

G. H. GARCELON.
SECONDARY MEMBER OF INDUCTION MOTORS.
APPLICATION FILED OCT. 31, 1910.

1,068,757.

Patented July 29, 1913.

Fig. 1.

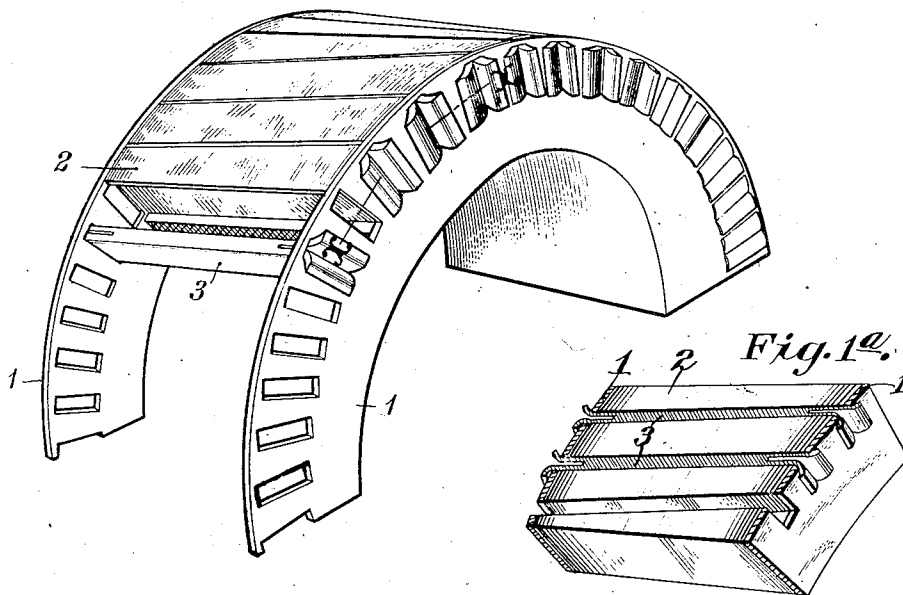


Fig. 2.

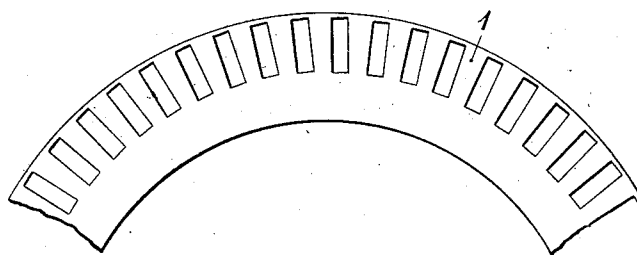
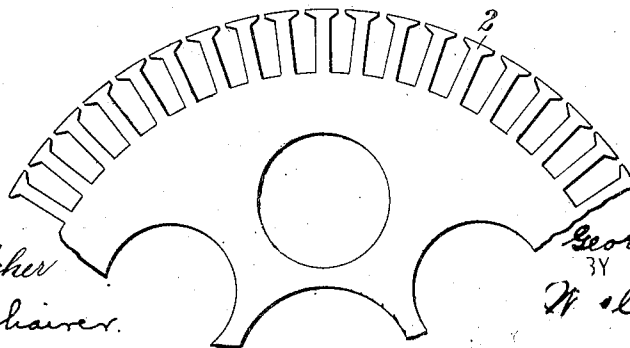


Fig. 3.



WITNESSES:

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GEORGE H. GARCELON, OF WILKINSBURG, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

SECONDARY MEMBER OF INDUCTION-MOTORS.

1,068,757.

Specification of Letters Patent.

Patented July 29, 1913.

Application filed October 31, 1910. Serial No. 589,915.

To all whom it may concern:

Be it known that I, GEORGE HOLLAND GARCELON, a citizen of the United States, and a resident of Wilkesburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Secondary Members of Induction-Motors, of which the following is a specification.

My invention relates to the secondary members of induction motors and particularly to the secondary members of motors of the squirrel-cage type.

The object of my invention is to provide a secondary member of the squirrel-cage type in which strap conductors may be employed and in which the core slots may be skewed or inclined to the axis of the member without twisting the straps.

