

(No Model.)

J. W. EASTON.
ELECTRIC MOTOR.

No. 361,274.

Patented Apr. 19, 1887.

Fig. 2,

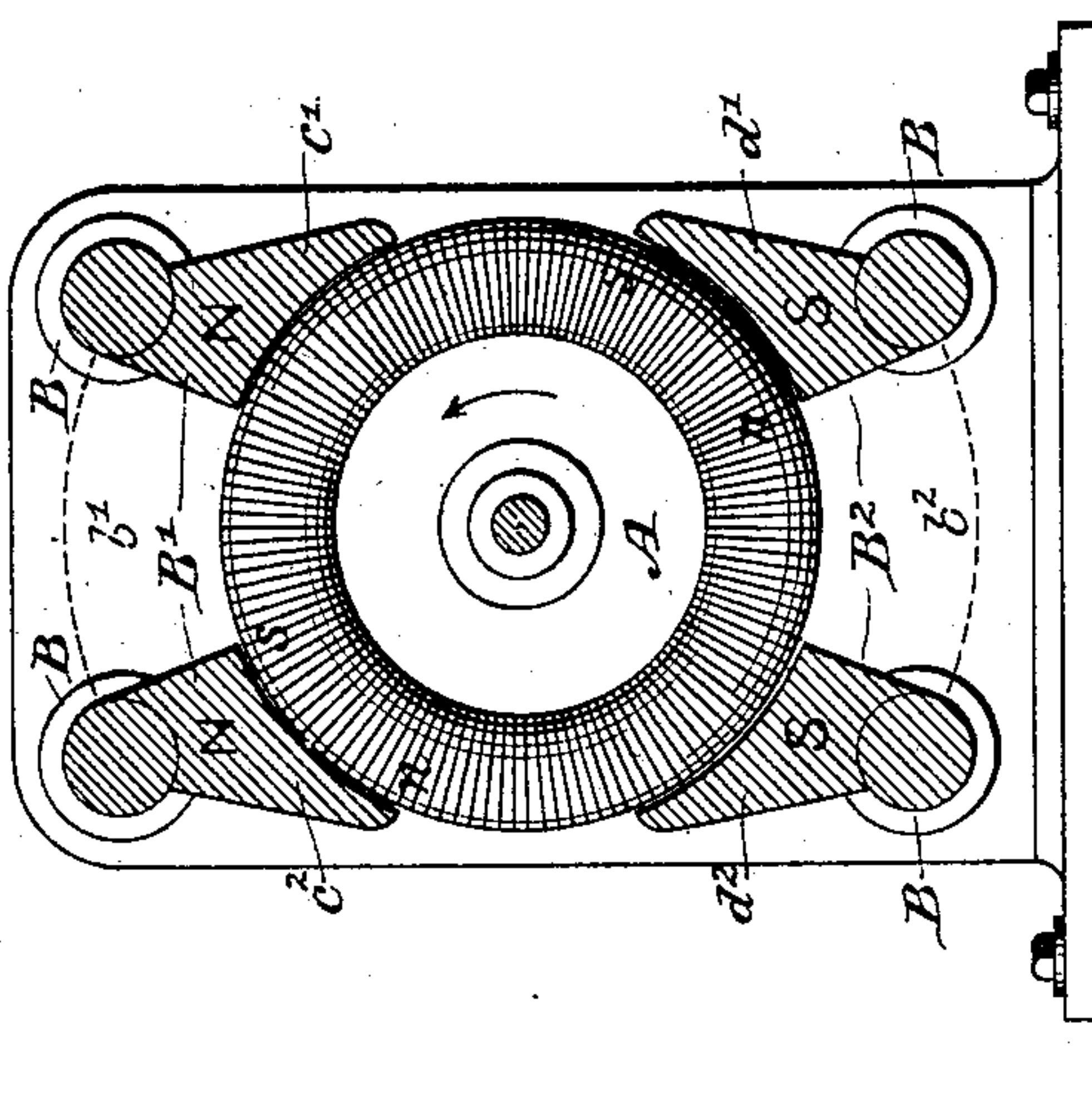
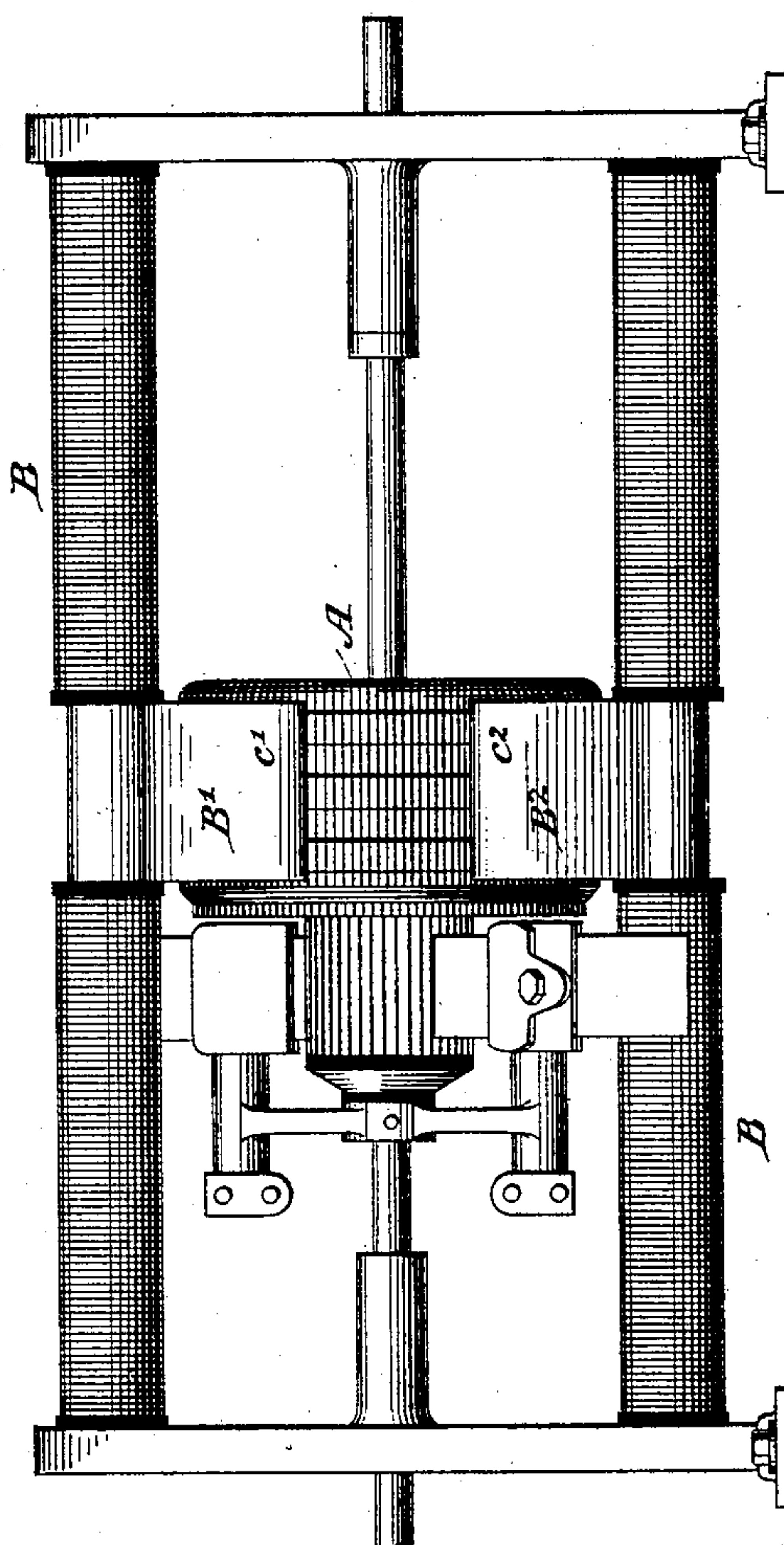


