

(No Model.)

W. T. KOSINSKI.

ARMATURE FOR DYNAMO ELECTRIC MACHINES OR MOTORS.

No. 505,247.

Patented Sept. 19, 1893.

Fig. 1.

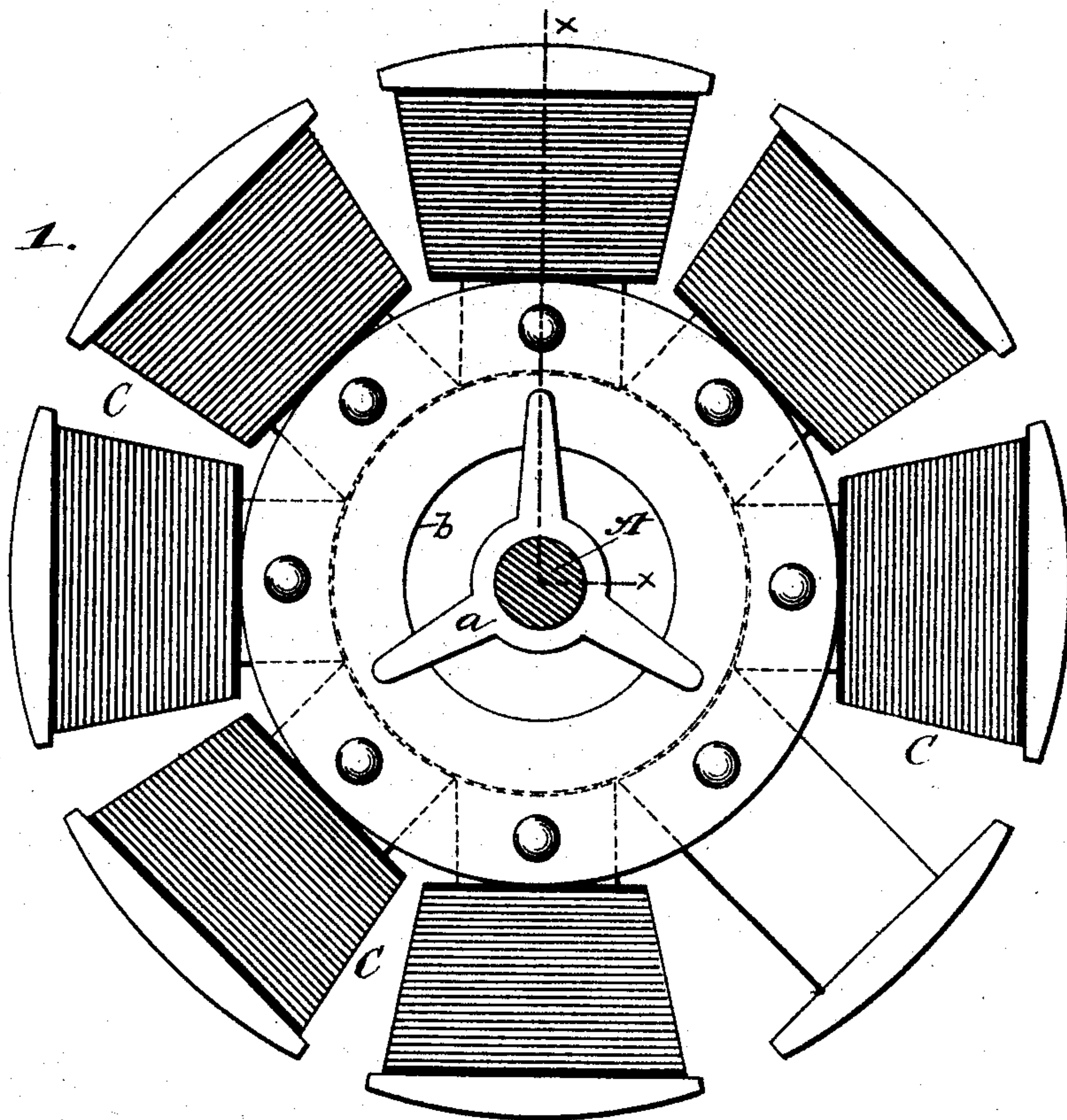
