

(No Model.)

A. L. RIKER.
BIPOLAR DYNAMO OR MOTOR.

No. 452,718.

Patented May 19, 1891.

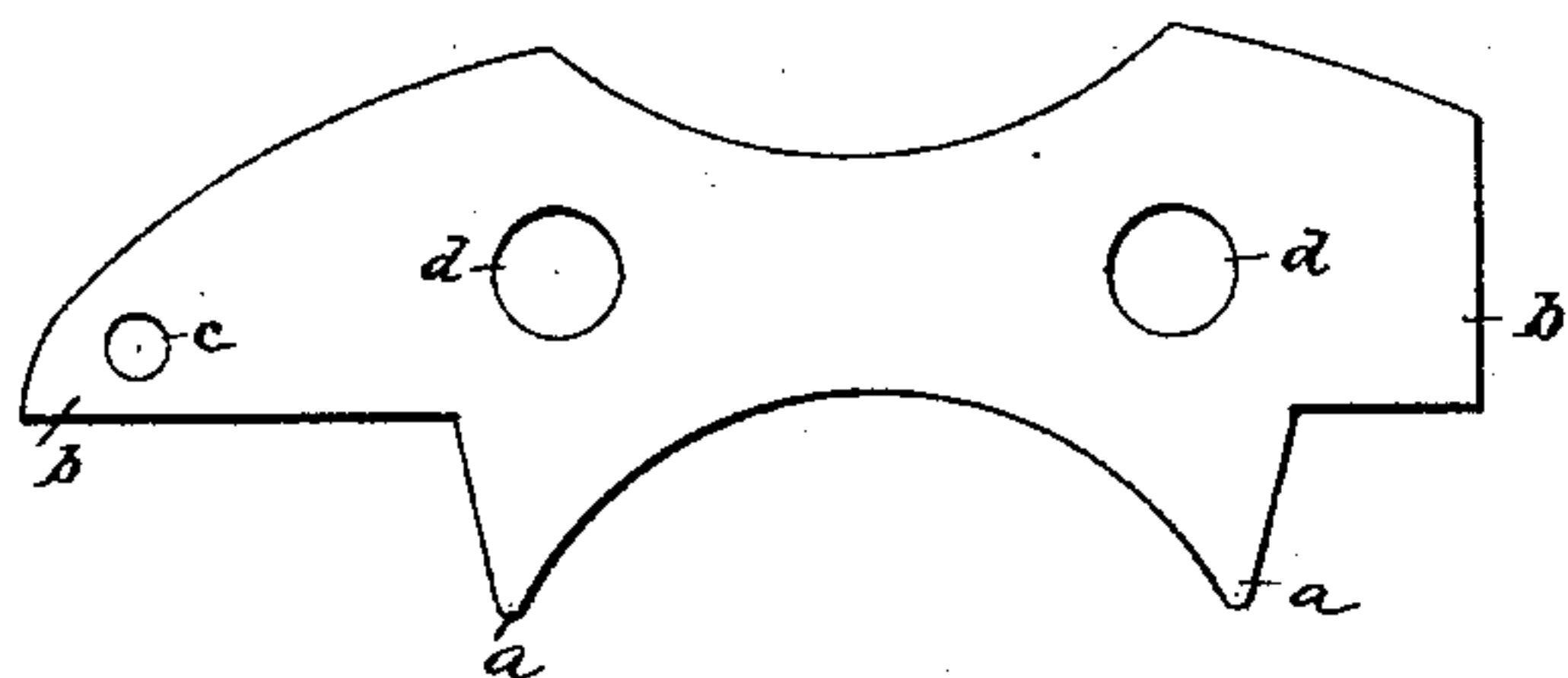


FIG. I.

