

(No Model.)

E. WESTON.

DYNAMO ELECTRIC MACHINE.

No. 272,366.

Patented Feb. 13, 1883.

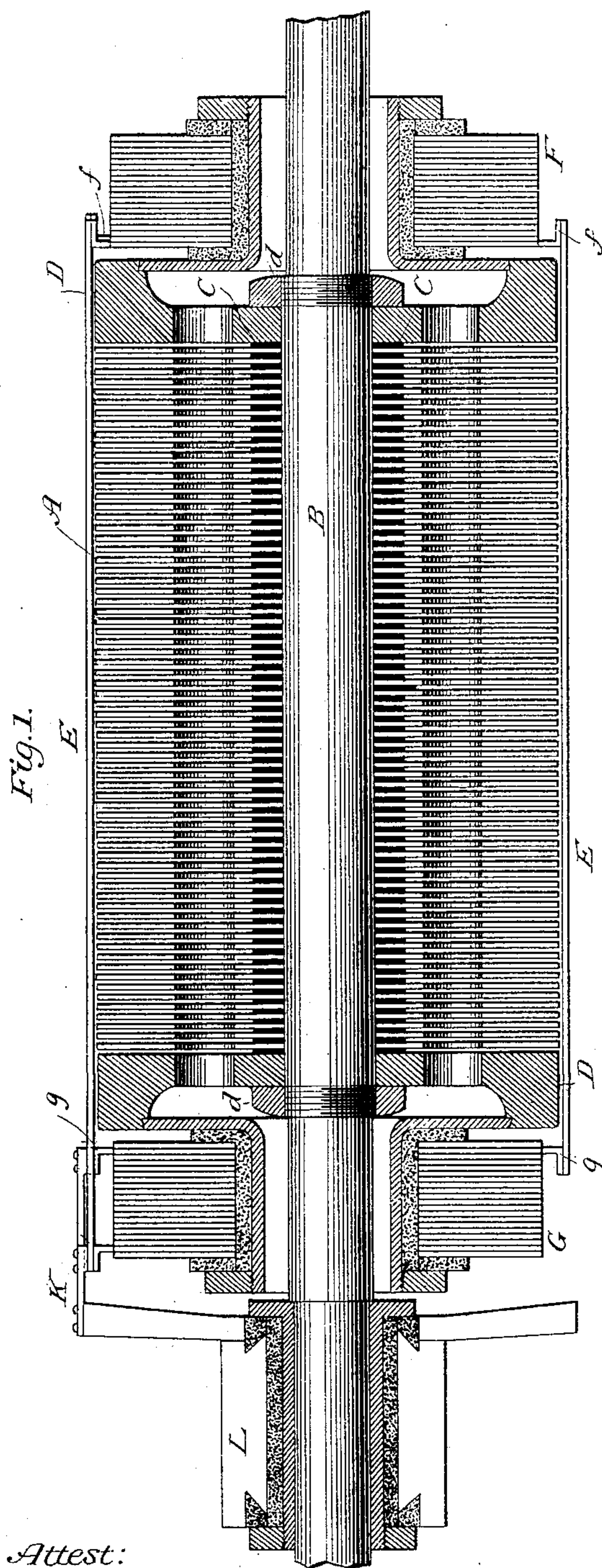


Fig. 1.

