

(No Model.)

E. FAWCETT.
DYNAMO ELECTRIC MACHINE.

No. 527,415.

Patented Oct. 16, 1894.

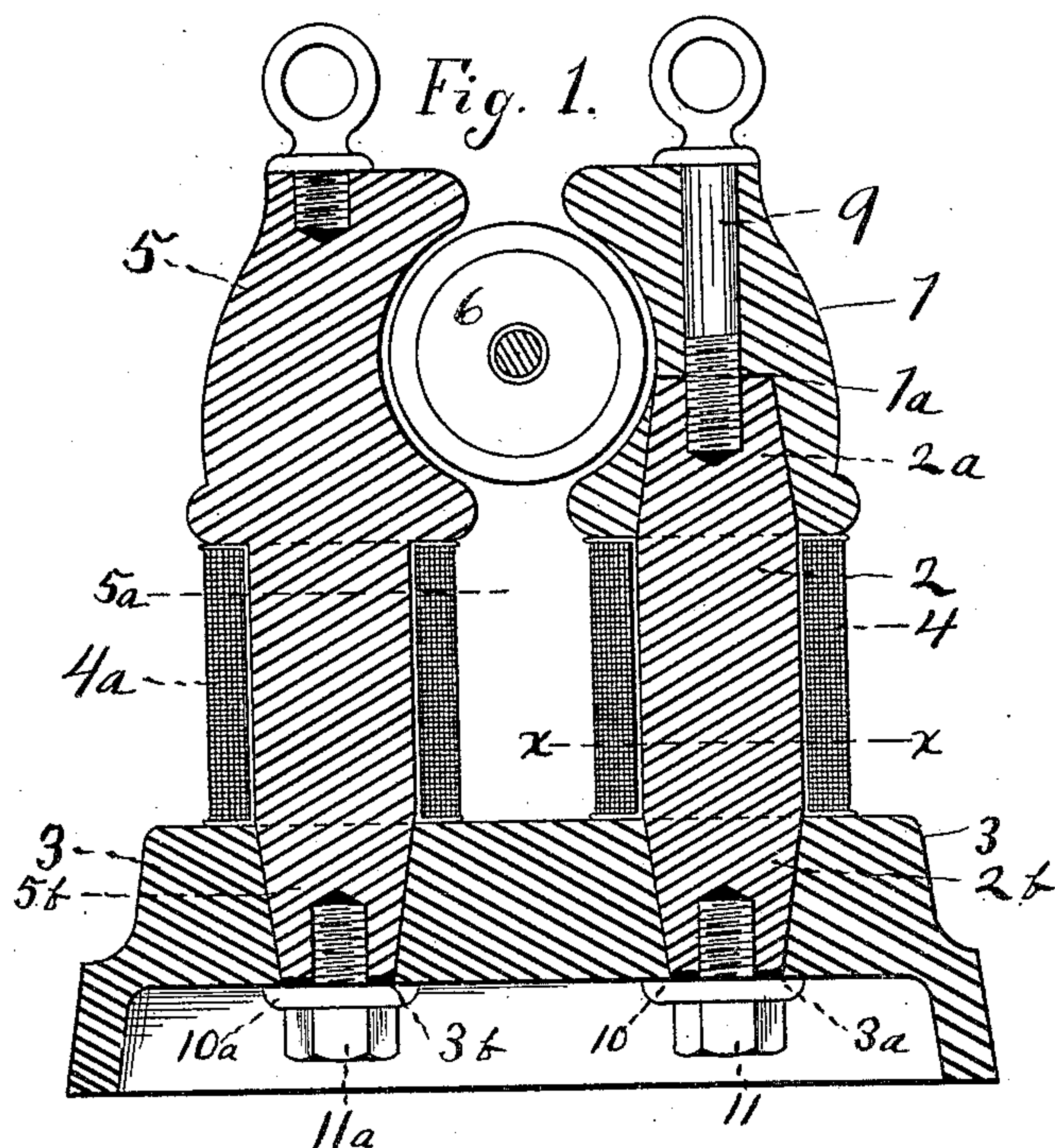


Fig. 3.

