

(No Model.)

W. E. HYER.
ELECTRIC MOTOR.

No. 391,797.

Patented Oct. 30, 1888.

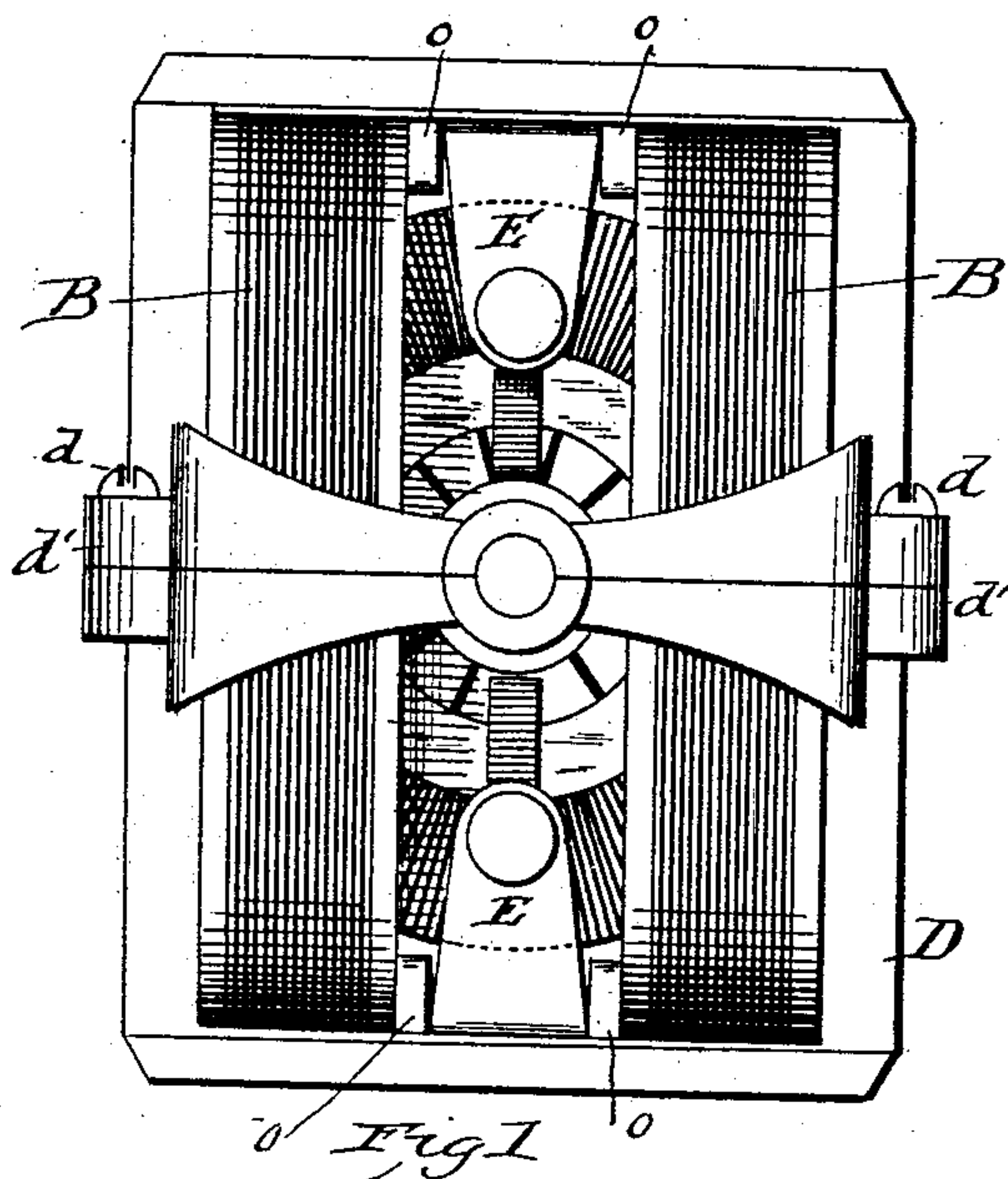


Fig 2.

