

No. 828,247.

PATENTED AUG. 7, 1906.

J. D. RIGGS.
VENTILATING PLATE.
APPLICATION FILED JAN. 6, 1905.

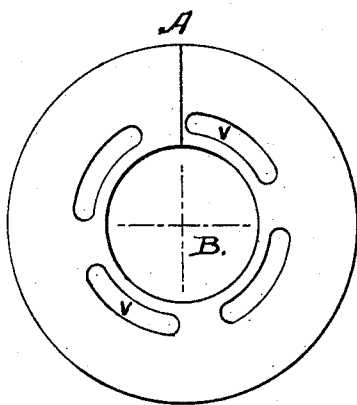


Fig. 1.

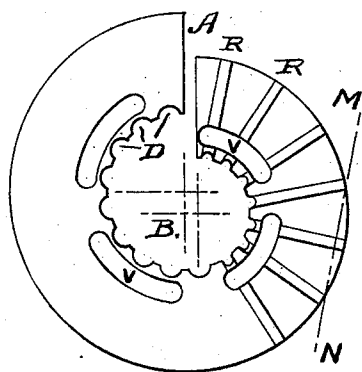


Fig. 2.

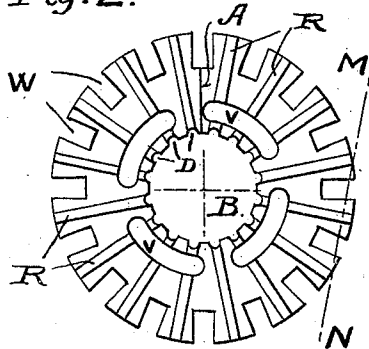


Fig. 3.

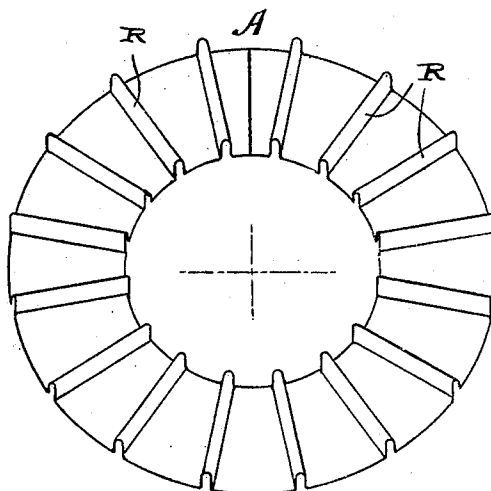


Fig. 4.

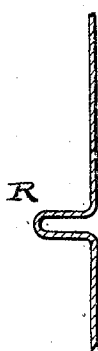


Fig. 5.

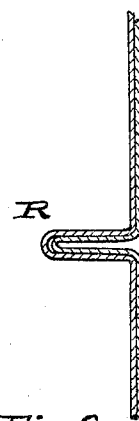


Fig. 6.

Witnesses.

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UNITED STATES PATENT OFFICE.

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VENTILATING-PLATE.

No. 828,247.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed January 6, 1905. Serial No. 239,892.

To all whom it may concern:

Be it known that I, JOHN D. RIGGS, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new Ventilating-Plate Used in the Construction of Dynamo-Electric Machines, of which the following is a specification.

My invention relates to that form of dynamo-electric machines having laminated armatures or laminated fields, or both, and refers to the ribbed ventilating-plates that are inserted among the flat plates to form radial openings at intervals for the passage of air-currents for cooling the armature or field; and the objects of my invention are, first, to form these ribbed plates from rolled sheet-steel (or sheet-iron) of about the same grade as the plain flat plates used in building up the armature or field as distinguished from cast plates which have little or no magnetic value; second, forming the rib in one integral piece with the body of the plate; third, forming these ribbed ventilating-plates in such a manner as to be able to combine two or more of them where greater strength is required, as at the ends of the laminations, and, fourth, forming the ribs in such a manner that the thickness of the metal in them is not materially reduced.

In the accompanying drawings, on which similar letters refer to similar parts in the several views, Figure 1 is a side elevation of a flat circular plate as it appears before the ribs are formed. Fig. 2 is a similar view of the same plate after a portion of the ribs have been formed, while Fig. 3 is a similar view of the same plate after all of the ribs have been formed and notches cut for the winding. Fig. 4 is a perspective view of a plate suitable for the stationary part with ribs formed complete, but without other notches or openings. Fig. 5 is an enlarged sectional view on the line M N of Figs. 2 and 3. Fig. 6 is a sectional view on the line M N, representing a double ventilating or end-supporting plate.

In forming these ventilating-plates I prefer to form one rib at a time and by simply bending the stock so as not to appreciably change its thickness. In forming the ribs R

in this manner the circumference of the ventilating-plate is considerably reduced, which makes it necessary to have one or more radial cuts A to permit this reduction in size, as shown in Fig. 2. Openings V form inlets for the cooling-air.

The central opening B if round before the ribs are formed, as shown in Fig. 1, will not be truly round after forming the ribs, but will be made up of a number of circle arcs of too long a radius. Where it is necessary to have this central opening B to nicely fit a round shaft, a series of notches D may be cut in the plain flat disk, one notch for each rib, to reduce the length of the ribs at their inner ends, and after the ribs are formed the central hole B is trimmed by a cutting-die to a slightly larger diameter truly circular except for the portion of notches D remaining and uniformly to size.

Notches W, Fig. 3, provide for the winding and conform to the shape of the rotating part.

When using these ribbed plates at the armature or field ends to support the laminated portion between the windings, it will often be necessary to use two or more plates together, as indicated in Fig. 6. In such cases I prefer to form each plate separately one with a thinner and shallower rib than the other, so as to fit together, as shown in Fig. 6.

I claim—

1. In a pressed end-supporting plate for dynamo-electric machines the flat or plane body portion containing one or more radial cuts, and the U-shaped ribs, substantially as set forth.

2. In a spacing-plate for dynamo-electric machines the plane flat body portion containing radial cut or cuts, the ribs R, the ventilating-holes V, the notches W, and notches D, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JNO. D. RIGGS.

Witnesses:

A. A. BUSH,
D. M. CUNNINGHAM.