

No. 729,219.

PATENTED MAY 26, 1903.

H. G. REIST.
DYNAMO ELECTRIC MACHINE.

APPLICATION FILED JAN. 6, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

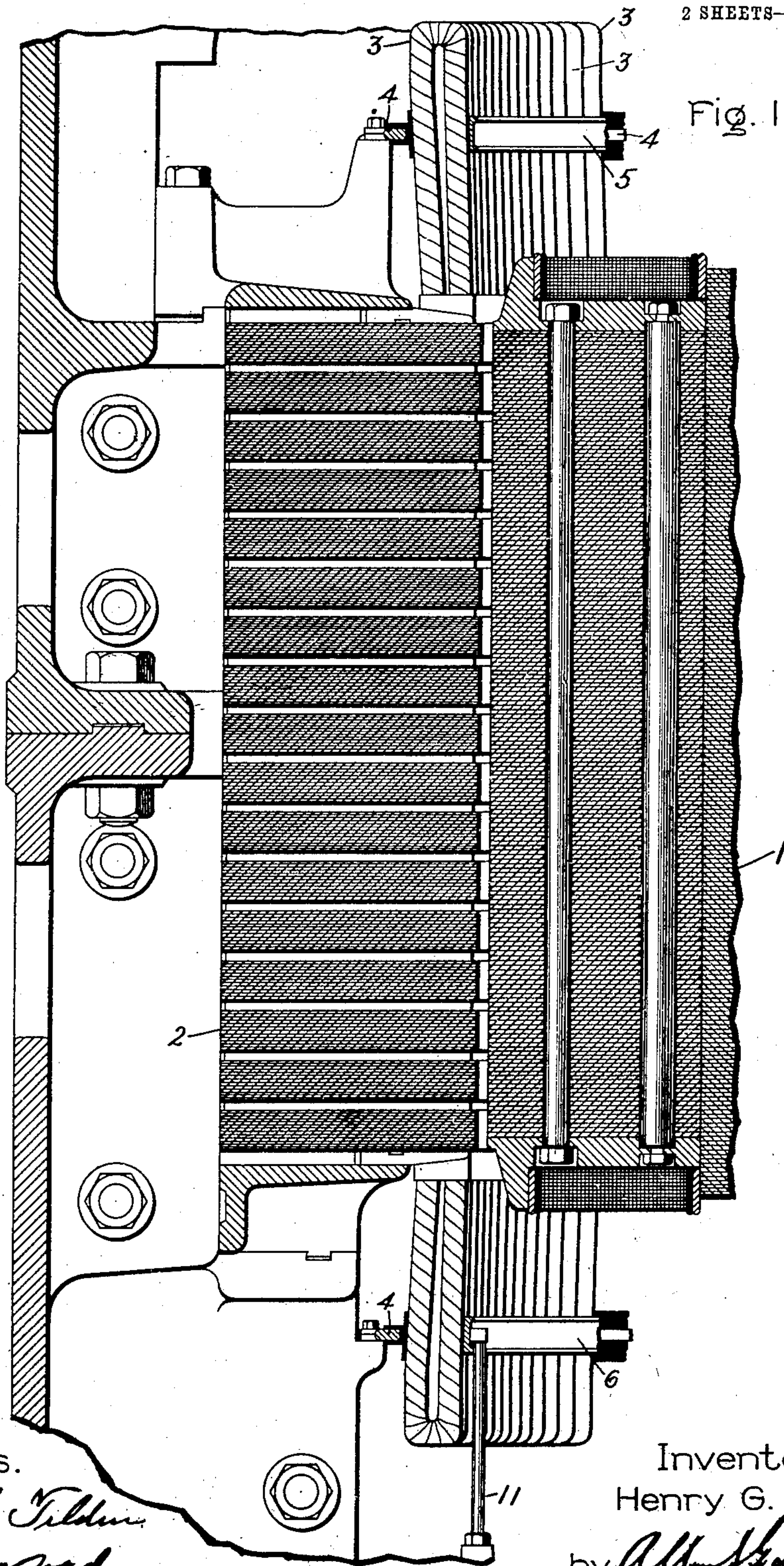


Fig. 1.

Witnesses.

George H. Tilden
Wm. O. Ford

Inventor.

Henry G. Reist.

by *Alfred H. Davis*
Att'y.