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES W. EASTON, OF NEW YORK, N. Y.

ELECTRIC MOTOR.

SPECIFICATION forming part of Letters Patent No. 361,274, dated April 19, 1887.

Application filed July 3, 1886. Serial No. 207,045. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. EASTON, a subject of the Queen of Great Britain, residing in New York, in the county and State of New York, have invented certain new and useful Improvements in Electric Motors, of which the following is a specification.

The invention relates to the construction of electric motors.

10 The object of the invention is to construct a motor in such a manner that the polarization of the armature due to the action of the field-magnets shall be reduced as much as possible, and that the points of magnetic polarization of
15 the armature should be so located as to be acted upon by the field-magnets to the best possible mechanical advantage.

Electro-dynamic motors are now usually constructed with ring-armatures in much the manner of dynamo-electric generators. The field-magnets encircle a greater or less portion of the armature and tend to produce magnetism therein at the points nearly opposite the center of their magnetic attraction. The magnetism induced in the armature by the action of
25 its own coils should be at a point removed from the centers of the field-poles a distance nearly equal to one-fourth of the circumference of the armature. The two forces tend, therefore, to
30 form two different points of magnetic polarization in the armature and combine to establish a resultant polarization; but to a certain extent they neutralize each other. By removing the greater portion of the iron of the field-magnets through the central portion of each pole
35 the undesired effect from the poles is to a very great extent removed, and the consequent magnetic poles of the armature are moved back to such positions that the attraction of the fields
40 upon the armature will be expended to the best possible advantage to revolve the armature.

In the accompanying drawings, Figure 1 is a longitudinal section, and Fig. 2 a transverse section, of a motor embodying the features of the invention.

Referring to the drawings, A represents a ring-armature constructed upon the Gramme principle, and B' B² the poles of a field-magnet, B, applied thereto. The central portion of each field-magnet is removed, as shown at
45 b' and b², leaving two outer portions, c' c² and d' d², to each field-magnet. By reason of this construction the magnetizing effect which the field-magnet has upon the armature is insufficient to cause the consequent poles of the armature to be at the points within or near the
50 central line of the attraction of the poles; but they will be located at or near the points n and s. Considering the pole-piece B' to be north and the pole-piece B² south, it will be evident
60 that the attraction then exerted between the armatures and the field-magnet will be expended to the best advantage for revolving the armature, as it will be approximately tangential.
65

I claim as my invention—

In an electric motor, the combination of an armature having polarized and neutral points, field-magnets acting upon the polarized points, which field-magnets have the central portions
70 of their polar projections removed, and are thereby separated a greater or less distance from the neutral points of the armature, substantially as described.

In testimony whereof I have hereunto subscribed my name this 25th day of May, A. D. 1886.
75

JAMES W. EASTON.

Witnesses:

THOS. TRYON,
CHARLES A. TERRY.