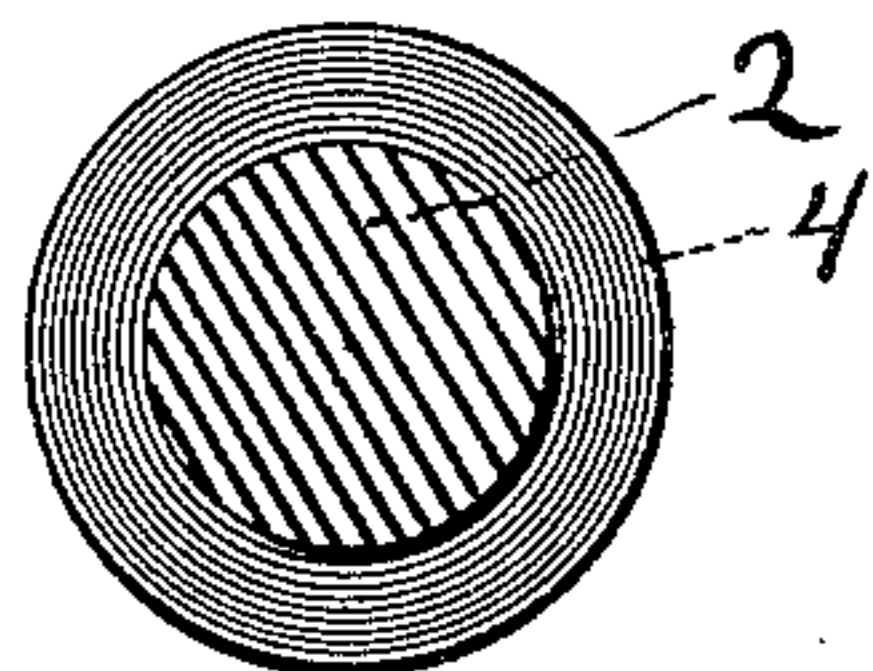
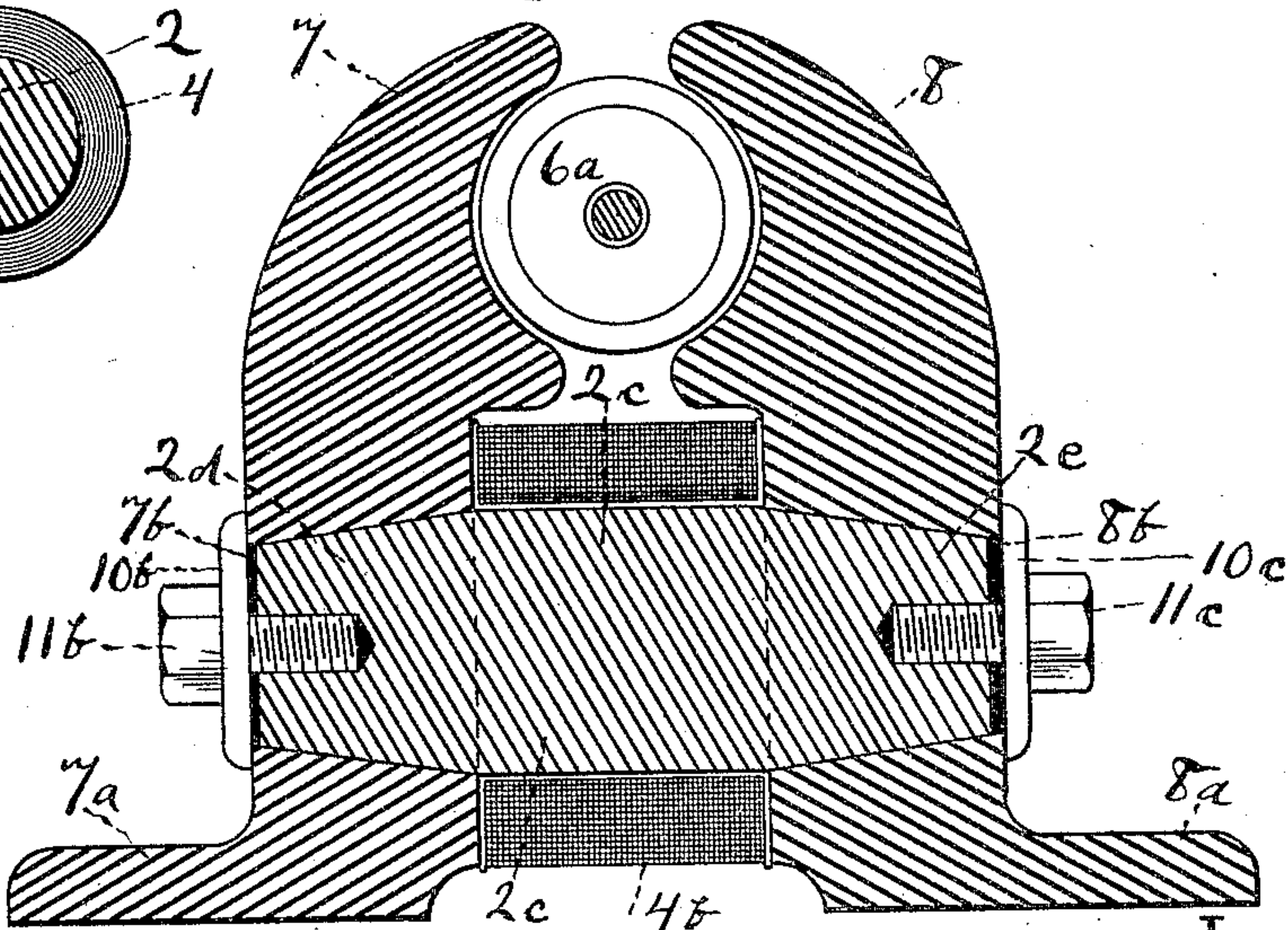


Fig. 2.



