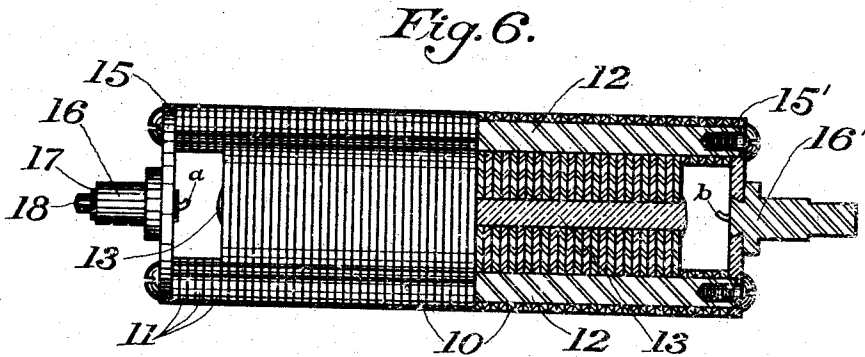
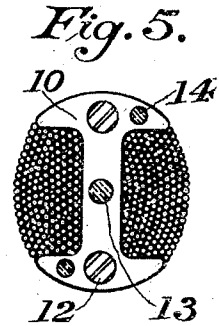
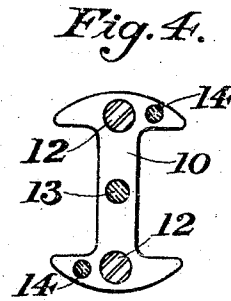
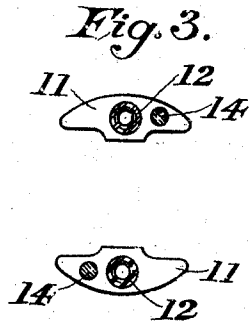
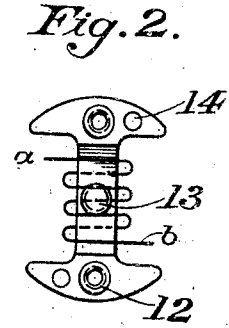
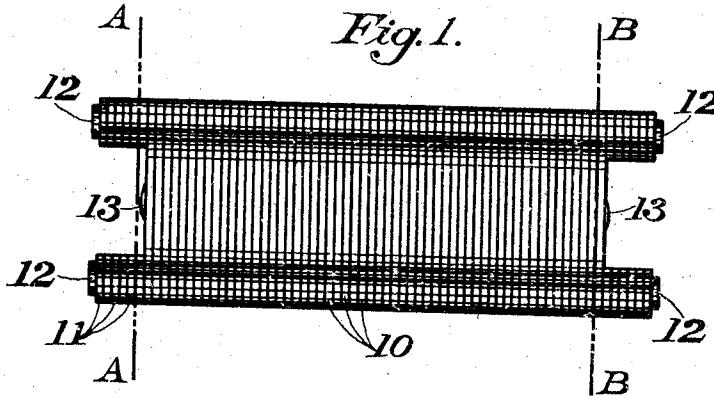


H. TIDEMAN,
ARMATURE FOR ELECTRIC GENERATORS.
APPLICATION FILED NOV. 23, 1905.

949,784.

Patented Feb. 22, 1910.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY TIDEMAN, OF MENOMINEE, MICHIGAN.

ARMATURE FOR ELECTRIC GENERATORS.

949,784.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Application filed November 23, 1905. Serial No. 288,668.

To all whom it may concern:

Be it known that I, HENRY TIDEMAN, a citizen of the United States of America, and a resident of Menominee, county of Menominee, and State of Michigan, have invented a new and useful Improvement in Armatures for Electric Generators, of which the following is a specification.

My invention pertains to armatures for electrical dynamos and motors, being an improvement in the details of assembling the laminæ to form a laminate core. The difficulties of assembling laminæ heretofore have in some instances prevented the use of this advantageous detail altogether, and in other instances have resulted in confining the feature of the lamination to the middle portion of the armature, the end portions of the core being otherwise provided for. In my improved armature, the core is composed entirely of laminæ supplemented by the necessary parts required to bind the laminæ together.

