

(No Model.)

M. M. M. SLATTERY.

ARMATURE CORE FOR DYNAMO ELECTRIC MACHINES.

No. 330,433.

Patented Nov. 17, 1885.

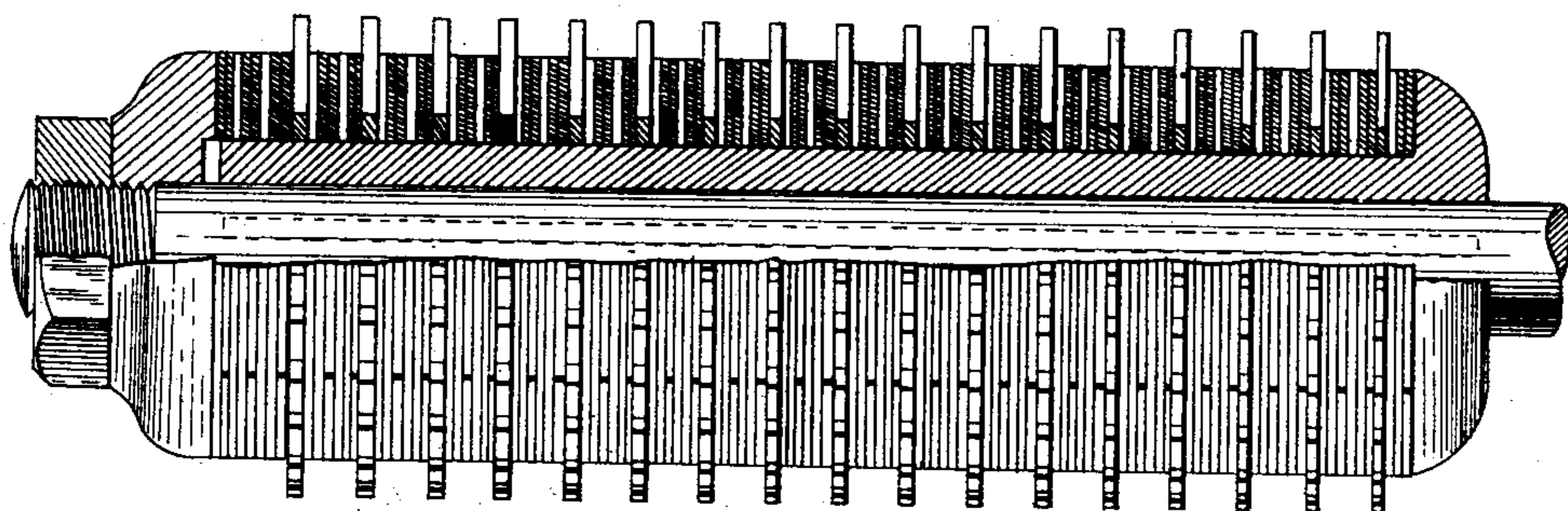


Fig. 1.

