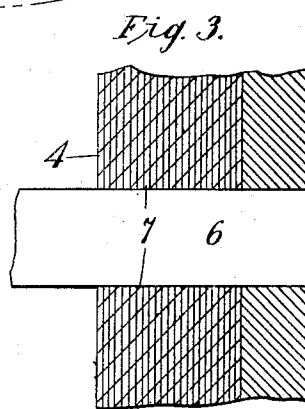
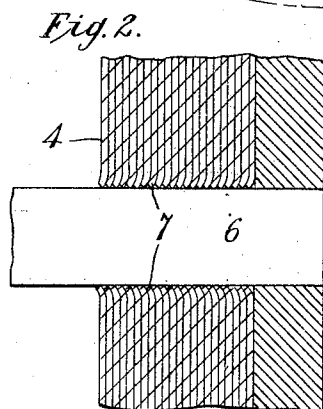
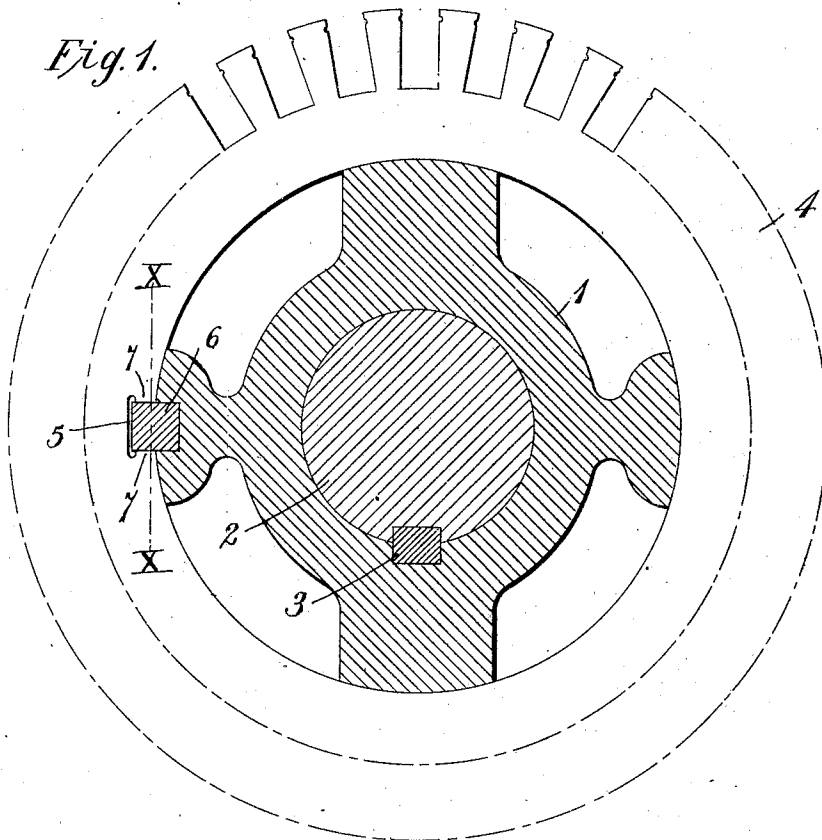


G. M. EATON.
 METHOD OF ASSEMBLING CORE STRUCTURES FOR DYNAMO ELECTRIC MACHINES.
 APPLICATION FILED JAN. 7, 1911.

1,158,463.

Patented Nov. 2, 1915.



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METHOD OF ASSEMBLING CORE STRUCTURES FOR DYNAMO-ELECTRIC MACHINES.

1,158,463.

Specification of Letters Patent.

Patented Nov. 2, 1915.

Application filed January 7, 1911. Serial No. 601,319.

To all whom it may concern:

Be it known that I, GEORGE M. EATON, a citizen of the United States, and a resident of Wilksburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Methods of Assembling Core Structures for Dynamo-Electric Machines, of which the following is a specification.

My invention relates to electrical apparatus and it has special reference to the laminated core members of dynamo-electric machines.

The object of my invention is to provide a method of so assembling the laminæ of a core structure as to insure a very close fit between the laminæ and the key which fastens them in position.

The laminæ of which the core structure of dynamo-electric machines are composed are usually notched to engage a key with which the frame or spider of the machine is provided for determining their relative positions.

In order to facilitate the assembling operation, the laminæ notches have heretofore been made sufficiently large to fit the key loosely and, since some irregularity exists in the assembled structure which necessitates the filing of the core slots before the winding can be placed in position, the laminæ of the completed structure are liable to accidental displacement.

According to my present invention, I enlarge the bottom of the notch in each lamina and cut the sides of the notch either to fit the key very closely and accurately or to a size very slightly narrower than the key.

If the notches are slightly narrower than the key, the sides of each notch are bent out of the plane of the lamina by the key in assembling the core structure. In order to facilitate the assembling process, the sides of each notch may be offset in the punching process and, in either case, after the laminæ are assembled, I apply sufficient pressure along the sides of the key to straighten the bent sides of the notches, thereby causing them to firmly grip the key. Not only are the positions of the laminæ accurately fixed,

but the possibility of accidental displacement of any or all of them is avoided.

Figure 1 of the accompanying drawings is a sectional view of the rotating part of a dynamo-electric machine embodying my invention, and Figs. 2 and 3 are fragmentary sectional views on line X—X of Fig. 1 and on a relatively large scale, showing, respectively, the relations between the laminæ and the key before and after the final step in the assembling process.

Referring to the drawings, a spider 1 of a railway motor armature or other dynamo-electric machine is mounted on a shaft 2 and is held in position by a key 3. On the spider is mounted a core structure 4 composed of a plurality of plates or laminæ of magnetizable material each of which is provided with a notch 5 which engages a key 6.

The bottom of the notch 5 is enlarged slightly, as shown in Fig. 1 of the drawings, and the sides 7 of the notch are bent slightly out of the plane of the laminæ during the punching process, as shown in Fig. 2 of the drawings.

By this means, the laminæ may be easily assembled on the spider 1, and, at the same time, the notches may be so proportioned as to fit the key 6 very closely when the portions 7 are flattened out in the final step of the assembling process, as shown in Fig. 3 of the drawings.

As above indicated, the sides of the notches may be bent in the assembling instead of in the punching process, if desired.

My invention is, of course, not restricted to the rotating parts of dynamo-electric machines or to any specific device, and I desire that only such limitations shall be imposed as are indicated in the appended claims.

I claim as my invention:

1. The method of forming a laminated structure which consists in assembling notched laminæ upon a support having a notch-engaging key, with the sides of the notches bent out of the planes of the laminæ, and then pressing the bent portions into the planes of the respective laminæ and into gripping engagement with the key.

2. The method of forming a laminated

structure which consists in assembling laminae having corresponding notches upon a supporting member provided with a notch-engaging key or projection of greater thickness than the normal width of the notches, and then compressing the assembled laminae to cause the side walls of the notches to grip the sides of the key or projection.

In testimony whereof, I have hereunto subscribed my name this 29th day of Dec. 10 1916.

GEORGE M. EATON.

Witnesses:

G. H. F. HOLZ,
B. B. HINES.