

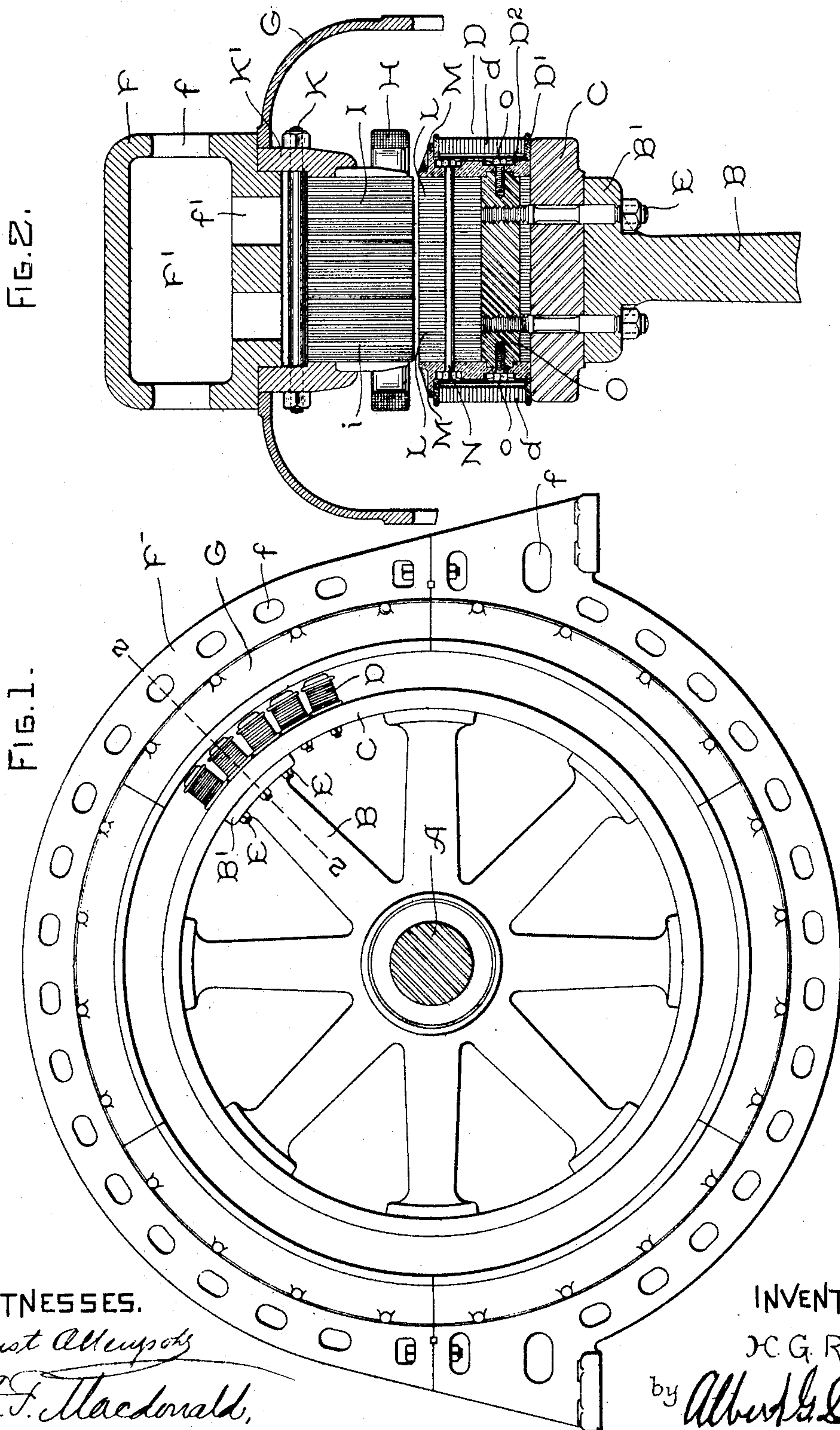
No. 630,409.

Patented Aug. 8, 1899.