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UNITED STATES PATENT OFFICE.

EZRA FAWCETT, OF ALLIANCE, ASSIGNOR OF ONE-HALF TO LEONARD W. BRADLEY, OF CLEVELAND, OHIO.

DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 527,415, dated October 16, 1894.

Application filed February 15, 1894. Serial No. 500,196. (No model.)

To all whom it may concern:

Be it known that I, EZRA FAWCETT, a citizen of the United States, residing at Alliance, in the county of Stark, State of Ohio, have invented certain new and useful Improvements in Dynamos, of which the following, with the accompanying drawings, is a specification.

The object of my invention is an improved connection between the cores or field pieces and the pole-pieces of electro-magnets for dynamos and electric motors whereby a perfect connection is made and the greatest possible contact secured between said parts, with extreme simplicity of construction and ease of assembling the parts of such machines.

My invention consists in the details of construction described herein and defined in the claims.

In the drawings, Figure 1 is a vertical section of a dynamo illustrating the application of my invention to one form of that class of machines, and Fig. 2 is a vertical section of a dynamo illustrating the application of my invention to another form of that class of machines. Fig. 3 is a cross-section of the core and coil on the line *x x*. The application of my invention to the two forms of dynamos illustrated is given to show the universal adaptability of the invention.

In Fig. 1 of the drawings, two forms of construction are illustrated, both of which will be readily understood from the drawings and a statement of the different parts of the dynamo illustrated. 1 is a pole-piece, 2 is a core, 3 is the base or heel piece, and 4 is the coil that is wound around the core 2. In this side of the dynamo the pole-piece 1 and the core 2 are separate pieces joined by my improved connection. In the opposite side of the dynamo illustrated by Fig. 1, the pole-piece 5 and the core 5^a are integral, the core 5^a being joined to the base or heel 3 by my improved connection.

4^a is the coil that is wound upon the core 5^a. 6 is the armature of the dynamo illustrated by Fig. 1.

In Fig. 2 the pole-pieces 7 and 8 are integral with the base pieces 7^a and 8^a. The core 2^c is like the core 2 of Fig. 1, and the armature 6^a is like the armature 6 of Fig. 1. 4^b is the coil that is wound upon the core 2^c.

The several parts of the dynamos already described and their functions are well understood and need no further description.

To insure a perfect connection with the greatest possible contact of surface between the cores or field pieces and the pole pieces and the base, I provide the cores 2, 5^a and 2^c with tapering ends 2^a and 2^b, 5^b, and 2^d and 2^e; and in the pole piece 1, base 3, and pole pieces 7 and 8, I form tapering openings 1^a, 3^a and 3^b, and 7^b and 8^b of the same slant as the tapered ends of the cores and adapted to receive the tapered ends of the cores and to make close contact therewith on all sides of the tapered ends of the cores. When the pole pieces and the cores are connected as are the pole piece 1 and core 2 of Fig. 1, a screw bolt 9 passes down through the pole piece and screws into the end of the core 2, as illustrated. In the other connections, washers 10 and 10^a are placed below the base 3, and washers 10^b and 10^c are placed on the outside of the pole pieces 7 and 8. Through these washers pass screw bolts 11, 11^a, 11^b and 11^c into the ends of the cores, 2, 5^a and 2^c, as illustrated. The screwing of the bolts into the ends of the cores as described draws the cores tightly into the tapering openings made to receive them, and insures a perfect connection with the maximum of meeting surfaces. In practice the working efficiency of dynamos is increased from twenty-seven to approximately forty per cent. by my improvement.

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

1. The combination, in a dynamo or other electrical machine, of a field piece having a tapering end and a pole piece having a tapering opening to receive the tapering end of the field piece, substantially as described.

2. The combination, in a dynamo or other electrical machine, of a field piece having a tapering end, a pole piece having a tapering opening to receive the tapering end of field piece, and a bolt to fasten the field piece and the pole piece together, substantially as described.

In testimony whereof I affix my signature, in the presence of two witnesses, this 10th day of February, 1894.

EZRA FAWCETT.

Witnesses:

JOHN TOWNSEND,
R. B. FAWCETT.