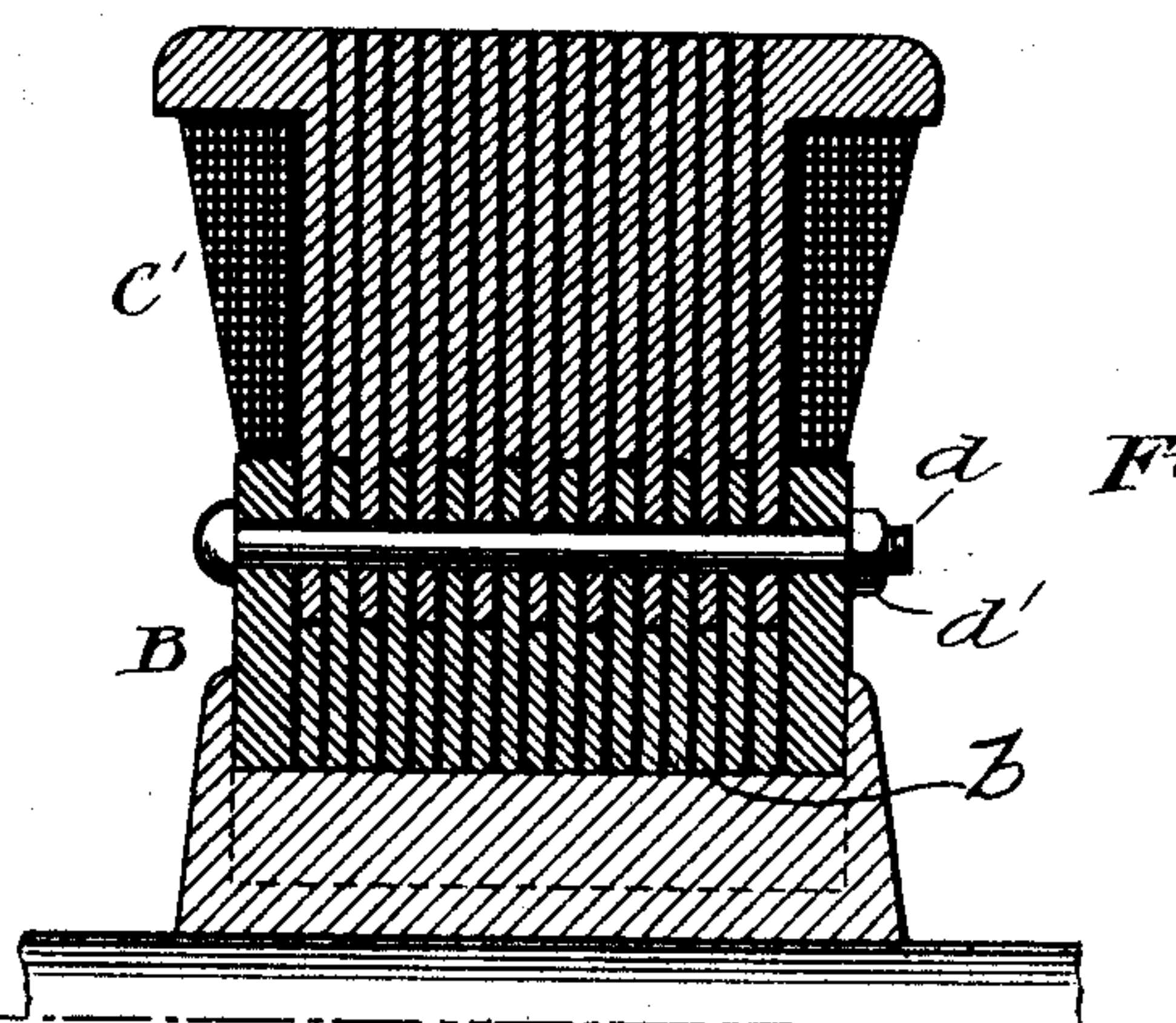
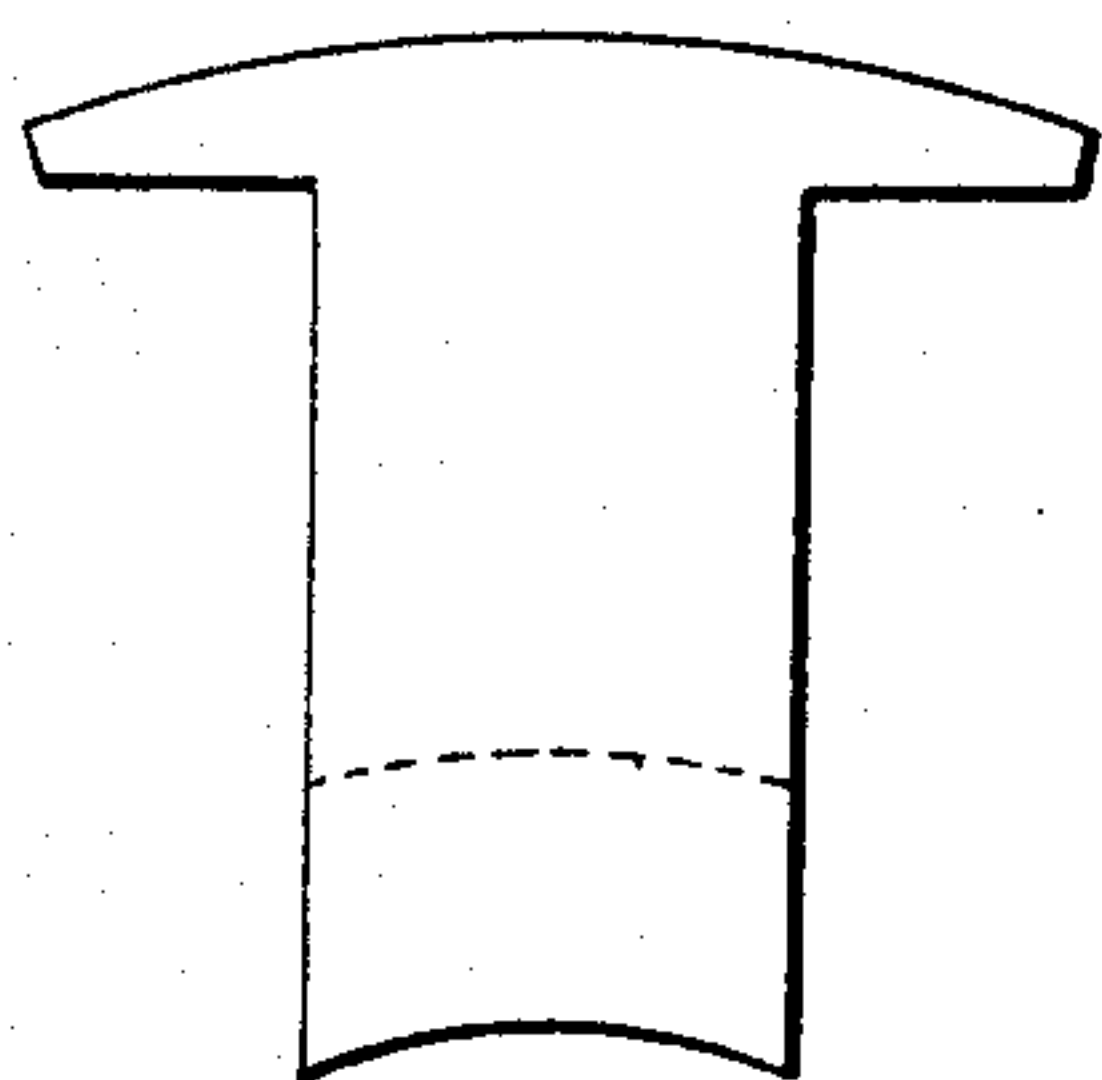


