

No. 744,084.

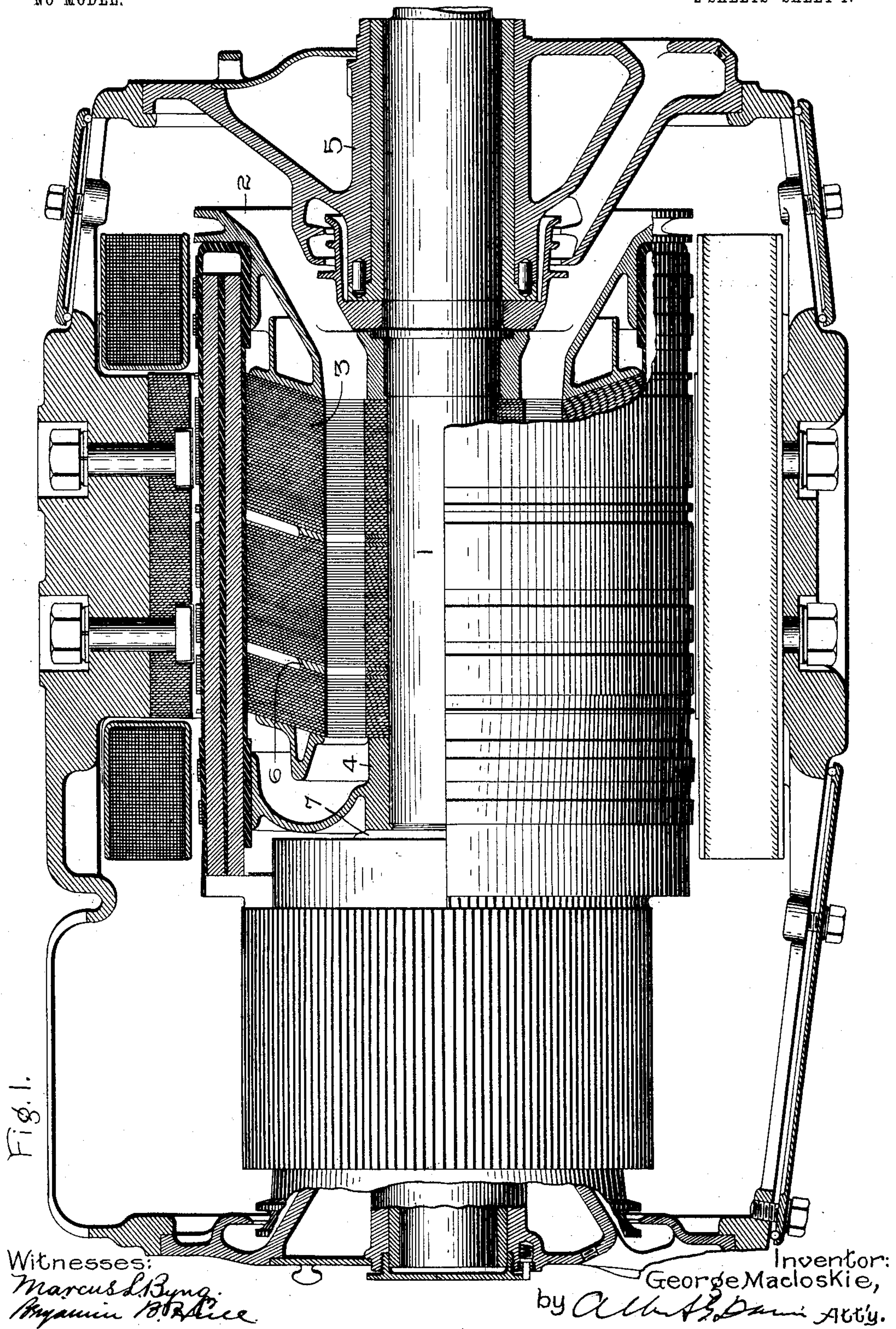
PATENTED NOV. 17, 1903.