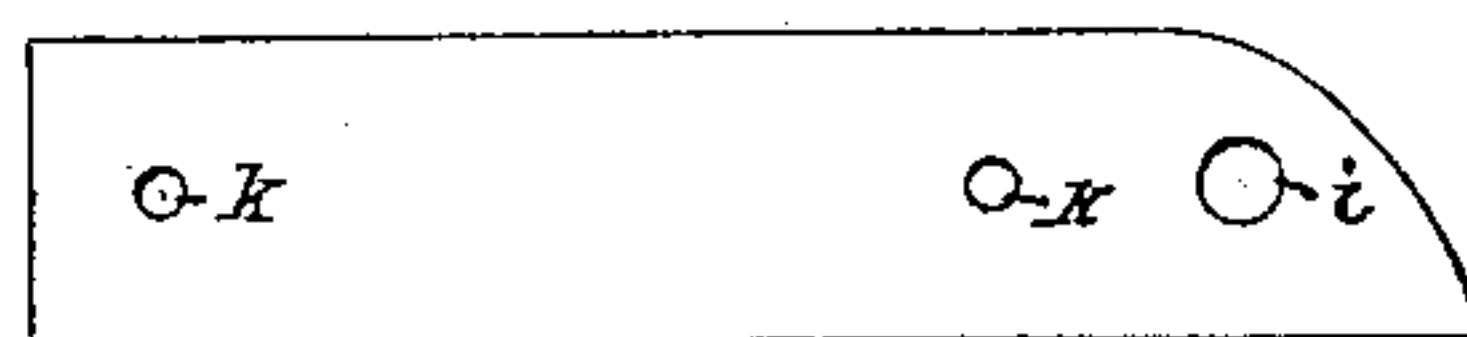


FIG. II.

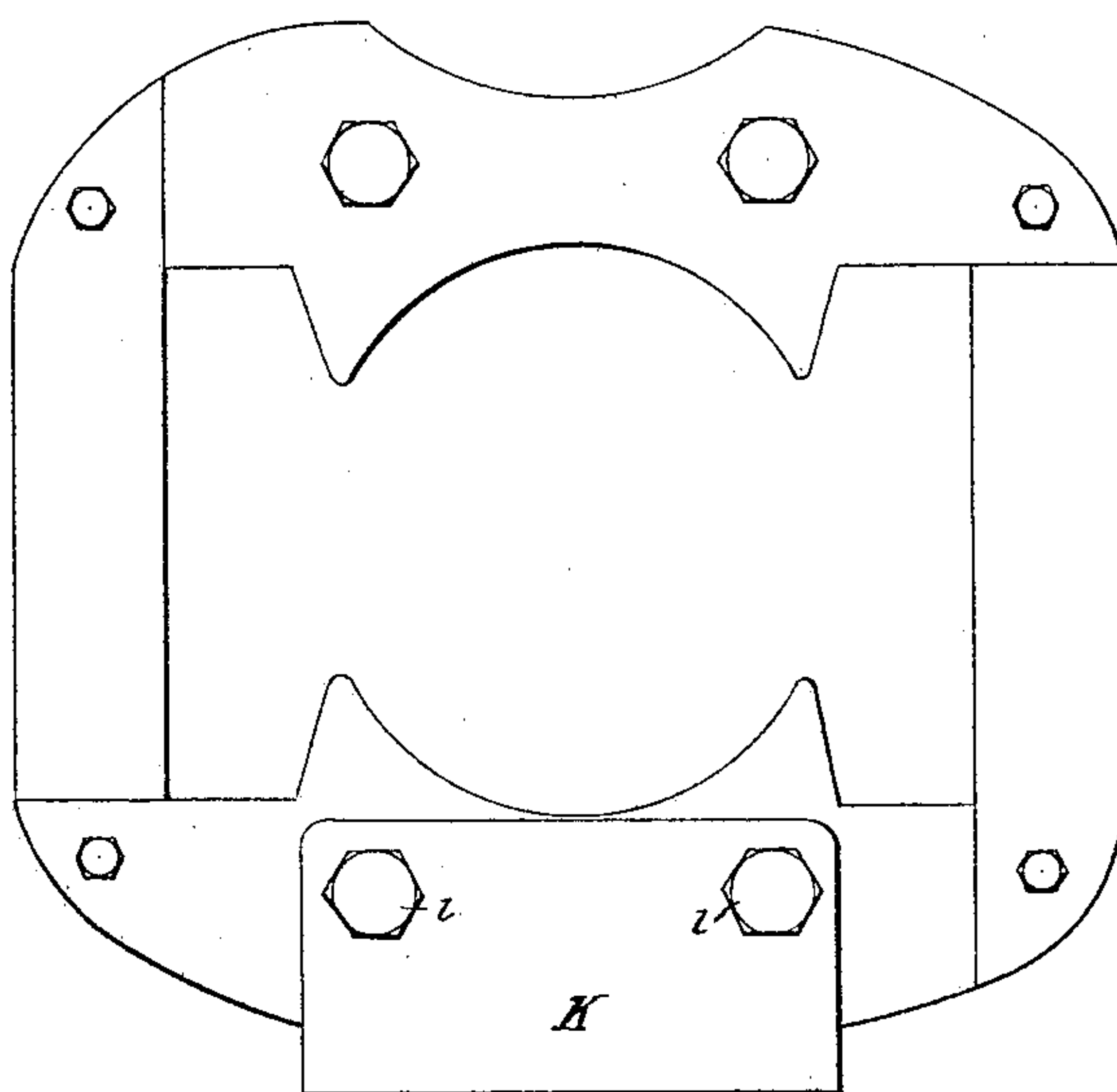


FIG. III.

