

No. 852,712.

PATENTED MAY 7, 1907.

J. J. FRANK.
TRANSFORMER CORE.
APPLICATION FILED AUG. 14, 1906.

Fig. 1.

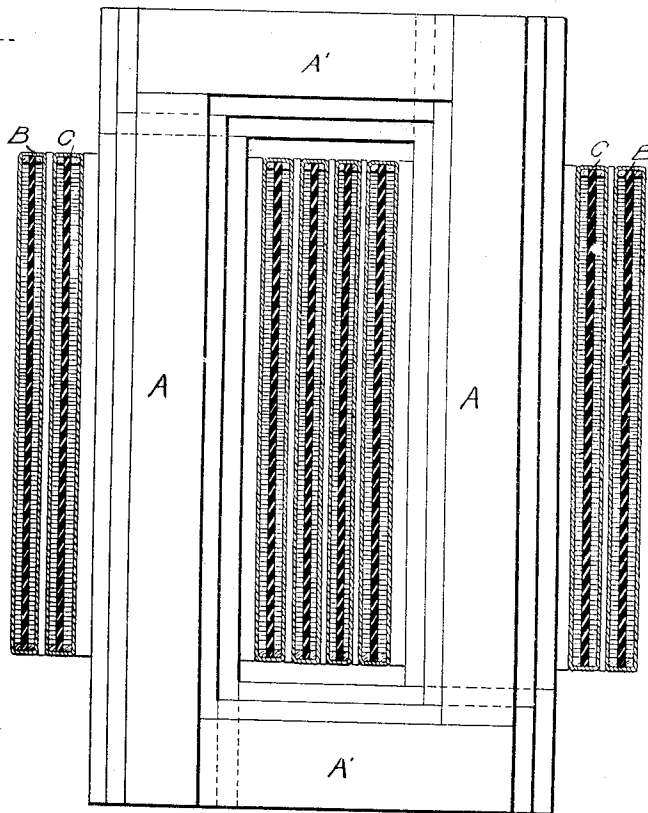


Fig. 2.

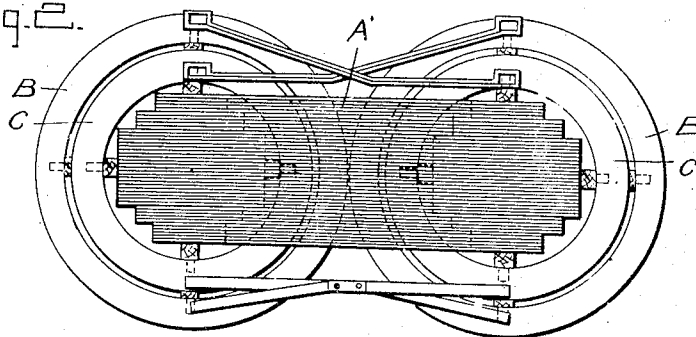
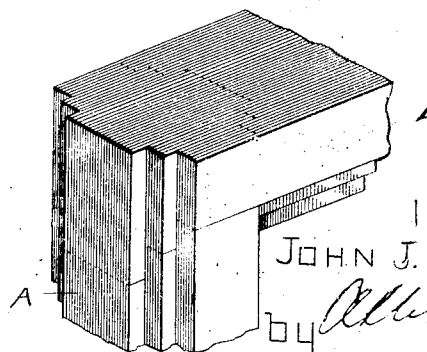


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN J. FRANK, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

TRANSFORMER-CORE.

No. 852,712.

Specification of Letters Patent.

Patented May 7, 1907.

Application filed August 14, 1906. Serial No. 330,562.

To all whom it may concern:

Be it known that I, JOHN J. FRANK, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Transformer-Cores, of which the following is a specification.

My invention relates to cores for transformers, and its object is to provide a novel core construction adapted to remove certain objections which have existed in cores as heretofore arranged. One core construction that has been frequently employed heretofore comprises parallel legs on which the coils are placed, and end-pieces joining the ends of the legs and inter-leaved therewith. It has been customary heretofore to form the end-pieces of rectangular cross-section,—that is, with all the laminations of equal width. With this construction I have found that there is a tendency for the core to bend along the line formed by the inner edge of the end-pieces.

The purpose of my invention is to avoid this bending tendency, and my invention consists in forming the end-pieces of laminations of different widths. With this construction, there is no one line on which the core tends to bend, as in the construction heretofore employed.

My invention will best be understood by reference to the accompanying drawings, in which

Figure 1 shows a side elevation, partly in cross-section, of a transformer arranged in accordance with my invention; Fig. 2 shows a plan view of the same; and Fig. 3 shows a perspective view of a portion of the core.

I have illustrated my invention in the drawings as applied to a transformer of the type described in Patent No. 815,729, issued to W. S. Moody, March 20, 1906. In this type of transformer, the legs supporting the coils are formed of laminations of different widths, so as to approximate the circular form and enable the coil to fit the core closely. My invention is particularly advantageous as applied to this type of transformer, and I have consequently selected this type for illustration, but it will be understood that in its broader aspects my invention is not limited to this particular type, but is applicable to any transformer having a laminated mag-

netic core comprising parallel legs joined by end-pieces.

In the drawings, A A represent the parallel legs of the core on which are mounted the primary and secondary coils B and C. The parallel legs are joined at both ends by end-pieces A' A', the ends of which are inter-leaved with the ends of the members A A. These end-pieces, instead of being formed of laminations of the same width as in the construction of Patent No. 815,729, above referred to, are formed of laminations of different widths; the inner laminations being wider than the outer laminations. With this construction it will be readily seen that there is no one line about which the core may tend to bend, as is the case when the laminations are all of the same width. Selecting the central laminations of the end-pieces as the wider laminations, and making the outer laminations narrow, has the advantage of obtaining a better cooling surface than would be the case if the outer laminations were the wider.

What I claim as new and desire to secure by Letters Patent of the United States, is,—

1. In a transformer, a laminated closed magnetic core comprising parallel legs and end-pieces joining the ends of said legs, the laminations composing said end-pieces being of different widths.

2. In a transformer, a laminated closed magnetic core comprising parallel legs and end-pieces joining the ends of said legs, the inner laminations of said end-pieces being of greater width than the outer laminations.

3. In a transformer, a laminated closed magnetic core comprising parallel legs and end-pieces having their ends inter-leaved with the ends of said legs, the laminations composing said end-pieces being of different widths.

4. In a transformer, a laminated closed magnetic core comprising parallel legs and end-pieces having their ends inter-leaved with the ends of said legs, the inner laminations of said end pieces being of greater width than the outer laminations.

5. In a transformer, a laminated closed magnetic core comprising parallel legs and end-pieces joining the ends of said legs, the laminations composing both said end-pieces and said legs being of different widths.

6. In a transformer, a laminated closed

magnetic core comprising parallel legs and end-pieces joining the ends of said legs, the inner laminations of both said end-pieces and said legs being of greater width than the outer laminations.

5 7. In a transformer, a laminated closed magnetic core comprising parallel legs and end-pieces having their ends inter-leaved with the ends of said legs, the inner lamina-

tions of both said end-pieces and said legs 10 being of greater width than the outer laminations.

In witness whereof, I have hereunto set my hand this 11th day of August, 1906.

JOHN J. FRANK.

Witnesses:

BENJAMIN B. HULL,
GRACE M. HANIGAN.