Fig. 3.



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ARMATURE FOR DYNAMO-ELECTRIC MACHINES OR MOTORS.

SPECIFICATION forming part of Letters Patent No. 505,247, dated September 19, 1893.

Application filed May 5, 1893. Serial No. 473,104. (No model.)

To all whom it may concern:

Be it known that I, WALTER T. KOSINSKI, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Armatures for Dynamo-Electric Machines or Motors, of which the following is a full, clear, and exact description.

My invention relates to armatures for dynamo electric machines or motors, the object being to provide a construction which shall be cheap to manufacture, in which the coils may be formed complete before their application to the armature, and in which any individual coil may be removed for repairs without disturbing the others.

To this end, my invention consists of an armature consisting of a plurality of separate laminated cores to which the coils are applied before the armature is entirely assembled. The means for attaching these cores to the armature or for assembling the parts of the armature also constitutes a feature of my invention.

The invention will be described in detail with reference to the accompanying drawings, in which—

Figure 1 represents an end elevation of the armature, one of the coils being removed to show the form of its core; and Fig. 2 is a section of a portion of the armature, indicated by the line x, x of Fig. 1. Fig. 3 is a detail.

Referring to the drawings by letter, A represents the armature shaft which carries a spider a of any suitable construction, which, in turn, supports an iron ring B. This ring is made up of a series of disks or laminations, each having an opening in the center of the same diameter as the others, which is indicated by the line b , and each alternate disk having an exterior diameter somewhat less than those lying between them, so that a series of annular grooves or dovetailed formations will occur on the exterior surface of the ring or cylinder when the disks are assembled together. The disks are held together partially by a spider, the ends of which embrace the two end disks, as shown in Fig. 2. This

ring or cylinder constitutes the main portion or body of the armature core.

C, C, &c., represent a series of individual cores or pole pieces which respectively carry armature coils C' , C' , &c. These cores are built up separately of laminations having the form indicated in Fig. 3. Each of the laminations has a cross-head running in the direction of the circumference of the armature, and a body portion or main core which stands in a radial position with respect to the armature and at right angles to the shaft. These laminations are made in two lengths, shorter ones alternating with the longer ones when they are assembled. The end plates of these cores are cast or forged in a shape indicated in Fig. 2; that is, the off-set portions in the direction of the shaft together with the off-set portions or heads of the intermediate plates, form a continuous flange around the outer end of the core for retaining the coil in place. The coil C' is formed upon a spool independent of the core, and before the core is applied to the ring the coil is slipped over it into the position indicated in Figs. 1 and 2. The core is then applied to the ring by passing the inward projecting plates of the core into the grooves in the surface of the ring or cylinder, thus dovetailing the core to the cylinder and establishing a large surface of contact between the two parts.

It should have been stated before that the inner end of the plates of the cores are formed on curves corresponding to the perimeter of the plates of which the cylinder is built up. The core is forced downward until these curved surfaces make an accurate contact with each other; then a bolt d of non-magnetic material is passed longitudinally through the ring and the core to hold the parts rigidly together; the bolt is secured by a nut d' . The perforations for these bolts may, of course, be formed at the same time that the plates are stamped out. It will thus be seen that in order to remove one of the coils, it is only necessary to remove the single bolt which retains it upon the cylinder; the coil may then be repaired and returned to its position on the armature. For some purposes a lami-

nated core for the coils may not be necessary and a solid core may be secured to the ring by passing it down between the end plates thereof; all of the intermediate plates of the
 5 ring will then be of the shorter diameter.

Having thus described my invention, I claim—

1. An armature for dynamo electric machines and motors, consisting of a laminated
 10 ring or cylinder having annular grooves in its periphery, in combination with a series of removable radial cores each carrying a coil, said cores being built up of plates which alternately project into the grooves of the cyl-
 15 inder, substantially as described.

2. An armature for dynamo electric ma-

chines and motors, consisting of a laminated ring or cylinder having annular grooves in its periphery, in combination with a series of removable radial cores each carrying a coil, 20 said cores being built up of plates which alternately project into the grooves of the cylinder, and bolts passing through the edge of the cylinder and the ends of the core plates, in the manner and for the purpose described. 25

In testimony whereof I subscribe my signature in presence of two witnesses.

WALTER T. KOSINSKI.

Witnesses:

FRANK S. OBER,
 W. A. OPPERMAN.