G. MACLOSKIE.  
DYNAMO ELECTRIC MACHINE.

APPLICATION FILED JULY 19, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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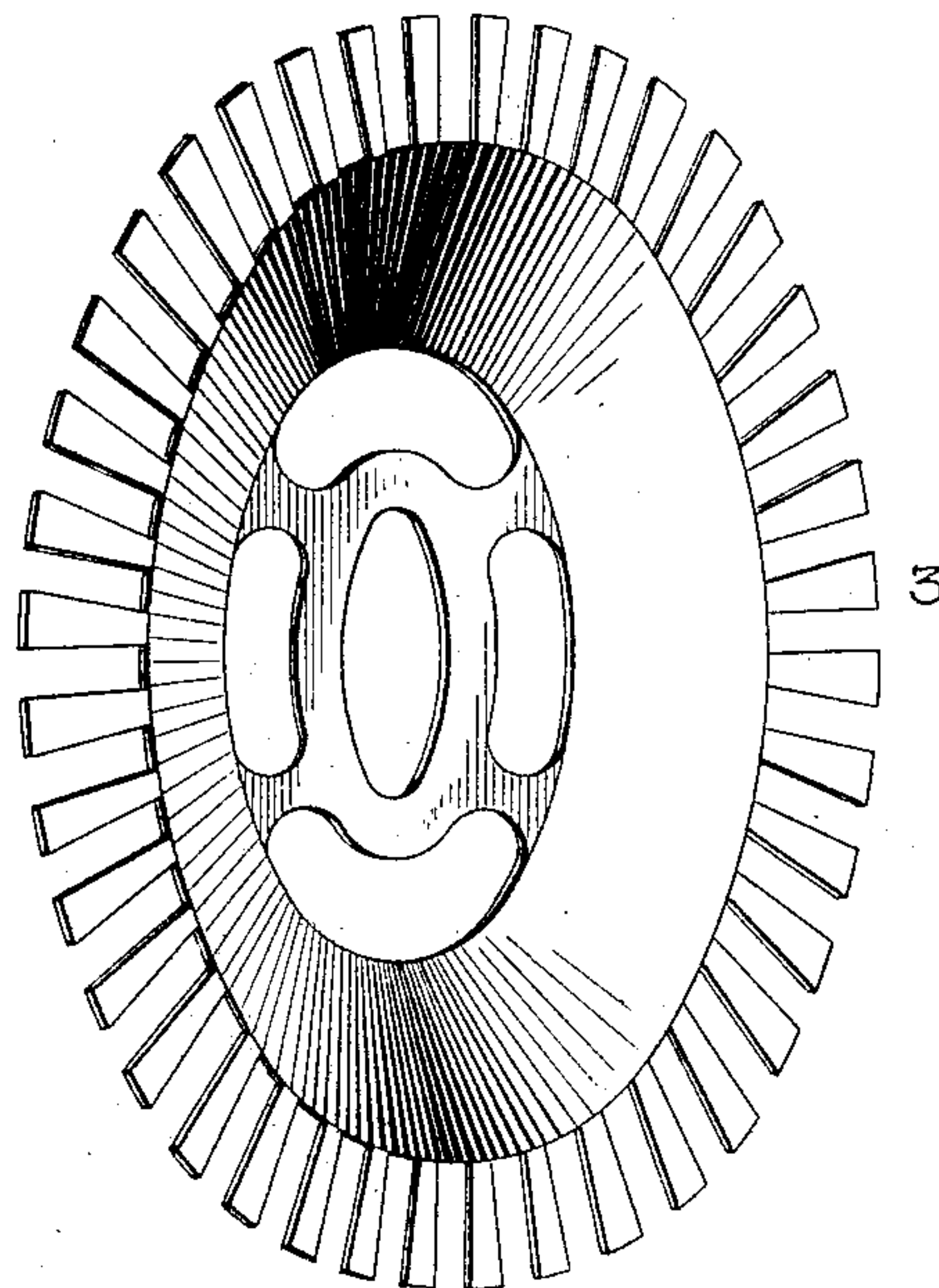
PATENTED NOV. 17, 1903.

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DYNAMO ELECTRIC MACHINE.  
APPLICATION FILED JULY 19, 1902.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 2.



Witnesses:

*Marcus L. Byng.*  
*Benjamin B. Hill.*

Inventor  
George Macloskie

by *Albert S. Davis*  
Att



# UNITED STATES PATENT OFFICE.

GEORGE MACLOSKIE, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

## DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 744,084, dated November 17, 1903.

Application filed July 19, 1902. Serial No. 116,283. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE MACLOSKIE, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Dynamo-Electric Machines, of which the following is a specification.

