(No Model.)

H. F. PARSHALL.

ARMATURE FOR DYNAMO ELECTRIC MACHINES.

No. 493,337. Patented Mar. 14, 1893.

FIG. 1.

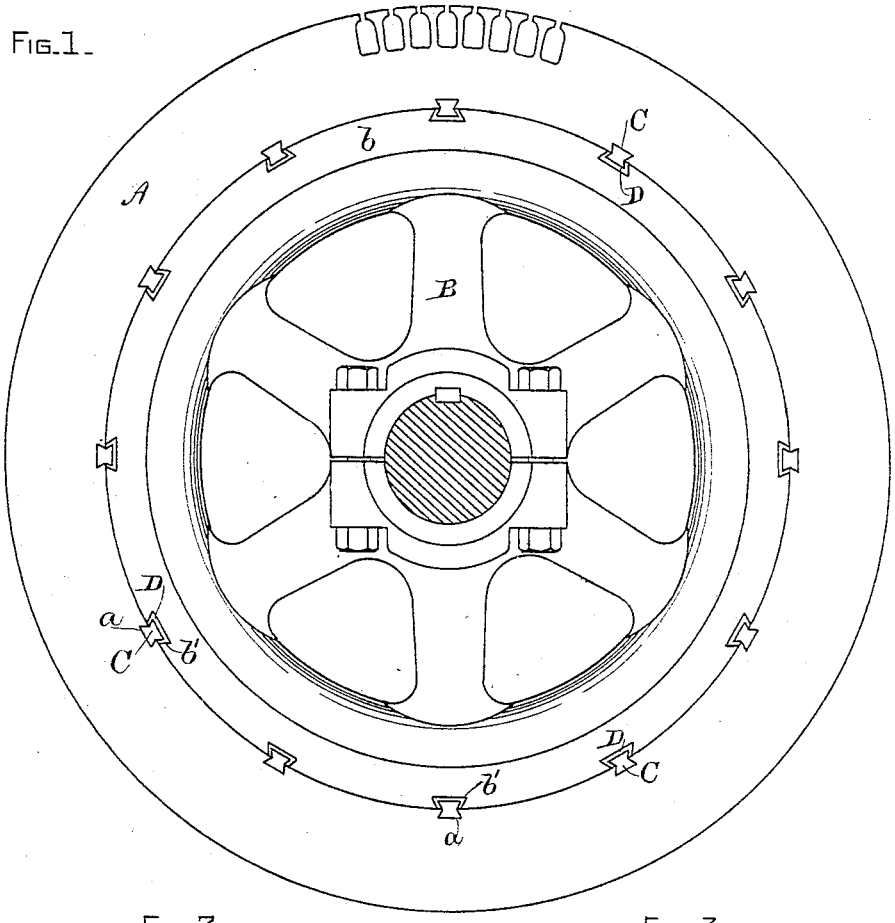


FIG. 2.

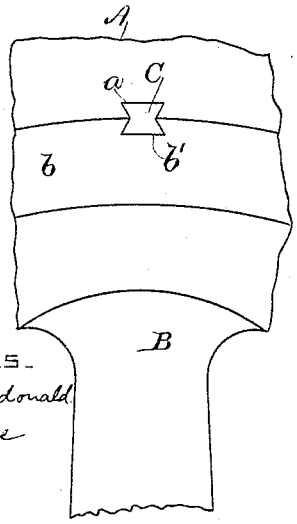
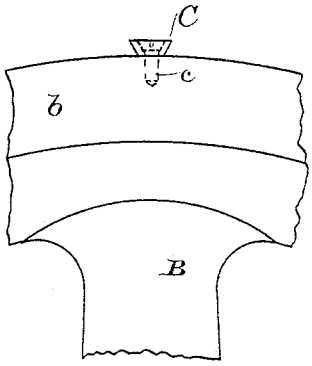


FIG. 3.



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ARMATURE FOR DYNAMO-ELECTRIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 493,337, dated March 14, 1893.

Application filed September 15, 1892. Serial No. 445,957. (No model.)

To all whom it may concern:

Be it known that I, HORACE F. PARSHALL, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in the Construction of Armatures, of which the following is a specification.

My invention relates to dynamo electric machines, and it consists in an improved mode of attaching the armature core to the spider or other carrier. The disks or rings of a laminated core are provided in their inner edges with notches preferably dovetailed or undercut, which register when the disks are assembled. The spider is provided with keys which fit the notches in the disks, and firmly unite the whole structure.

The drawings show three ways of carrying out my invention.

Figure 1 is an end view of an armature spider and disks. Figs. 2 and 3 are fragmentary views, on an enlarged sale, of modifications.

The rings A, or disks, as they are usually termed, are provided in their inner edges with notches *a*, preferably of a dovetail or undercut shape. The notches are similarly arranged in all the disks, so that when the disks are assembled the notches will register and form grooves running lengthwise of the core. The spider B, of which there may be one or more, has a cylindrical shell *b* upon which the disks or laminæ are supported. This cylindrical shell is adapted to fit closely within the laminæ, affording a firm support therefor; and in order to prevent slipping and make the whole structure practically rigid after assembly, the surface of the shell carries a number of keys C adapted to fit snugly into the notches *a* in the disks, and thereby compensate for any looseness or inaccuracy of the fit between the parts, which may result from the inertia of the parts in starting and stopping or the jar and vibration attendant upon the use of the machine. These keys may be variously formed. They may be cast integral with the shell. They may be attached to it by screws or other fastening devices *c*, as in Fig. 3. The shell may have grooves *b'* into which the keys are fitted, as in Fig. 2.

As shown in Fig. 1, the grooves *b'* are made considerably larger than the portions of the keys which a e received therein, and said keys are then firmly secured by Babbitt or similar material D poured into the grooves *b'*. The best method of assembling the armature is to stand the spider and its shell on end, drop the keys into the grooves *b'*, slip on the disks and insulation until the requisite number has been piled up, and then pour the babbitt into the grooves around the keys. The loose fit of the keys in the grooves before the babbitt is poured, facilitates the putting on of the disks.

It is preferred to dovetail the grooves and keys, though any suitable shape may be given to them.

What I claim as new, and desire to secure by Letters Patent, is—

1. An armature consisting of an annular core, fitting and surrounding an internal concentric support, and keys between said support and said core, whereby any motion of one independently of the other is prevented, as set forth.

2. An armature comprising a spider or spiders carrying a cylindrical shell, an annular core adapted to fit said shell and be supported thereby, and projections or keys integral with one of said parts and adapted to engage with corresponding grooves or key-seats in the other part, whereby said parts are locked together, as described.

In witness whereof I have hereunto set my hand this 10th day of September, 1892.

HORACE F. PARSHALL.

Witnesses:

JOHN W. GIBBONEY,

BENJAMIN B. HULL.