

(No Model.)

G. WESTINGHOUSE.
CORE FOR ELECTRICAL MACHINES.

No. 582,494.

Patented May 11, 1897.

Fig. 1.

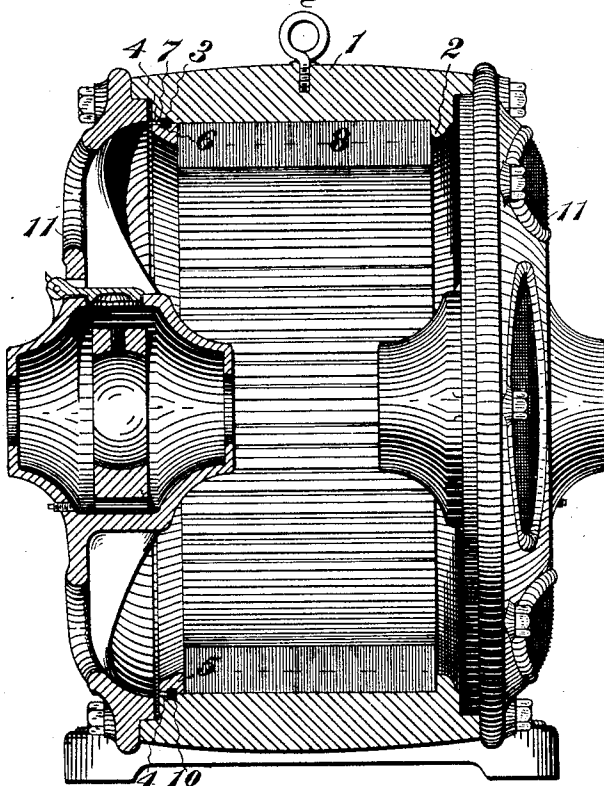


Fig. 3.

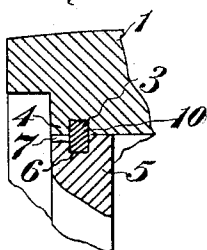


Fig. 2.

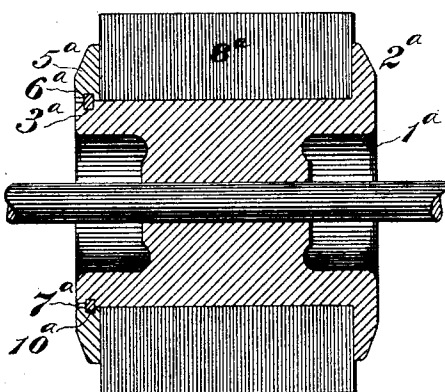
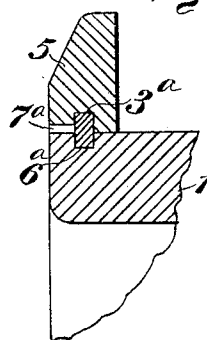


Fig. 4.



WITNESSES:

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CORE FOR ELECTRICAL MACHINES.

SPECIFICATION forming part of Letters Patent No. 582,494, dated May 11, 1897.

Application filed January 20, 1897. Serial No. 619,898. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WESTINGHOUSE, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Cores for Electrical Machines, (Case No. 724,) of which the following is a specification.

My invention relates to electric generators and motors, and has particular reference to the construction of the cores of such machines.

The object of my invention is to provide a simple, inexpensive, and efficient means whereby the laminæ of the cores of electrical machines may be fastened together and to the casting constituting the support for such laminæ.

Prior to my invention it was the usual practice to clamp the laminæ forming parts of the cores of electrical machines together by means of end plates or rings and bolts passing through said parts. Such construction was open to objection by reason of the number and weight of the parts employed, as well as on account of the labor and expense involved in manufacturing and assembling the said parts.

My invention is intended to overcome such objections and at the same time to materially improve the appearance of the machine and guard against any possibility of accidental displacement of the parts after they have been once assembled.

In the accompanying drawings, Figure 1 is a vertical sectional view of the core and casing of the stationary member of an induction-motor constructed in accordance with my invention. Fig. 2 is a similar view of the rotatable member of a generator or motor constructed in accordance with my invention. Figs. 3 and 4 are detail sectional views of my fastening means and the adjacent cooperating parts.