H. G. REIST.
DYNAMO ELECTRIC MACHINE.

(Application filed June 21, 1898.)

(No Model.)



WITNESSES.

Ernst Allsup

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INVENTOR.

H. G. Reist.

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Att'y

UNITED STATES PATENT OFFICE.

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

DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 630,409, dated August 8, 1899.

Application filed June 21, 1898. Serial No. 684,056. (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, (Case No. 864,) of which the following is a specification.

My present invention relates to dynamos, particularly those of the revolving-field type, having external stationary armatures, which, especially for large outputs or low speeds, possess certain advantages.

It is the object of the present invention to simplify the construction of such machines and to render them mechanically compact and strong and at the same time easy to assemble and to take apart for repairs, if this should be necessary. One of the difficulties which has attended the use of these machines in practice has been the securing of the radial pole-pieces to the revolving structure. This latter is usually formed of a spider of one form or another and a ring attached to the spider, to which the poles are secured at proper intervals. The spider which I prefer to employ has separate arms and a solid hub, being so constructed to avoid strains in casting. After the ends of the arms are finished a steel ring which has been previously prepared is placed in position and then the bolt-holes are tapped through the ring to the spider-arms. The bolts extend from the core of the pole-pieces, where they penetrate the bar and are secured thereto, directly through the spider-arms, and they are there secured by suitable nuts, so that the same bolts secure the spider and the pole-pieces to the ring. This I have found an economical and efficient construction.

In the accompanying drawings, which show an embodiment of the invention, Figure 1 is a side elevation of a machine in which the invention is employed; and Fig. 2 is a section on the line 2 2 of Fig. 1, showing a portion of a spider-arm, one of the field-poles, and part of the armature.

A is the shaft of the machine.

B is the spider, in this case having eight arms, the arms having expanded faces B'.

C is a ring, preferably of steel, to which the

pole-pieces D are attached by the bolts E. The construction of these pole-pieces is best shown in Fig. 2, in which the same reference-letters are used. In this figure, L L are the laminæ of the pole-pieces, held together by the bolt N between the two end pieces M M. A bar O, of steel, passes through a hole in the base of the laminæ, and the end pieces M are secured to the bar by bolts o.

At d is shown the winding, which consists of a copper strip suitably insulated.

The ends of the bars O extend into the end plates M. This construction has great advantage in relieving the plates o and N from the strain due to the armature-coils, such strain being thrown upon the bolts which lock the pole-pieces to the spider.

The coils are suitably insulated from the core by the plates or spools D' and by a wrapping of insulation D².

The construction of the armature is indicated in the upper portion of the figure, in which I is the armature-iron, held in place by the bolts K between the end rings K'. Guards G protect the coils H against accidental injury. The sustaining structure F of the armature is cast with a hollow body F', into which lead openings f. Other openings f' allow free circulation of air around the armature-iron, the usual spaces i being left between the groups of laminæ by the insertion of the now well-known space-blocks. I have found the construction here indicated an efficient one, having advantages over other constructions with which I am familiar.

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

1. The combination of the spider, the ring, the pole-pieces, and the bolts securing both the spider and the pole-pieces to the ring.

2. The combination of the spider with separate arms and a solid hub, the ring, the pole-pieces, and the bolts passing through the spider-arms and the ring into the pole-pieces.

3. The combination of the spider, the ring, the pole-pieces consisting of laminæ with a bar passing through them, and the bolts passing through the spider and the ring and entering the bar.

4. The combination of a spider, a ring secured thereto, bars extending through trans-

verse holes in the pole-pieces, and bolts locking the bars to the ring.

5 5. The combination of a spider, bars passing through the pole-pieces, penetrating the end plates, and bolts locking the spider to the bars.

6. The combination of a spider, bars passing through the pole-pieces and entering the

end plates, bolts locking the spider to the bars, and coils anchored in the end plates. 10

In witness whereof I have hereunto set my hand this 18th day of June, 1898.

HENRY G. REIST.

Witnesses:

B. B. HULL,

A. F. MACDONALD.