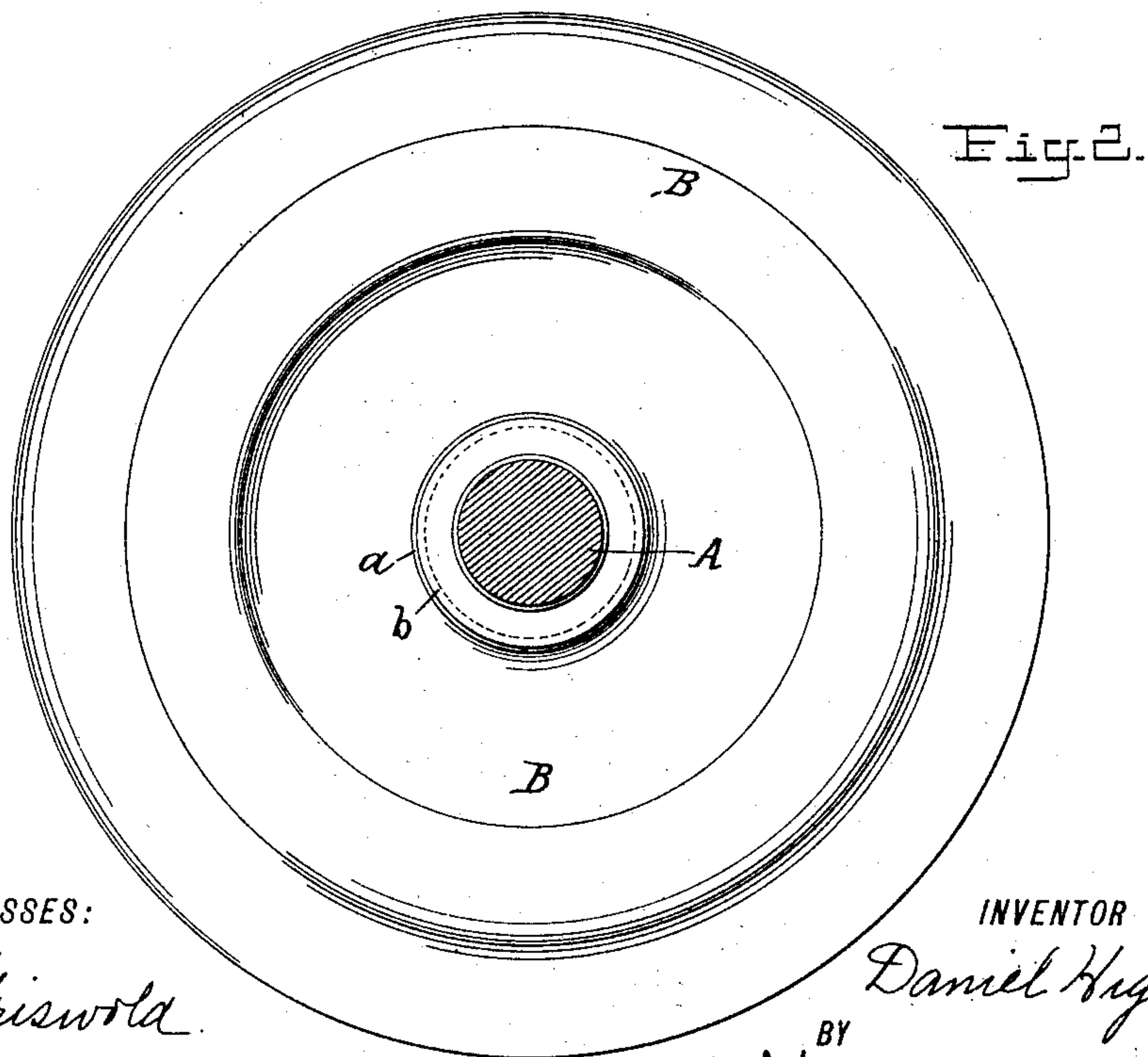
