.

2. In a dynamo-electric machine, the combination with a magnetizable core member having a plurality of coil-containing slots and longitudinal grooves near the mouths of the slots, of wedges for holding the coils in position, each of which comprises strips of magnetizable material and a rigid key of

non-magnetizable material adapted to be inserted after the magnetizable strips are in position to force the outer edges of said strips into the grooves and having faces that  
5 interlock with the inner faces of the strips to prevent inward and outward movement of said key.

3. In a dynamo-electric machine, the combination with a magnetizable core member  
10 having teeth which form slots for the reception of coils and are provided with grooves in their sides and adjacent to their free ends, of wedges for holding the coils in position in the slots, each of which comprises mag-  
15 netizable strips having lateral projections,

the adjacent edges of the strips being beveled, and a non-magnetizable key adapted to be inserted after the magnetizable strips are in position and having a projection of dove-tail section that engages the beveled  
20 edges of said strips and forces the lateral projections into the grooves.

In testimony whereof, I have hereunto subscribed my name this 30th day of Sept., 1908.

RICHARD J. DEARBORN.

Witnesses:

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BIRNEY HINES.