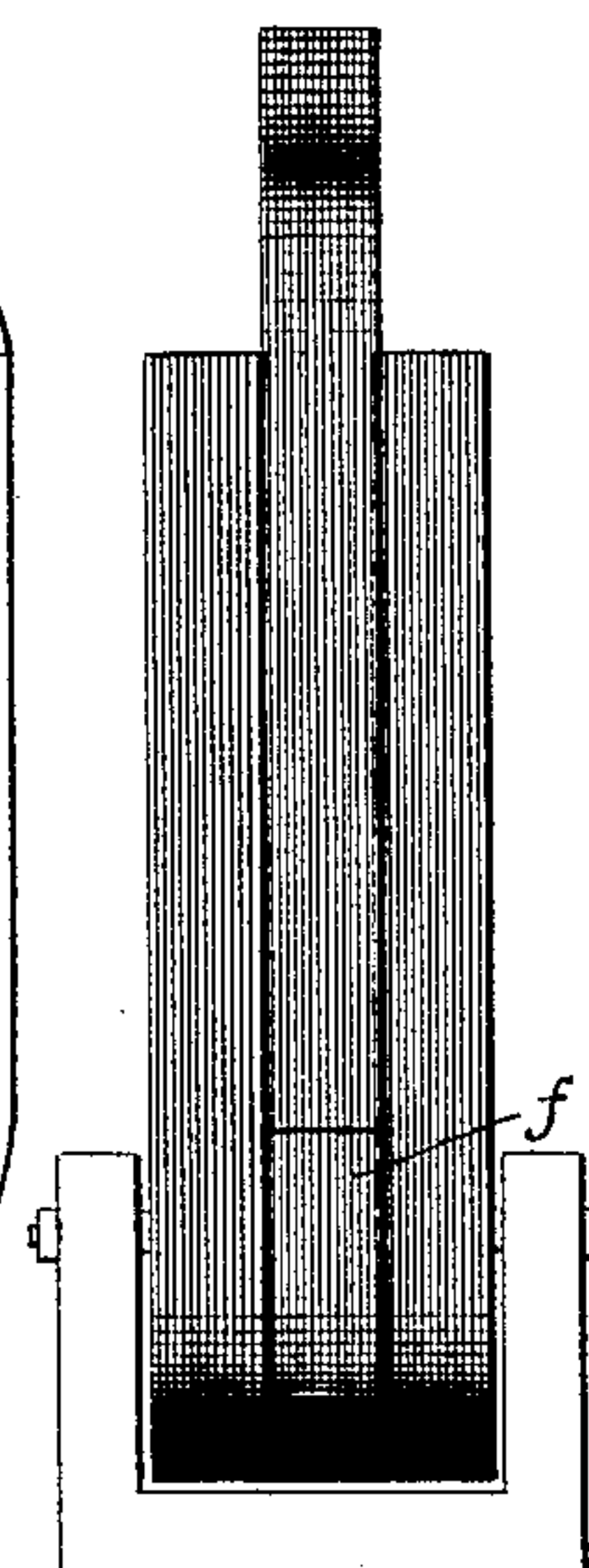


FIG. V.

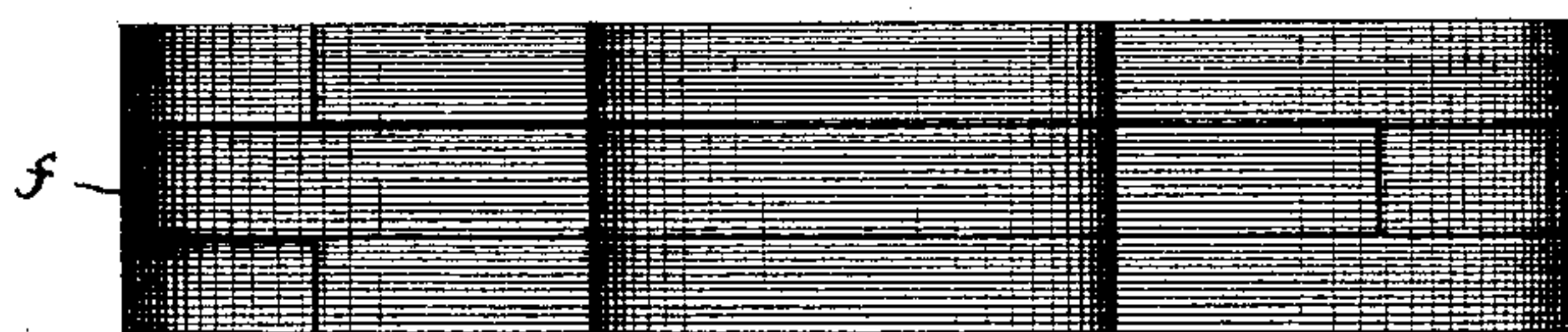


FIG. IV.