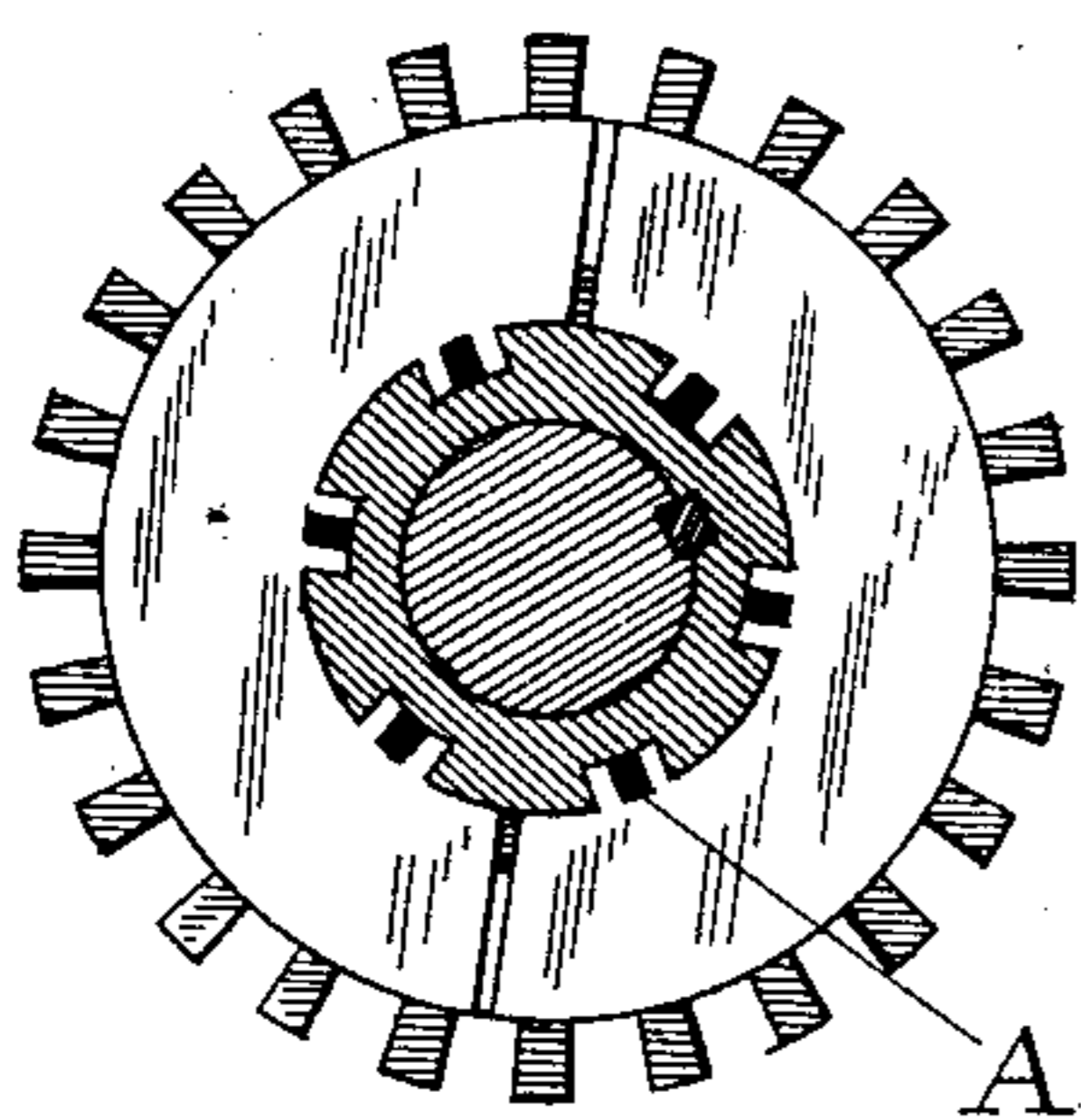


Fig. 2.

