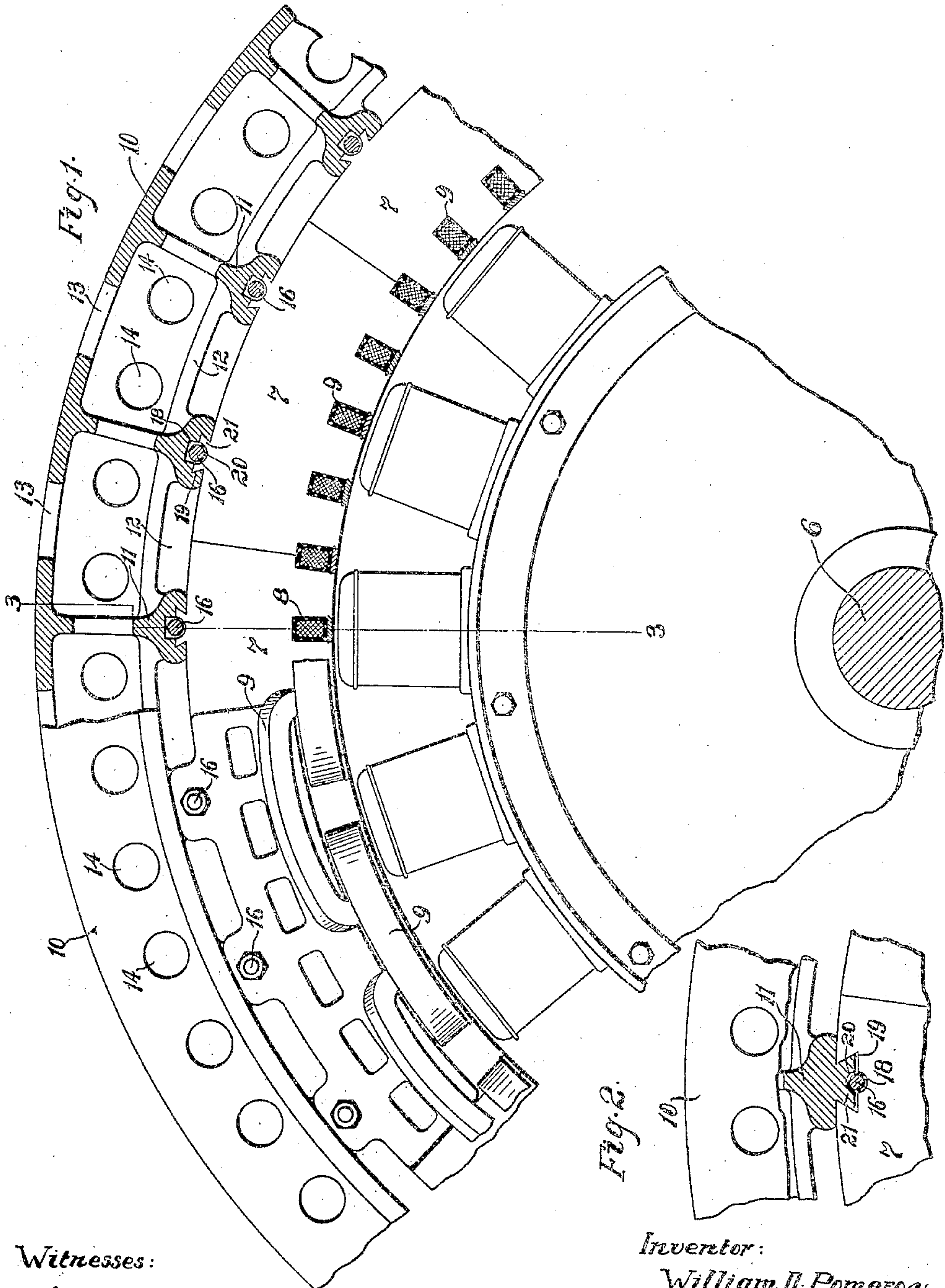


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DYNAMO ELECTRIC MACHINE.
APPLICATION FILED MAR. 6, 1905.

934,210.

Patented Sept. 14, 1909.
2 SHEETS—SHEET 1.



Witnesses:

George J. Schwartz.
Fred J. Kinsey.

Inventor:

William D. Pomeroy.