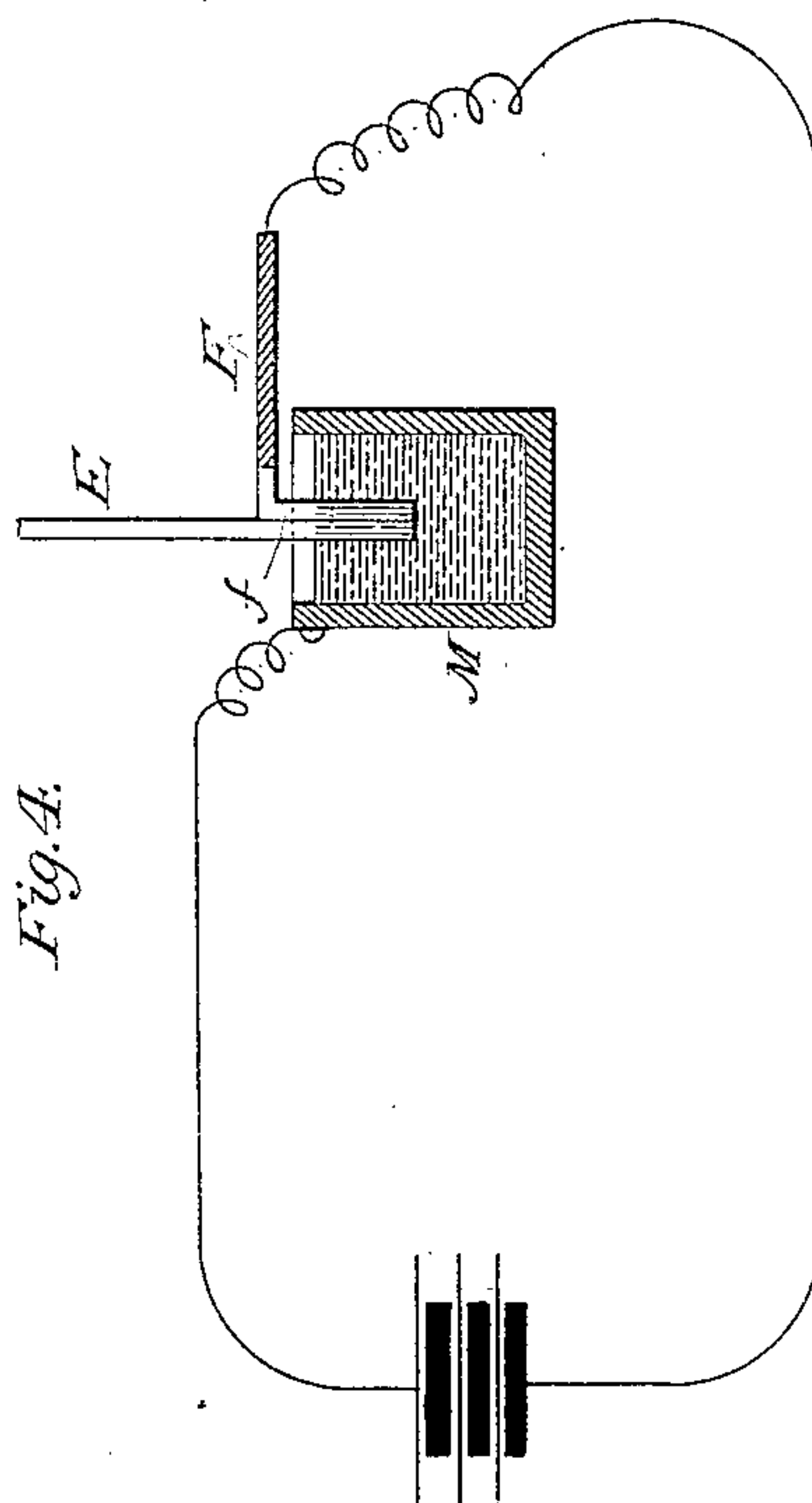


Fig. 4.