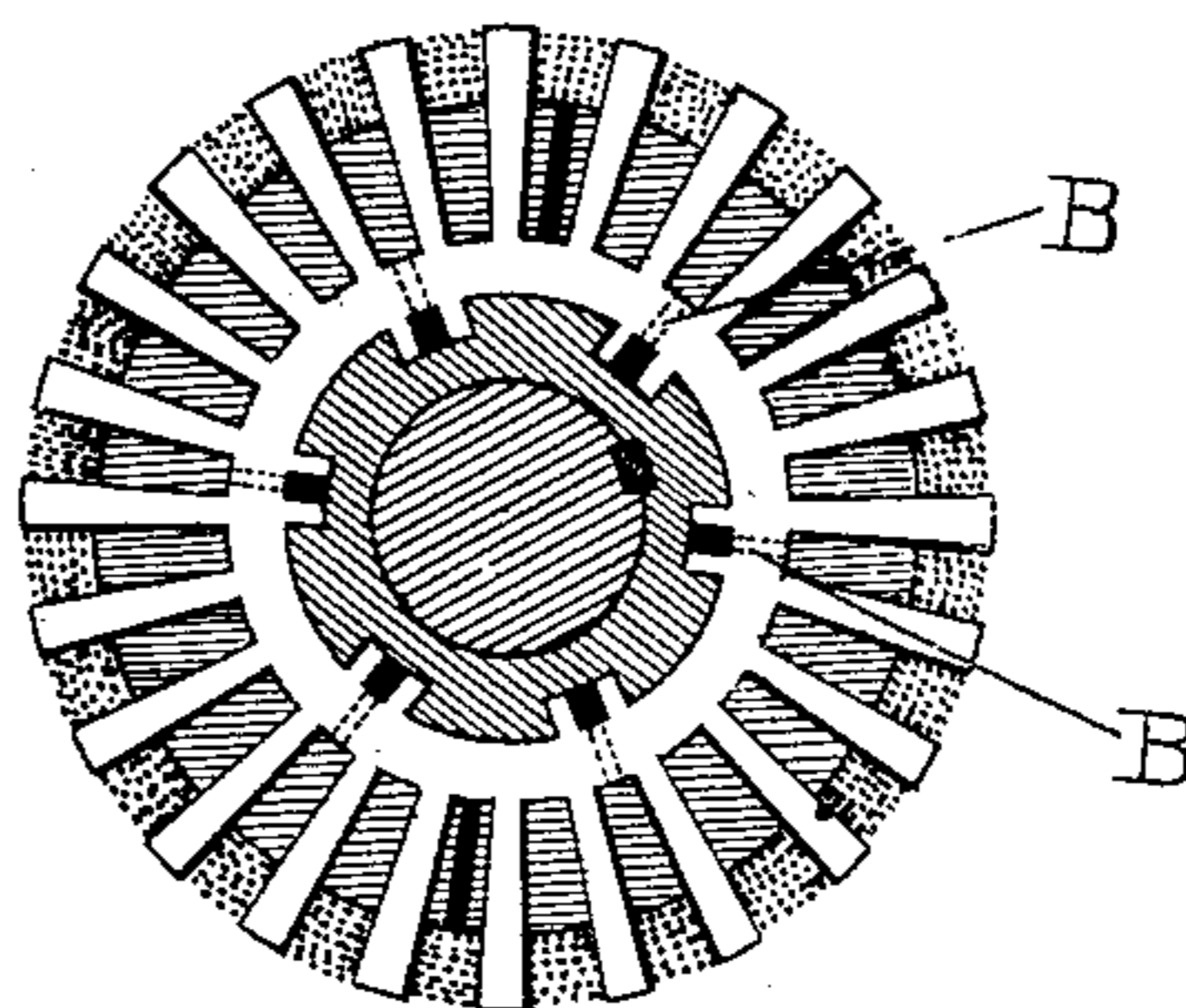


Fig. 3.

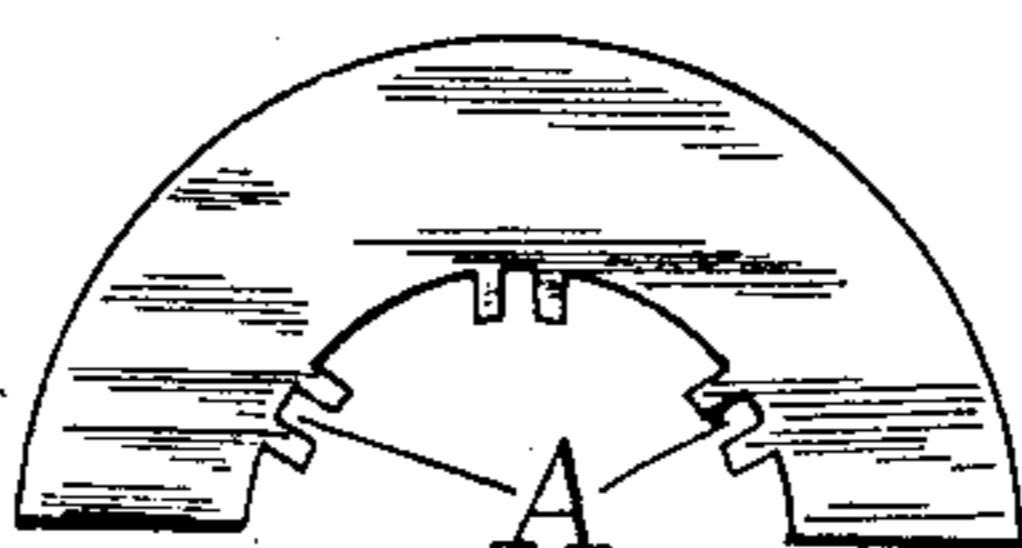


Fig. 4.

WITNESSES:  
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# UNITED STATES PATENT OFFICE.