By

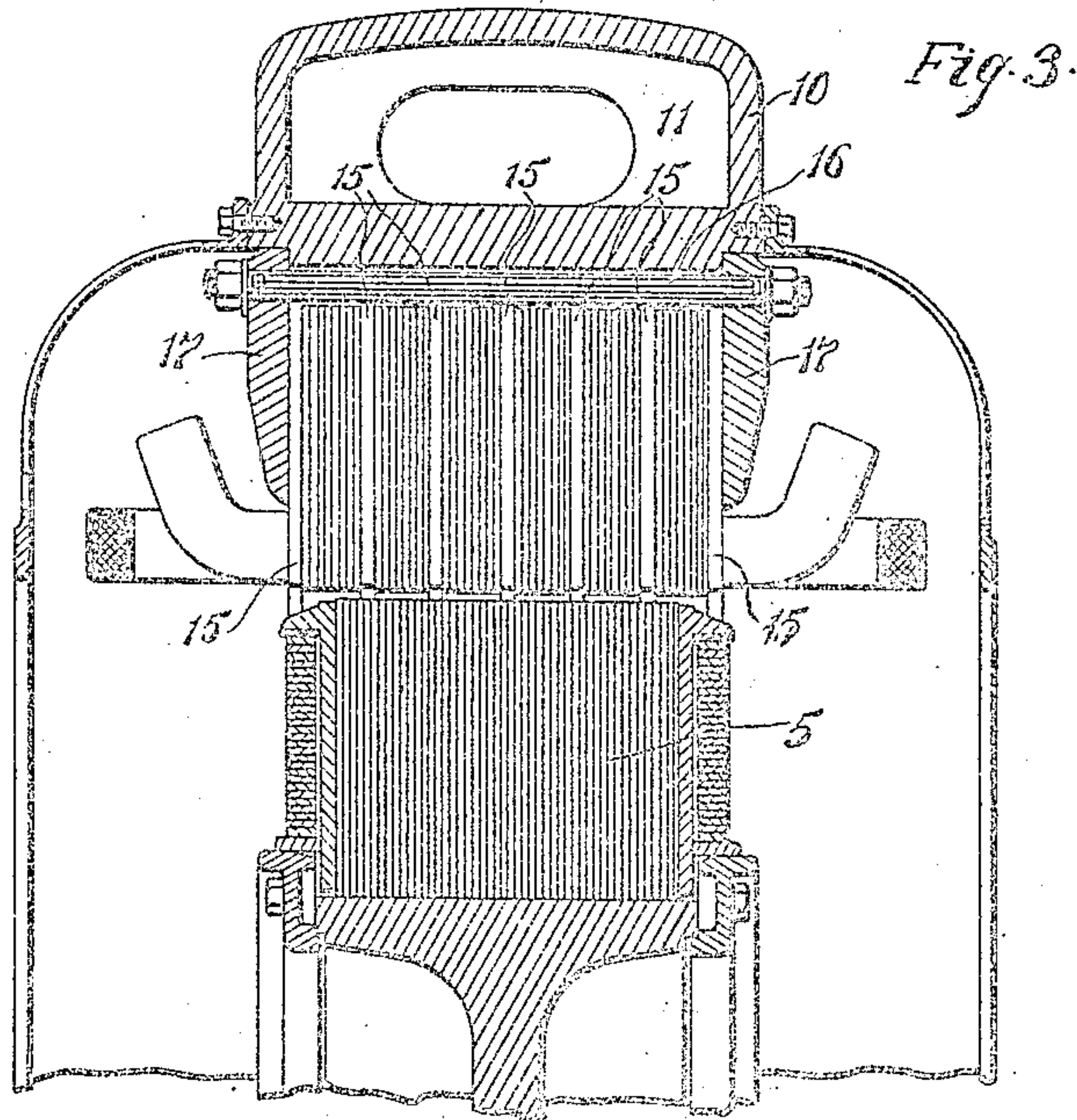
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UNITED STATES PATENT OFFICE.

WILLIAM D. POMEROY, OF NORWOOD, OHIO, ASSIGNOR TO THE BULLOCK ELECTRIC MANUFACTURING COMPANY, A CORPORATION OF OHIO.

DYNAMO-ELECTRIC MACHINE.

934,210.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed March 3, 1905. Serial No. 248,693.

To all whom it may concern:

Be it known that I, WILLIAM D. POMEROY, citizen of the United States, residing at Norwood, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Dynamo-Electric Machines, of which the following is a full, clear, and exact specification.

My invention relates to dynamo electric machines, and particularly to the construction of the armatures of such machines.

It has been customary in constructing the armatures of dynamo electric machines, particularly in machines of large diameter and great capacity, to mount the laminated core in a skeleton frame and secure same in place by various forms of fastening means. The fastening means most commonly employed is that having dove-tail projections on the core-plates fitting in corresponding grooves in the ribs of said skeleton frame. The core-plates are divided into groups by means of ventilating plates which are so constructed as to form ventilating slots through the core. End plates or rings between which the core-plates are clamped are held together by bolts, said bolts passing through ventilating passageways in the frame behind the core-plates. Anything that interferes with the free circulation of air through and around the rotating and stationary parts of the machine is detrimental, as it prevents the proper ventilation and tends to increase the temperature rise of the machine when running under load. The clamping bolts as ordinarily employed obstruct materially the free flow of air through the ventilating slots and passageways in the core and frame. It is therefore the object of my present invention to so locate said clamping bolts that they do not interfere in any way with the proper ventilation of the machine, while at the same time they perform their clamping function just as satisfactorily as heretofore.