My invention relates to dynamo-electric machines, and more especially to railway-motors.

As railway-motors have been built heretofore the armature-core laminæ have consisted of flat disks, and as a consequence there has been considerable lost space between one end of the core and the commutator, while at the other end of the core the space has been overcrowded, so that the journal-bearing at the pinion end of the armature was so restricted in length that it heated very easily and the ventilating air-passages were throttled, so that the efficiency of the motor was lessened.

The object of my invention is to provide an arrangement of armature parts so that the space heretofore unoccupied may be utilized to relieve the more congested portions.

To this end my invention consists in pressing the core laminæ of the armature into cup shape and assembling them so that their central portions will project into the space beneath the ends of the armature-coils at the commutator end of the armature, whereas at the opposite end of the core a cavity is provided for the reception of the extended journal-bearing and to permit of the free flow of air between the end of the core and the bearing.

My invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification, in which—

Figure 1 shows in longitudinal section a car-motor with one modification of my invention applied thereto, and Fig. 2 shows in perspective one of the pressed core laminæ.

As shown in the drawings, the armature-shaft 1 has the head 2 at the right-hand or pinion end driven to a shoulder thereon and the core laminæ 3 threaded upon it and held pressed together in position by the left-hand

or commutator-head 4. The head 2 has its outer periphery extended to receive the ends of the armature-coils in the usual manner, while its right-hand side is dished or made funnel shape to permit the journal-bearing 5 to extend inwardly with sufficient space between the parts to permit an unobstructed flow of air therethrough to the apertures in the core. The left-hand surface of the head 2 has its outer portion in a plane, while its inner portion, starting from a circle within the row of coil-slots, according to the shape of the laminations, is conical or frusto-conical in shape.

The core-disks 3 may be made in any desired shape, with apertures cut therein for the passage of air and with notches in the edges for the reception of the armature-coils. These disks are stamped or embossed into a conical or cup shape, as shown in Fig. 2. The extent of the embossed portion may be made as great or small as desired. It may extend to the periphery of the disk or it may extend but a fraction of that distance, depending upon the construction of the particular machine to which my invention is to be applied. The laminæ 3 are threaded upon the armature-shaft 1, with space-blocks 6 arranged at intervals. The head 4 at the commutator end has its outer periphery adapted to receive and support the ends of the armature-coils, while its right-hand face is hollowed out conically to fit against the cup-shaped core laminæ. The opposite side of said head 4 may be made in any shape desired, with a shoulder turned thereon for engagement with the nut 7, engaging screw-threads on the shaft, whereby the parts are clamped rigidly together.

Both of the heads 2 and 4 are suitably chambered or recessed on their inner faces to provide air ducts or channels between them and the laminated core.

It is to be noted that in the arrangement above described all the laminations may be alike, that the length of the journal-bearing at the pinion end of the armature may be lengthened an amount equal to the depth of the embossed or cupped portion of the laminæ, and that the air-space between the outside of



the bearing and the end of the core-head is greatly enlarged as compared with present forms of dynamo-electric machines.

My invention is equally applicable to dynamos and motors wherein a central hub or sleeve or a spider is employed for supporting the laminæ, and I therefore desire it to be understood that I do not restrict myself to the construction shown and described.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. An armature-core comprising a series of cup-shaped laminæ.

2. An armature-core composed of a series of laminæ, the inner portions of which are embossed or pressed into cup shape.

3. An armature for dynamo-electric machines having a dished head at one end extending within the plane of the core end, a core consisting of a plurality of cup-shaped

laminæ, a second head, and means for securing said parts together.

4. An armature for dynamo-electric machines having a shaft, a dished head mounted on said shaft and extending within the plane of the core end, a core consisting of a plurality of like cup-shaped laminæ mounted on said shaft, a second head, and means for drawing said heads toward each other.

5. A laminated core-disk having a central aperture and peripheral notches and having the portion inside of the peripheral notches embossed or pressed into cup shape.

In witness whereof I have hereunto set my hand this 12th day of July, 1902.

GEORGE MACCLOSKEY.

Witnesses:

R. C. CHAPMAN,

EDWARD WILLIAMS, Jr.