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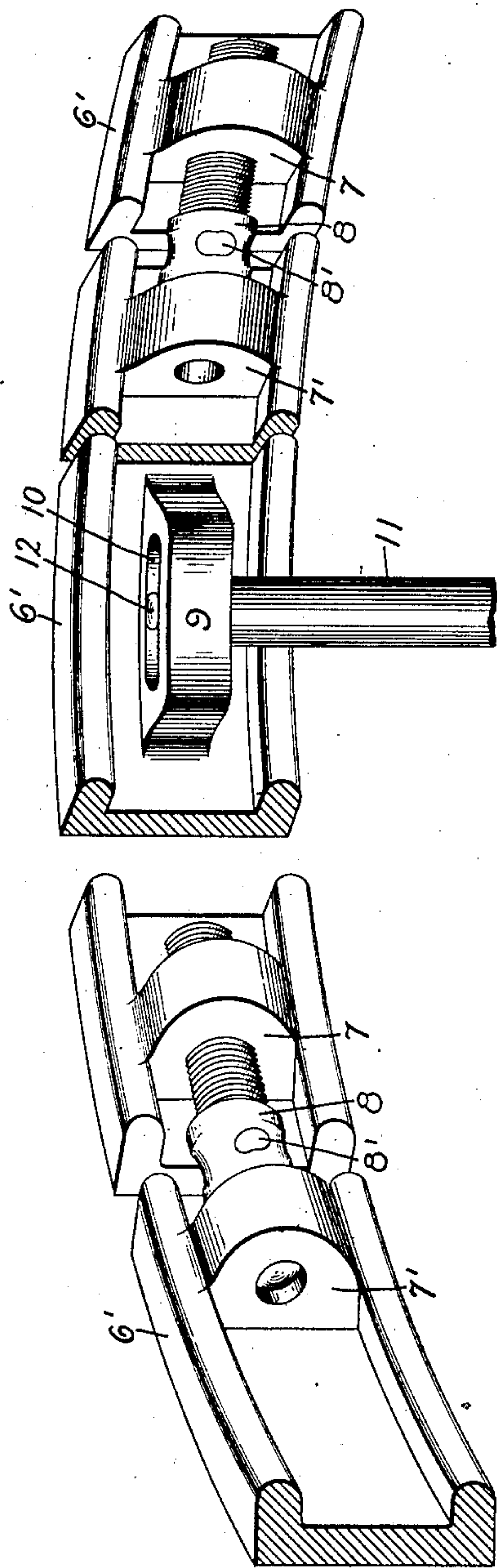
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DYNAMO ELECTRIC MACHINE.

APPLICATION FILED JAN. 6, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY G. REIST, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 729,219, dated May 26, 1903.

Application filed January 6, 1903. Serial No. 137,993. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. REIST, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Dynamo-Electric Machines, of which the following is a specification.

In the construction of dynamo-electric machines of certain types, particularly of the larger sizes, the provision of means by which the ends of the armature-conductors projecting beyond the ends of an armature-core may be satisfactorily held in position is an important matter. It is highly desirable that the securing means shall take up but little space and that they do not interfere with an efficient ventilation of the apparatus. The object of my present invention is the production of means to secure these results.

In the accompanying drawings, of which Figure 1 is a partial sectional elevation and Fig. 2 is a perspective view of details, I have illustrated one embodiment of my invention.

Referring to the drawings, a field member 1 is shown as placed within an annular armature-core 2. It is immaterial which of these members is the revolving one, but in the particular machine which I have illustrated the internal field 1 revolves about a vertical axis.

The insulated ends 3 of the armature-coils project a considerable distance beyond the ends of the core 2, as I have conventionally illustrated them, and thus form what may be termed "annular" flanges at each end of the armature-core. These flanges are not exactly cylindrical, but are shaped so that the diameter of the space inclosed by them is somewhat greater at the outer ends of the conductors than adjacent to the core ends.

The conductor ends are supported externally by an annular member 4, which is supported in turn from the frame of the armature. The conductor ends are held against the support 4 by internal annular members 5 and 6. The annular member 6 is formed of a number of curved strips or sections 6', which are placed end to end, as shown in Fig. 2. The strips are shown as shaped like channel-bars, and each strip is provided adjacent its

ends with lugs 7 and 7'. The lugs 7 are formed with a threaded opening and the lugs 7' are formed with unthreaded openings. The openings in the lugs in adjacent ends are in line with one another. A bolt 8 is threaded in the opening in the lug 7 and is provided with a projection on its head which enters the opening in the lug 7'. The head proper of the bolt bears against the lug 7'. The head of this bolt may be provided with one or more spanner-openings 8', by means of which the bolt can be rotated.