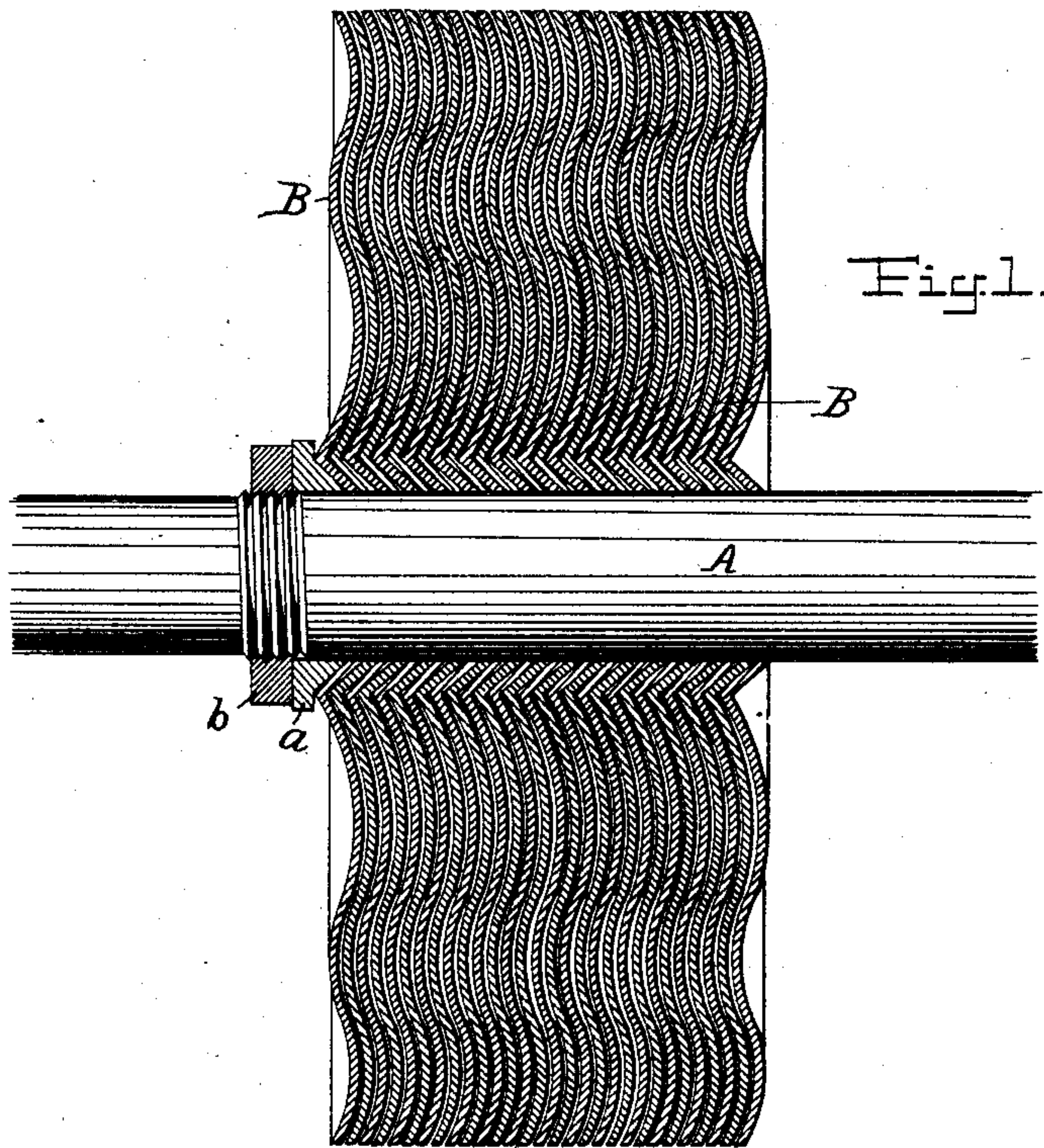