MARMADUKE M. M. SLATTERY, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE SUN ELECTRIC AND ILLUMINATING COMPANY, OF MANCHESTER, NEW HAMPSHIRE.

## ARMATURE-CORE FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 330,433, dated November 17, 1885.

Application filed November 4, 1884. Serial No. 147,183. (No model.)

*To all whom it may concern:*

Be it known that I, MARMADUKE M. M. SLATTERY, of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Armatures for Dynamo-Electric Machines, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof.

10 The object of my invention is to so construct an armature-core as that it shall, (in addition to other advantages,) while having the necessary mass of metal, be especially adapted to avoid the formation therein of local or Fou-

15 cault currents; and to this end I construct my core of thin sheets or plates of soft iron of the form and insulated and secured as hereinafter more particularly described.

In constructing my improved armature I take as a basis or foundation a shaft of suitable length, preferably of steel, upon which is formed or placed an enlarged portion or hub adapted to receive or have secured thereto the hereinafter-described plates or parts of disks, as well as the dividing radial pieces hereinafter mentioned. This enlarged portion or hub may be of the same metal as and integral with the shaft; but I prefer to make it a sleeve of brass of the form desired surrounding the steel shaft. Upon this shaft, at the hub or enlarged portion, I secure plates of metal of substantially the form (approximating a half-disk) shown at Figure 4 in the drawings, in sufficient number to produce or build up a cylinder of proper length, which length (as well as the diameter of the cylinder) those skilled in the art will understand is to be arrived at by a consideration of the respective masses of metal in the armature and field magnets, and of the kind of work required of the machine, and I lay no claim to any particular dimensions or proportions in this respect.

45 In the drawings, Fig. 1 is a longitudinal sectional view of the core. Fig. 2 is a transverse section of the shaft and hub, showing two of the half-disks and the radial projections beyond the periphery. Fig. 3 shows the form of the radial pieces, showing a pair of disks beneath, and the longitudinal induc-

ing copper coils in section; and Fig. 4 shows the form of the half-disk.

The plates or half-disks, divided at intervals by the radial pieces, as hereinafter described, are coated with proper insulating material, preferably with hard Japan varnish, and are placed side by side along the hub, to which they are secured, in close connection, save for the insulating material upon their surfaces, and, at intervals, the radial pieces, but preferably so as to "break joint" and so as that no two or more of such plates or half-disks will at any place form a continuous disk. At intervals along the hub—say between every fifth and sixth plate, or as may be found desirable—I secure thicker plates or pieces of a wheel-like shape having radial projections extending beyond the general circumference of the cylinder or core, which projections serve to form guides or channels for the reception of the inducing longitudinal copper coils.

The manner in which I secure my plates or half-disks and radial pieces to the hub is shown in the drawings in Fig. 3, and consists in forming longitudinal grooves in the hub, the radial direction of each of which is at such an angle with that of the other or others in the same semi-circumference as to produce, in conjunction with the corresponding projecting portions on the half-disks, the effect of a dovetail, the half disks or plates being slid longitudinally onto and along the hub. By this means all possibility of the plates pressing outward against the inducing copper coils, by reason of the centrifugal force of the revolving armature, is prevented.

For the purpose of admitting air to the interior of the armature in order to prevent undue heating, I form in the inwardly-projecting portions of the plates and radial pieces recesses or notches, as shown at A in Fig. 4, which, in the completed armature, will form so many longitudinal channels for the admission of air. Between the radial projections of the thicker dividing-pieces I drill or otherwise form holes extending radially from these longitudinal channels to the spaces lying between the arms or radii of the thicker divid-

ing-pieces. These holes are shown in section at B in Fig. 3. At the ends of the cylinder formed or built up by these plates and radial pieces are shoulders, arms, flanges, or projections adjustably secured with relation to each other and to the shaft, so that the whole mass may be clamped and secured together.

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

In an armature-core, a series of plates or

sheets of metal substantially of the form of a half-disk, as herein shown, arranged and secured in pairs along a shaft or hub, each of such plates or half-disks being coated with a suitable insulating material.

In witness whereof I have hereto set my hand this 30th day of October, 1884.

MARMADUKE M. M. SLATTERY.

Witnesses:

J. E. TALBOT,

H. J. LAW.