It will be readily understood that on rotating the bolt 8 in the proper direction the ends of adjacent strips 6' will be separated and the diameter of the annular member 6 will be increased, and thereby the projecting conductor ends will be securely clamped against the external support 4.

Each strip 6' is provided intermediate its ends with a lug 9, having an elongated slot 10 formed in it. The lugs 9 rest against the ends of posts 11, carried by the armature-frame. The posts prevent the member 6 from slipping down out of position. Projections 12 at the end of the post 11 enter the slots 10 in the lugs 9 and assist in the assembling of the apparatus. By reason of the elongated shape of the slot 10, however, the posts 11 do not interfere with the expansion of the member 6.

The annular body 5 is formed of sections which are similar in all respects to the sections 6', except that they are not provided with the lugs 9, since by reason of the inclined position of the conductor ends no necessity exists for the use of supporting means similar to the posts 11 for holding the body 5 in position.

It will of course be understood that suitable insulation is inserted between the projecting conductor ends and the supports.

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

1. In a dynamo-electric machine of the internal revolving field type, an armature having a hollow cylindrical core, armature-conductors projecting beyond the core, supports carried by the core for supporting the projecting ends externally, and adjustable means

applied internally for forcing the conductor ends against the external support.

2. In a dynamo-electric machine, a hollow core, conductor ends projecting beyond said core, and expansible means for engaging said projecting ends on their inner sides to hold them outward.

3. In a dynamo-electric machine, an armature having a hollow core and conductors projecting beyond the ends of said core, means for holding said projecting ends in position, comprising a series of curved strips placed to engage said projecting ends on their inner sides, said pieces being placed end to end to form an annular body within said projecting ends, and means for exerting pressure between the adjacent ends of a pair of said strips to thereby increase the diameter of said annular body.

4. In a dynamo-electric machine, an armature having a hollow core and a plurality of armature-conductors extending beyond the ends of said core, an annular body for engaging the said projecting ends on their inner sides, and means for increasing the diameter of said annular body.

5. In a dynamo-electric machine, a core, conductors extending beyond the ends of said core, means for holding said projecting ends in position, comprising a support engaging said projecting ends on their outer sides, and an expansible annular body for engaging said ends on their inner sides.

6. In a dynamo-electric machine, a core, conductor ends extending beyond the ends of said core to inclose a substantially cylindrical space, an annular ring for engaging said projecting ends externally, and an internal expansible member for forcing said ends against said annular ring.

7. In a dynamo-electric machine, a hollow core, conductors extending beyond the ends of said core, means for holding said projecting ends in position, comprising an annular body placed to engage said projecting ends on their inner sides, means for increasing the diameter of said annular body, and means

for preventing axial displacement of said annular body.

8. In a dynamo-electric machine, an armature having a hollow core and having conductor ends projecting beyond said core, the armature being so disposed that the axis of said hollow core is vertical, an annular body for engaging the projecting conductor ends at their inner sides, means for increasing the length of said annular body, and supports for preventing the axial displacement of said annular body, said supports and said annular body having a pin-and-slot engagement whereby the connection between said body and said supports does not interfere with the adjustment of the length of said annular body.

9. A means for holding in position a series of flexible pieces arranged to inclose a space substantially cylindrical, which comprises an outer support for said members and an inner clamping member composed of a series of curved sections placed end to end to form an annular body, and a bolt threaded into each section adjacent one end thereof and having its head swiveled in the other end of the adjacent section whereby the length of said annular body can be increased to firmly clamp said members against said outer support.

10. In a dynamo-electric machine, a core, conductors carried thereby and extending beyond the ends of said core, an external support for said projecting conductor ends, and an internal supporting member independent of said core.

11. In a dynamo-electric machine, a core, conductors carried thereby and extending beyond the ends of said core, an external support for said projecting conductor ends, and adjustable means applied internally for forcing the conductor ends against the external support.

In witness whereof I have hereunto set my hand this 5th day of January, 1903.

HENRY G. REIST.

Witnesses:

BENJAMIN B. HULL,
HELEN ORFORD.