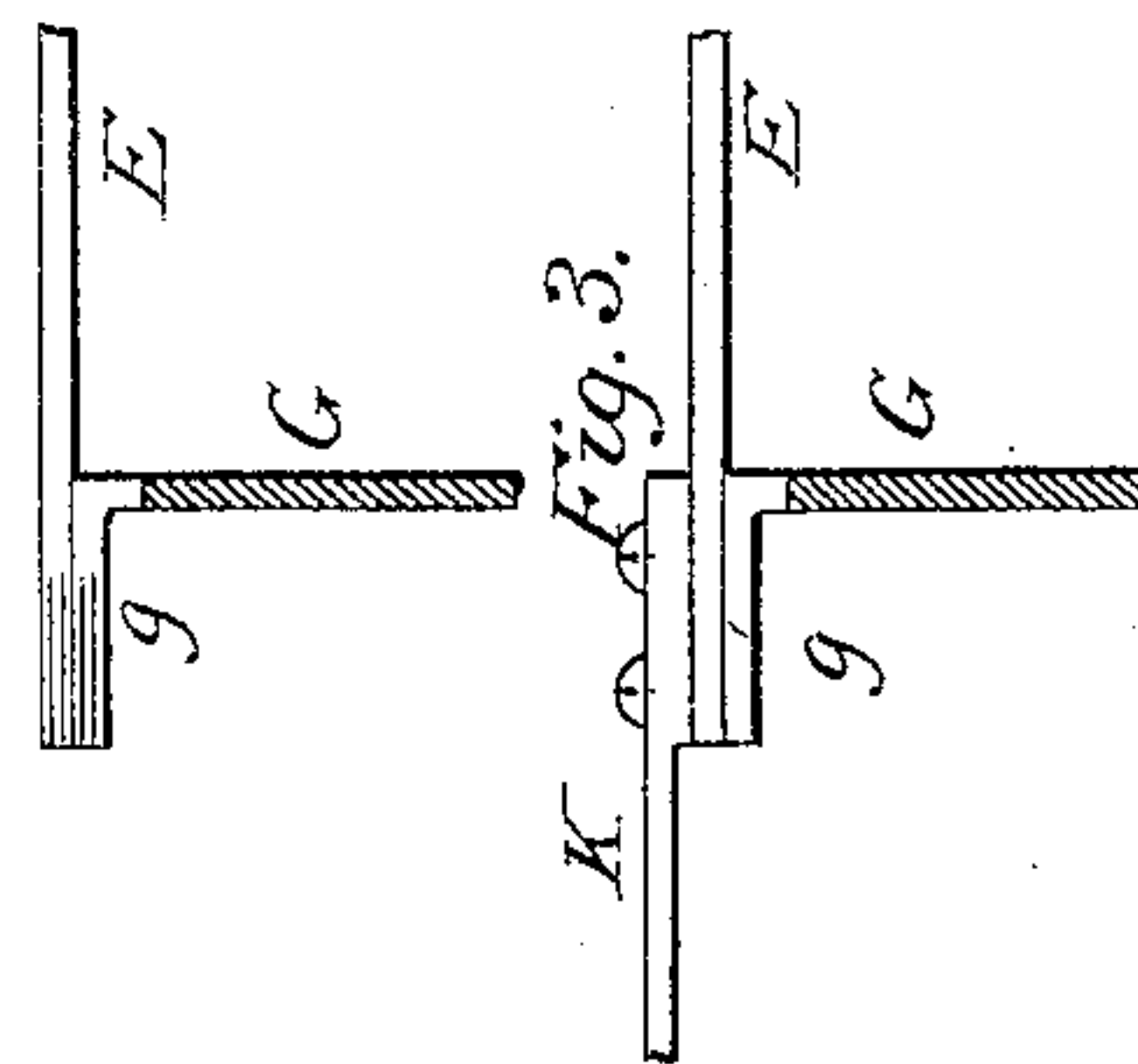


Fig. 2.

Fig. 3.

Attest:

Raymond L Barnes
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Inventor:

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Parker W. Page att.

UNITED STATES PATENT OFFICE

EDWARD WESTON, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE UNITED STATES ELECTRIC LIGHTING COMPANY, OF NEW YORK, N. Y.

DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 272,366, dated February 13, 1883.

Application filed October 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD WESTON, a subject of the Queen of Great Britain, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Dynamo-Electric Machines, of which the following is a specification, reference being had to the drawings accompanying and forming a part
10 of the same.

My invention relates to dynamo-electric machines, particularly such as contain armatures wound with conductors of large size; and it consists mainly in a method of forming the
15 joints between the several sections of the conductor on the armature.

In the accompanying drawings, Figure 1 represents in longitudinal cross-section an armature embodying my present invention and otherwise constructed in accordance with patents granted to me and applications by me made. Figs. 2 and 3 represent the positions of conductors forming the joints. Fig. 4 illustrates the method of completing the joints.
25

Similar letters of reference indicate corresponding parts.

The core of the armature is formed by mounting a number of iron plates or disks, A, upon a shaft, B, securing said plates at short intervals apart by rings of insulating material, C, and in place by end pieces, D D, and collars d. Upon the surface of the cylinder thus constructed, or in grooves cut therein, the conductors are laid. In the present instance these
30 consist of insulated bars E of copper and disks or plates F G, the latter being suitably held at the ends of the cylinder, insulated from one another and the shaft, and mechanically connected by ears or similar projections, f g, with the ends of the bars E. The object
40 of my invention is to reduce the resistance of these joints, so that no tendency to heating will be developed thereat. For this purpose I bend the ears or projections f g, and apply the plates F G in such manner that the said ears will be turned away from the center of the core. The joints when formed, therefore, will be in such position relatively to the other portions of the armature as to render it pos-

sible to electro-deposit metal upon them. This
50 may be readily effected by immersing the joined ends in a solution of copper or other metal in a small metallic vessel, M, and then connecting the conductors from a battery to the vessel, and to the plate or bar, or both,
55 so that metal will be deposited around the seam until a perfect metallic joint is formed.

It is of course essential that the surfaces of the ears and bars that are brought into contact, as well as the portions upon which the
60 deposit is to take place, should be perfectly clean and bright, and it will also improve the conductivity of the joint, should the surfaces in contact be gilded, silvered, or otherwise treated in well-known ways.
65

In primarily uniting the bars with the ears f g, screws or bolts may be used, and it is to be observed that, while the method described of forming these joints by bending the ears f g at right angles renders it possible to electro-
70 plate upon the joints, the same result may be accomplished by bending the ends of the bars up at right angles, or nearly so, leaving the ears unbent. In either case a further advantage is gained by this form of joint which
75 brings a greater amount of surface in contact, so that the area of the juncture will be greater than the sectional area of the smaller conductor.

The plan of winding and connection, as well as the character of the armature-coils, may be
80 greatly varied. In the present instance the bars and disks which are used are connected up so that they form a continuous circuit, and from the junction between one pair of bars and the next a connection is made by a rod,
85 K, with one segment of a commutator, L. It is obviously possible, also, to vary the character of the conductor or conductors that lie across the ends of the cylinder or serve to connect the longitudinal conductors in pairs
90 or series. Without therefore limiting myself to specific details of this kind,

What I claim as my invention is—

1. In the construction of dynamo-electric machines having sectional conductors upon
95 the ends and sides of the armature, the method herein described of joining said sections, which consists in bending either the end or side sec-

tion at right angles, mechanically uniting thereto the end of the other section, and then coating the joint so formed with metal.

2. In a dynamo-electric machine, the combination of the bars, the end connecting pieces provided with ears or projections bent at right angles and mechanically joined to the bars, and coatings of metal electro-deposited upon the said joints and forming an unbroken me-

tallic connection between the bars and the ears, as set forth.

In testimony whereof I have hereunto set my hand this 30th day of September, 1882.

EDWARD WESTON.

Witnesses:

ALEX. P. WRIGHT,
W. FRISBY.