The invention consists of a dynamo electric machine, having a frame with ventilating passageways therethrough, a laminated core with ventilating slots communicating with said passageways, means for fastening said core to said frame, and means for clamping the laminae of said core together without obstructing said ventilating slots and passageways.

My invention will be more clearly under-

stood by referring to the accompanying drawings, which illustrate preferred embodiments thereof.

In said drawings, Figure 1 represents partly in vertical section and partly in elevation a portion of a revolving field dynamo electric machine, embodying a form of my invention; Fig. 2 is a sectional view of a modified form of the invention; and Fig. 3 is a sectional elevation on the line 3-3 of Fig. 1.

Referring now to Figs. 1 and 3 of the drawings, the pole pieces of the revolving field magnet are shown at 3. These pole-pieces are mounted upon a supporting structure keyed to shaft 6. The armature is stationary and comprises the laminated core built up of the segmental core-plates 7, slotted at 8 to receive the armature windings 9, and the skeleton frame or yoke 10 in which said core is mounted. The frame 10 is provided with the radial ribs 11 and the ventilating passageways or openings 12, 13 and 14. The laminae of core 7 are divided into groups with ventilating plates forming the ventilating slots 15 between said groups. When the machine is in operation, air is forced by the fan-blower action of the revolving field-structure, through the ventilating slots 15 and passageways 12, 13, and 14. In the customary construction of the machine, the bolts 16 which clamp the core-plates firmly in place between the end rings 17 pass through the ventilating passageways 12 behind the laminated core and materially obstruct the flow of air through said slots and passageways. To permit a free flow of air through the ventilating slots and passageways of the machine, I remove the bolts 16 from the passageways 12 and place them in the dove-tailed connections between the core and frame so that they will not interfere in any way with the proper ventilation of the machine. To accomplish this I prefer to cut an additional groove 18 within each dove-tail groove 19 in frame 10, and also a groove 20 in each dove-tail projection 21 in the core-plates 7, thereby forming a passageway through which the bolt 16 is passed. This passageway, if so desired, may be formed by cutting away sufficient of the metal in the frame adjacent to the dove-tail groove without taking any metal from the dove-tail projection 20, or it may be formed by punching.

out sufficient of the dove-tail projection 20 without taking any metal from the frame 10. If desired the dove-tail groove and projection may be reversed, the groove being
5 formed in the core-plates and the projection being formed in the frame 10, as clearly shown in Fig. 2.

Although I have illustrated and described my invention as applied to a stationary ar-
10 mature, it is equally applicable to a rotating armature, and I aim in the appended claims to cover this and all other modifications which do not depart from the spirit of the invention.

15 Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a dynamo electric machine, a frame, a laminated core, a dove-tail connection be-
20 tween core and frame, clamping bolts for holding the laminae of said core together, each bolt lying in a passageway formed between the dove-tail projection and dove-tail groove of said connection.

25 2. In a dynamo electric machine, a supporting frame having ventilated openings and ribs or projections separating the said openings, a laminated core having circumferential ventilating openings communicat-
30 ing with the openings in the frame, the laminae of the core being secured to said ribs, and transverse bolts for clamping the lam-

inae together located at the ribs or projections between the latter and the laminae.

3. In a dynamo-electric machine, a frame 35 having radial ribs and ventilating openings between said ribs, a laminated core having ventilating openings and fastened to said ribs, and transverse clamping bolts for the laminae, said bolts being located at the
40 radial ribs of the frame in passageways between the ribs and the laminae.

4. In a dynamo-electric machine, a frame having projecting ribs and ventilating pas-
45 sages between the ribs, a laminated core having circumferential ventilating openings communicating with the ventilating openings in the frame, said core being secured to the projecting ribs on the frame, and bolts
50 extending across the core for clamping the laminae together, said bolts being located in slots in the projecting ribs so as not to obstruct the ventilating passageways.

5. In a dynamo-electric machine, a frame having ribs, a laminated core supported on
55 said ribs, and transverse clamping bolts for the laminae located in passageways between the laminae and the said ribs.

In testimony whereof I affix my signature, in the presence of two witnesses.

WILLIAM D. POMEROY.

Witnesses:

LAURENT LOWENBERG,
FRED J. KINSEY.