In the construction of the squirrel-cage secondary members of induction motors, it is the common practice to skew or incline the peripheral core slots to the axes of the members in order to reduce the noise incident to the operation of the motors. Such members have usually been provided with cylindrical conductors, and the skewing of the slots could, accordingly, be effected without twisting or bending the conductors. However, when strap conductors have been employed in the past, it has been necessary to twist or bend the conductors, but, in the present instance, the parts of the members are so constructed and arranged that the skewing of the slots may be effected without twisting or bending the strap conductors.

Figure 1 of the accompanying drawing is a perspective and sectional view of a part of the secondary member of an induction motor that is constructed in accordance with the present invention. Fig. 1^a is a sectional perspective view indicated by line X—X of Fig. 1. Fig. 2 is a front face view of a portion of one of the end plates of the member, and Fig. 3 is a corresponding view of a portion of one of the core punchings of the member.

The member comprises two conducting, but preferably non-magnetizable, end plates 1 and intermediate magnetizable core punchings or plates 2, the said parts being provided with slots adjacent to their peripheries for the reception of strap or bar conductors 3 of substantially rectangular cross section.

The ends of the bars 3 project somewhat be-

yond the end plates 1 and are slitted longitudinally, the portions thereof adjacent to the slots being bent over upon the end plates to clamp the core parts together and to provide good electrical connections between the bars and the end plates. This electrical connection may also be improved by soldering.

The sides of the teeth that intervene between the peripheral slots in the core plates are preferably parallel to median radial lines extending through the teeth and, consequently, the outer portions of the slots are wider than their inner portions, their widths at their inner portions being approximately equal to the thickness of the conducting bars. The bars 3 will thus not entirely fill the outer portions of the slots but may lie against the one side or the other thereof. The slots in the end plates are only slightly larger than the conducting bars, in order that the said parts may fit together rather closely and good electrical connections be made between them, and also in order that the core parts may be securely clamped together by the bending over of the ends of the bars. Of course, the core slots may be of other shapes, if desired, providing the conductors do not entirely fill their outer portions. The end plate slots preferably have parallel sides, and one side of each slot lies adjacent to, and in substantial alignment with, one side of a corresponding slot in the core plates. The sides of the end plate slots are, accordingly, inclined with respect to radii passing through them, and in such manner that the conducting bars and core slots may be inclined or skewed with respect to the axis of the member without bending or twisting the bars, the inclination of the slots in one end plate being the reverse of that in the other. The core slots are skewed to such a degree that each bar lies flat against one side of its slot at one end of the core and against the other side of the slot at the other end of the core.

I claim as my invention:

1. A core member for dynamo-electric machines comprising magnetizable core plates provided with slots the sides of which are parallel to the radii that bisect adjacent teeth and end plates provided with slots the sides of which are inclined to the radii passing therethrough.

2. A core member for dynamo-electric machines comprising end plates provided

with slots having sides inclined to the radii passing therethrough, and intermediate plates provided with slots larger than those in the end plates.

- 5 3. A core member for dynamo-electric machines comprising end plates provided with slots having sides inclined to the radii passing therethrough, the sides of the slots in one end plate being inclined reversely to
10 the sides of the slots in the other plate.

4. A core member for dynamo-electric machines comprising end plates provided with slots having sides inclined to the radii passing therethrough, intermediate plates
15 provided with slots larger than those in the end plates, and conductors located in the said slots and inclined to the axis of the core member.

5. In a dynamo-electric machine, the
20 combination with a member comprising core plates having radial slots and end plates having non-radial slots, of conductors located in the said slots, the slots in the end plates closely fitting the conductors while
25 those in the core plates are materially larger than the conductors.

6. In a dynamo-electric machine, the com-

bination with a member comprising core plates and end plates having peripheral slots, inclined with respect to the axis of the
30 member, of conductors located in the said slots, the slots in the end plates closely fitting the conductors while those in the core plates are materially larger than the conductors.

7. In a dynamo-electric machine, the combination with a member comprising core plates and end plates having peripheral slots inclined with respect to the axis of the
40 member, of flat conductors located in the said slots, the slots in the end plates closely fitting the conductors while those in the core plates are materially larger than the conductors, and the conductors lying against
45 one side of the slots in the core plates at one end of the member and against the other side thereof at the other end of the member.

In testimony whereof, I have hereunto subscribed my name this 27th day of October 1910.

GEO. H. GARCELON.

Witnesses:

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