Witnesses:

John B. Hill

J. M. Copenhaver

Inventor:

Andrew L. Riker

By

Pollock & Mawer

Attorneys.

UNITED STATES PATENT OFFICE.

ANDREW L. RIKER, OF NEW YORK, N. Y.

BIPOLAR DYNAMO OR MOTOR.

SPECIFICATION forming part of Letters Patent No. 452,718, dated May 19, 1891.

Application filed February 18, 1891. Serial No. 381,951. (No model.)

To all whom it may concern:

Be it known that I, ANDREW L. RIKER, a citizen of the United States, and a resident of New York city, county and State of New York, have invented a new and useful Improvement in Bipolar Dynamos or Motors, which improvement is fully set forth in the following specification.

The present invention relates to the construction of the continuous frames constituting the cores and pole-pieces of field-magnets of dynamos or motors of small size, such as are used for very light machinery.

The general object sought by the invention is economy and facility of construction of a bipolar laminated frame or support for the field-magnet coils.

The invention consists in the particular construction of the blanks or elements composing the support or frame and their arrangement in building up the same. It will be explained in connection with the accompanying drawings, in which—

Figure I shows one of the pole-blanks, and Fig. II one of the core-blanks. Fig. III is a side elevation; Fig. IV, a plan of the upper core-section, and Fig. V an edge view of one of the pole-sections.

In the construction of this device two blanks are used. The blanks shown in Fig. I have inwardly-projecting pole-pieces *a*, curved in an arc concentric with the armature, and lateral projections or yoke portions *b*, having a curved outer edge. On one side the end of the yoke portion is cut off, and in the end of the other is a bolt-hole *c*. In the pole portion are two bolt-holes *d* on opposite sides of a line drawn through the center of the pole and equidistant from such line. The two pole-sections of the magnet are built up from these blanks, as shown in Fig. IV. One set or series of blanks (the inner one, as shown) is turned in the reverse direction to the other two sets, thus forming on one end of the section a tongue *f* and on the other end a corresponding recess. If more than three sets of blanks are used, adjacent sets will be turned in opposite directions. The lower pole-section is built up in the same way and is the counterpart of the upper section; but in assembling the sections the lower one will be disposed so that its recessed end is beneath the tongued

end of the upper section, and vice versa. The core-blanks, Fig. II, have straight parallel sides throughout most of their length, having a curved edge at one end, while the other end is straight. In the curved end is a bolt-hole *i* of the same size as the hole *c* of the pole-blanks. The blank also has two bolt-holes *k*, which register when the blanks are turned in opposite directions and disposed so that the curved ends overlap the square ends. When a section is built up in this way it presents at one end a tongue and at the other a recess corresponding to the same parts of the pole-sections. One core-section will be disposed as in Fig. V, the other being reversed—that is, having its tongued end uppermost. When the sections are assembled, the tongue on one section fits in a recess in the adjacent end of the adjoining section, the holes *c* registering with the holes *i*.

The bed or support *l* is a simple casting having two upturned flanges, to which the magnetic frame is bolted by the bolts *l*, which fasten together the plates, making up the lower pole-section.

By this invention small motors of high efficiency can be produced with great rapidity and economy, the blanks being rapidly stamped out by means of simple dies from sheets of soft wrought-iron. The shape of the blanks or elements is such that there is comparatively little waste of the stock from which they are cut.

I claim as my invention—

1. In a bipolar dynamo or motor, a field-magnet having a continuous laminated frame composed of core-sections and pole-sections connected by lap-joints, the core-section and pole-section being respectively composed of blanks all of the same pattern assembled together, substantially as described.
2. A field-magnet having a continuous laminated frame composed of two pole-sections formed of blanks of the same pattern, assembled, as described, so as to form at the end of each section a tongue and at the other a corresponding recess, and two core-sections placed at right angles with the pole-sections and built up of straight blanks, each having a curved projection at one end, the blanks being assembled to form tongues and recesses corresponding with and fitting those on the pole-sections, substantially as described.

3. A field-magnet for a bipolar motor or
dynamo, having its magnetic frame composed
of horizontal pole-sections alternating with
vertical core-sections and connected therewith
5 by lap-joints, the said sections being built up
respectively of flat blanks of the same pattern
assembled and bolted together, and a bed or
support consisting of a casting having a flat
base and two upturned flanges embracing the
10 lower pole-section between them and fast-

ened thereto by the bolts which hold together
the elements composing said section, substan-
tially as described.

In testimony whereof I have signed this
specification in the presence of two subscrib- 15
ing witnesses.

ANDREW L. RIKER.

Witnesses:

SAML. RIKER, Jr.,
CHARLES M. KIRBY.