Reference being now had to Fig. 1 of the drawings, 1 is a casting provided with a cylindrical inner periphery and at or near one end with an inwardly-projecting circumferential flange 2. For convenience of construction it will probably be found expedient and desirable to make this part 2 as a single continuous flange, but I desire it to be under-

stood that a plurality of lugs or fingers arranged circumferentially may be employed in lieu of the continuous flange shown without departing from my invention. At or near the other end of the casting, on the inner side, I provide a circumferential groove 3, thus forming a shoulder 4.

5 is an annular plate the external periphery of which is substantially the same as that of the inner periphery of the casting 1, and this external periphery is provided with a groove 6. A plurality of openings 7, the number of which is immaterial, are located at or near to the edge of the plate 5 and extend inwardly from its outer side to the groove 6.

8 are laminæ provided with transverse slots or grooves for the reception of coils, as is usual in such machines.

10 is a ring, preferably of fusible metal, located partially in the groove 3 in the casting and partially in the groove 6 in the annular plate 5 and serving to hold the plate 5 in such position as to clamp the laminæ 8 between it and the circumferential flange 2.

The parts are preferably assembled in the following manner: The laminæ are first assembled in proper relation with respect to each other and resting upon the flange 2. The plate 5 is then placed upon the outer plates and clamped by any suitable means in the position shown in the drawings. Molten Babbitt metal or other fusible metal suitable for the purpose is then poured through the openings 7 into the grooves 3 and 6, where it quickly solidifies to form the ring 10. The clamping devices may then be removed, and the parts will be securely fastened in position, as will be readily understood.

If it is desired for any purpose to dismember the core, the ring 10 may be removed by subjecting the structure to sufficient heat to melt the metal of which the ring is composed.

11 are the end caps of the motor, one being shown in section and the other in side elevation.

In the construction shown in Fig. 2 the casting 1^a is provided with a cylindrical outer periphery and at or near one end with an outwardly-projecting circumferential flange 2^a, which, as was explained in connection with the construction shown in Fig. 1, may, if desired, be in the form of a number of project-

ing lugs or fingers, although a single continuous flange will probably be more desirable in practice. In this construction the inner periphery of the annular plate 5^a fits over the outer periphery of the core 1^a and is provided with a groove 6^a and with lateral openings 7^a, leading thereto. The core 1^a is also provided with a circumferential groove 3^a. The metal fastening-ring 10^a is constructed and operates in the same manner as the ring 10. (Shown in Fig. 1.) The assembling of the laminae 8^a and the method of clamping the same together and to the casting are the same as has already been described.

I desire it to be understood that my invention is not limited to the specific details of construction and arrangement of parts shown and described, since they may be modified in many particulars without departing from the spirit and scope of the invention, which is intended to cover, broadly, a clamping means for the laminae of cores of electrical machines embodying a fastening-ring interposed between some portion of an annular clamping-plate at or near one end and a flange or flanges at or near the other end of the casting, which constitutes the main support for the laminae.

I claim as my invention—

1. A core for electrical machines comprising a casting having a cylindrical surface and provided with a laterally-projecting flange at or near one end and with a circumferential groove at or near the other end, an annular plate having a circumferential groove, laminae clamped between said annular plate and the flange on the casting and a fastening-ring located partially in the circumferential groove

in the casting and partially in the corresponding groove in the annular plate.

2. A core for electrical machines comprising a casting having a cylindrical periphery and provided at or near one end with a laterally-projecting flange and at or near the other end with a circumferential groove, an annular plate provided with a circumferential groove, laminae clamped between said annular plate and the flange on the casting and a soft-metal fastening-ring located partially in the groove in the casting and partially in the groove in the annular plate.

3. A core for electrical machines comprising a casting having a cylindrical surface and provided with a laterally-projecting flange at or near one end and a circumferential shoulder of less diameter at or near the other end, an annular plate of such diameter as to fit the casting, laminae clamped between the annular plate and the flange on the casting and a fastening-ring interposed between the annular plate and the circumferential shoulder on the casting.

4. A core for electrical machines comprising a casting having a cylindrical surface, laminae supported thereby, an annular clamping-plate and a fastening-ring interposed between said clamping-plate and a shoulder on the casting.

In testimony whereof I have hereunto subscribed my name this 19th day of January, A. D. 1897.

GEO. WESTINGHOUSE.

Witnesses:

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