My invention is illustrated in the one page of drawings accompanying, in which,

Figure 1 shows a view of the laminate core, with end pieces and winding removed; Fig. 2 is an end view of the core, the winding being indicated; Fig. 3 is a section on the line AA of Fig. 1; Fig. 4 is a section on the line BB of Fig. 1; Fig. 5 is a section, and Fig. 6 is a view, part in section, showing the end pieces, with provision for journaling the armature and for leading the conductor to external circuit connections.

At 10 in Fig. 4 is shown a lamina, but to the form indicated, this form of lamina being hereinafter referred to as a full lamina.

In Fig. 3 are shown two lamina, 11 and 11, cut to the form indicated, the two being similar, and this form of lamina being hereinafter referred to as a part lamina.

It is noted from Figs. 3 and 4 that each lamina has a plurality of holes in it, the full lamina illustrated having five holes, and the part laminæ having two holes each, and these holes are shown as being of varying sizes, according to the purpose for which they are intended. In assembling the armature core, two guide rods, 12 and 12, are placed parallel and a sufficient number of full laminæ are threaded upon them; the rivet 13 passes through the middle holes of these laminæ and binds them together by having its ends upset. A sufficient number of part laminæ then are placed upon the

projecting ends of each of the guide rods, and when in position the small holes of the part laminæ will register with the small holes of the full laminæ, and the rivets 14 and 14 may be passed through, holding the part laminæ in place by having their ends upset. This completes the formation of the laminate core, it being necessary now to add journals and conductors to complete the armature. Plates 15 and 15' have openings to register with the large holes of the full laminæ, and therefore fit snugly over the ends of the guide rods 12 and 12, shown in Fig. 1 as projecting beyond the part laminæ of the complete core; the ends of the guide rods are tapped, and screws hold the plates 15 and 15' in position, as shown. Upon the end plate 15 is mounted the journal piece 16, perforated to admit the insulating tube 17, containing the conducting rod, 18, the tube and the rod being held in position by the friction of a drive fit. Upon the end plate 15' is mounted the journal piece 16'.

In Fig. 2 a winding is indicated and the ends indicated as *a* and *b*; these ends *a* and *b* may be connected to the conducting rod 18 and the journal piece 16', respectively, and the armature is completed, being adapted for the generation of alternating current when rotated upon its journals in a magnetic field, the current produced being taken from the frame of the machine as one terminal and from the brush pressed into continuous contact with the conducting rod, 18, as the other terminal.

I do not wish to limit myself in all respects to the particular form of laminæ here shown, to the particular form of device for bringing the terminals of the winding out for connection to an outside circuit, nor to the single winding shown, nor in any of the practically infinite modifications which might be made without departing from the spirit of my invention.

Having thus described my invention, what I claim as new and desire to protect by United States Letters Patent, is:

In an armature for an electrical machine, perforated laminæ of full section forming the body of the armature core; a center rivet passing through all of said full section laminæ and binding them into a compact mass; core extensions for the armature core, each composed of smaller laminæ than the full section laminæ; core extension rivets passing through said core body laminæ and

through said core extension laminæ and
riveted; uniting said extension laminæ and
said core laminæ rigidly; guide rods pass-
ing through said core body laminæ and
5 through said core extension laminæ and
projecting slightly beyond said core exten-
sions; end plates held against the ends of
the core extensions by means of screws pass-
ing into said guide rods, said end plates
10 being held in position by registry of open-
ings in the end plates with the projecting

ends of the guide rods, and axial journals
mounted centrally on said end plates, sub-
stantially as described.

Signed by me at Menominee, county of 15
Menominee, and State of Michigan, in the
presence of two witnesses.

HENRY TIDEMAN.

Witnesses:

LEOPOLD JACKMAN,
JNO. E. HERES.