(No Model.)

D. HIGHAM.
ARMATURE CORE FOR DYNAMOS.

No. 409,463.

Patented Aug. 20, 1889.



WITNESSES:

E. J. Griswold.
George Baumann.

INVENTOR

Daniel Higham.
BY
Horsman and Horsman
his ATTORNEYS

UNITED STATES PATENT OFFICE.

DANIEL HIGHAM, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
HIGHAM PATENT RIGHT COMPANY, OF ROCKLAND, MAINE.

ARMATURE-CORE FOR DYNAMOS.

SPECIFICATION forming part of Letters Patent No. 409,463, dated August 20, 1889.

Application filed May 10, 1889. Serial No. 310,258. (No model.)

To all whom it may concern:

Be it known that I, DANIEL HIGHAM, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented
5 Improvements in Armature-Cores for Electric Generators, of which the following is a specification.

My invention relates to the construction of the cores of drum-wound armatures for dynamo-electric machines and electric motors; and
10 my invention consists more particularly of an improved form of disk, of a number of which the core is to be built up. In drum-wound armatures as now generally constructed the
15 cores are either built up of a large number of thin disks of iron separated by sheets of insulating material, or, on the other hand, they are built up of thick iron disks simply separated from contact with each other
20 by intervening air-spaces. This latter construction permits the sheets of insulating material to be dispensed with; but it is, nevertheless, more costly to manufacture than a core built up of thin iron disks with insulating-sheets. The chief reason for this is that
25 thick disks (which necessarily have to be made quite true and straight, so that they shall not come in contact with each other when the core is built up) will cost more than a
30 greater number of thin disks, which can be held straight against the insulating material by being clamped between the usual end plates on the shaft. A core built up of thick disks also has the objection that it is more
35 favorable to the generation of eddy or "Foucault" currents, which reduce the efficiency of the machine.

It is the object of my present invention to so form the disks of which the armature-core
40 is to be built up that they may be made of very thin iron, and yet be strung on the shaft without sheets of insulating material between them. To accomplish this object I take disks of comparatively thin sheet-iron and suitably
45 flute or corrugate them, so that they become practically rigid or stiff, or as rigid or stiff as the thick iron disks which have been heretofore used.

In the accompanying drawings, Figure 1 is a
50 vertical sectional view of a number of disks

corrugated in accordance with my invention and strung upon the shaft; but I have not thought it necessary to illustrate a complete armature-core; and Fig. 2 is an end view of the armature, with the shaft in section. 55

In the drawings, A may be said to represent the axis or shaft of the armature, and B the spaced corrugated disks which are to be strung thereon, and which may be secured in
any suitable manner. In the present instance 60 I have illustrated a washer *a* and a nut *b*, which latter is screwed onto the shaft at the one end of the set of disks, and corresponding nuts and washers may be applied at the other end to clamp the disks between them. 65

I prefer to form the disks B with annular corrugations, as illustrated in the drawings, although I do not restrict myself either to the direction in which the corrugations shall run or to their form. The electrical conductors 70 may be wound or otherwise placed upon this core in any well-known way.

As a simple and convenient way of providing for the spacing of the main parts of the disks from each other to leave the necessary 75 air-spaces, the corrugation at the center of each disk around the opening through which the armature-shaft has to pass may be made at such an acute angle, as shown in Fig. 1, that when the disks are placed together they 80 will come into contact with each other only at this inner corrugation with its acute inclination, the remaining portion of each disk being separated from its neighbors by air-spaces. I do not wish, however, to confine myself to 85 this means for spacing the corrugated disks, as this may be also provided for in other ways.

I claim as my invention—

1. An armature-core for drum-winding, consisting of a shaft and a series of thin iron corrugated disks mounted thereon, with intervening air-spaces, but without other insulation than the air-spaces, substantially as described. 90

2. An armature-core for drum-winding, consisting of a shaft and a series of thin iron corrugated disks mounted thereon, with intermediate air-spaces, except near the shaft, where the disks are in contact with each other, substantially as set forth. 95

3. A core for the armature of a dynamo- 100

electric machine or electric motor having its main body composed of spaced iron disks provided with annular corrugations, substantially as and for the purpose set forth.

- 5 4. A core for the armature of a dynamo-electric machine or electric motor, comprising a shaft and corrugated thin iron disks mounted thereon and acute corrugations at the center, whereby the main portions of the disks are

spaced from each other when strung upon the shaft, all substantially as set forth. 10

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL HIGHAM.

Witnesses:

HUBERT HOWSON,
HARRY SMITH.