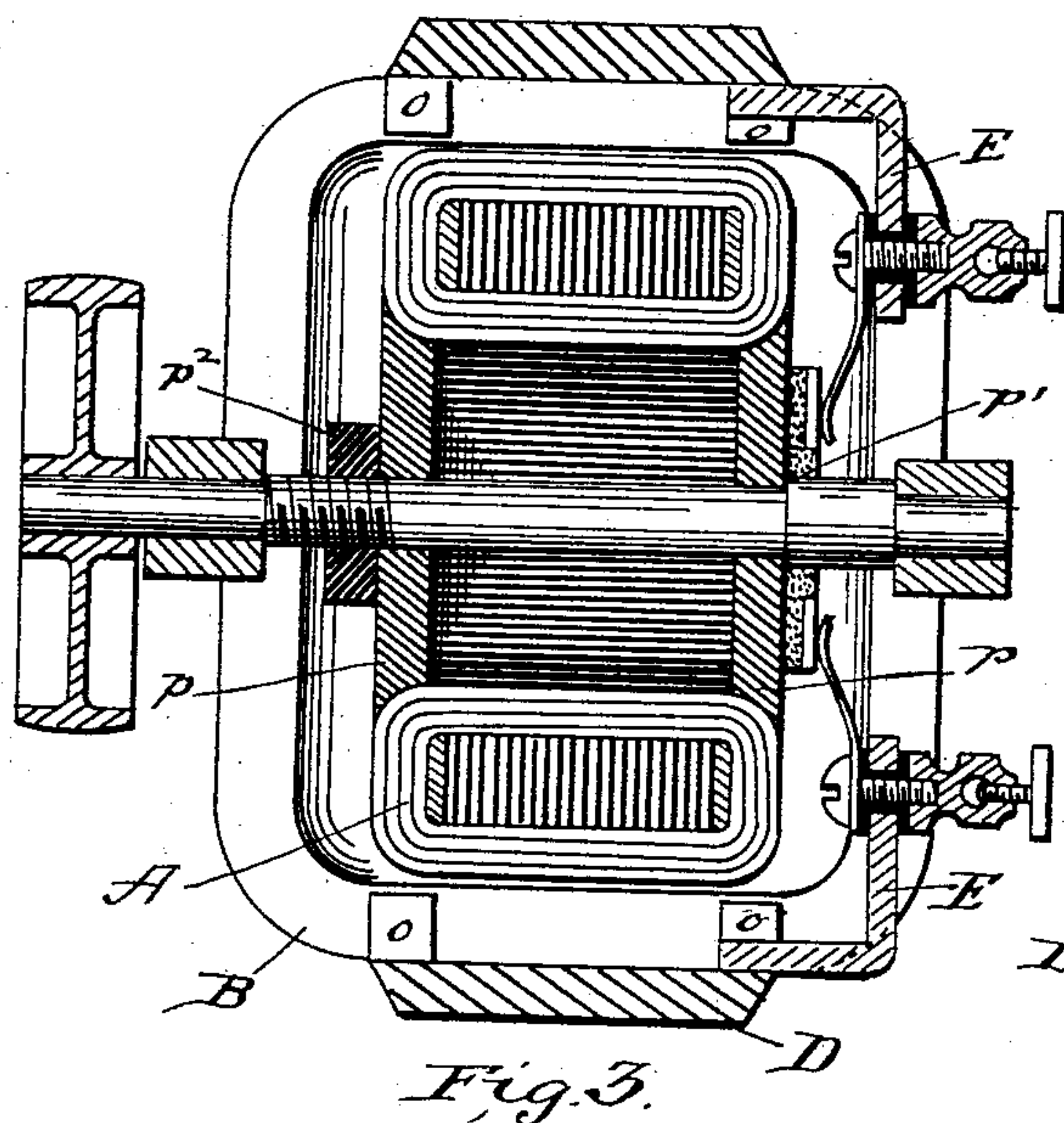


Fig. 4.

WITNESSES:

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WALTER E. HYER, OF NEWBURG, NEW YORK.

ELECTRIC MOTOR.

SPECIFICATION forming part of Letters Patent No. 391,797, dated October 30, 1888.

Application filed October 4, 1887. Serial No. 251,431. (No model.)

To all whom it may concern:

Be it known that I, WALTER E. HYER, a citizen of the United States, residing at Newburg, in the county of Orange and State of New York, have invented certain new and useful Improvements in Electric Generators or Motors; and I do hereby declare that the following is a full, clear, and exact description of my invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to electric generators or motors; and it consists in certain details of construction which tend to make a very compact and efficient machine.

In the accompanying drawings, Figure 1 represents an end elevation of the machine; Fig. 2, a side elevation; Fig. 3, a central section in the plane of the shaft; and Fig. 4, a central vertical section at right angles to the shaft.

I use any form of armature, A, in my machine, but prefer the ring. The armature is closed at each end by metallic disks *p p*, which have beveled edges in order to fit the curved winding on the ring. The shaft is provided with a shoulder, *p'*, against which one of the disks rests, and the opposite end of the shaft is screw threaded to receive a nut, *p²*, which is screwed up against the other disk and forces all the parts together, thus forming a convenient and simple means for mounting the armature on the shaft. The armature is surrounded by two helices, B B, constituting the field of force. This arrangement is adopted in order that the full force of the field may be concentrated on the armature. The helices are wound on peculiarly-shaped spools C C of insulating material. Their cross-section is shown in Fig. 4, wherein it will be seen that the bottom of the spool-groove is on a circle and closely following the perimeter of the armature. I use two spools and place them in

planes parallel to the armature shaft and on each side thereof.

The armature and coils are inclosed in an iron shell, D, formed in two parts and bolted together through the center by means of bolts *d*, passing through ears or lugs *d'*. The shell is four-sided, but has brackets extending across its open ends, in which bearings are formed for the armature-shaft. The commutator is placed vertically against the face of the armature within the shell, and the brushes are mounted in holders E E, secured to or cast integral with the shell, as shown in Fig. 1. The spools are held in place against the sides of the shell by lugs *o o*, which are cast with the shell. The shaft may extend beyond one of the bearings and have mounted upon it a driving-pulley, as shown in Fig. 2. The shell, with its brackets, forms a compact box, within the walls of which all the parts of the motor are located. The interior of the walls of the shell is cut away on a circle at the poles, as shown at *m m*, in order that the shell may be brought into closer proximity with the armature.

Having now described my invention, what I claim is—

In a dynamo-electric machine or motor, an inclosing iron frame, substantially as herein described, formed in two parts and having portions of its interior cut away to accommodate the armature, two helices constituting the field of force, the said helices being wound on spools of insulating material, and the lugs *o o* for holding the helices in place, whereby a compact apparatus, which may be easily taken apart and put together for repairs, is secured.

In witness whereof I have signed my name in the presence of two subscribing witnesses.

WALTER E. HYER.

Witnesses:

JAMES MYERS,

HENRY V. S. MYERS.