No. 669,613. Patented Mar. 12, 1901.

N. C. BASSETT.

DYNAMO ELECTRIC MACHINE OR ELECTRIC MOTOR.

(Application filed Jan. 18, 1900.)

(No Model.) 2 Sheets—Sheet 1.

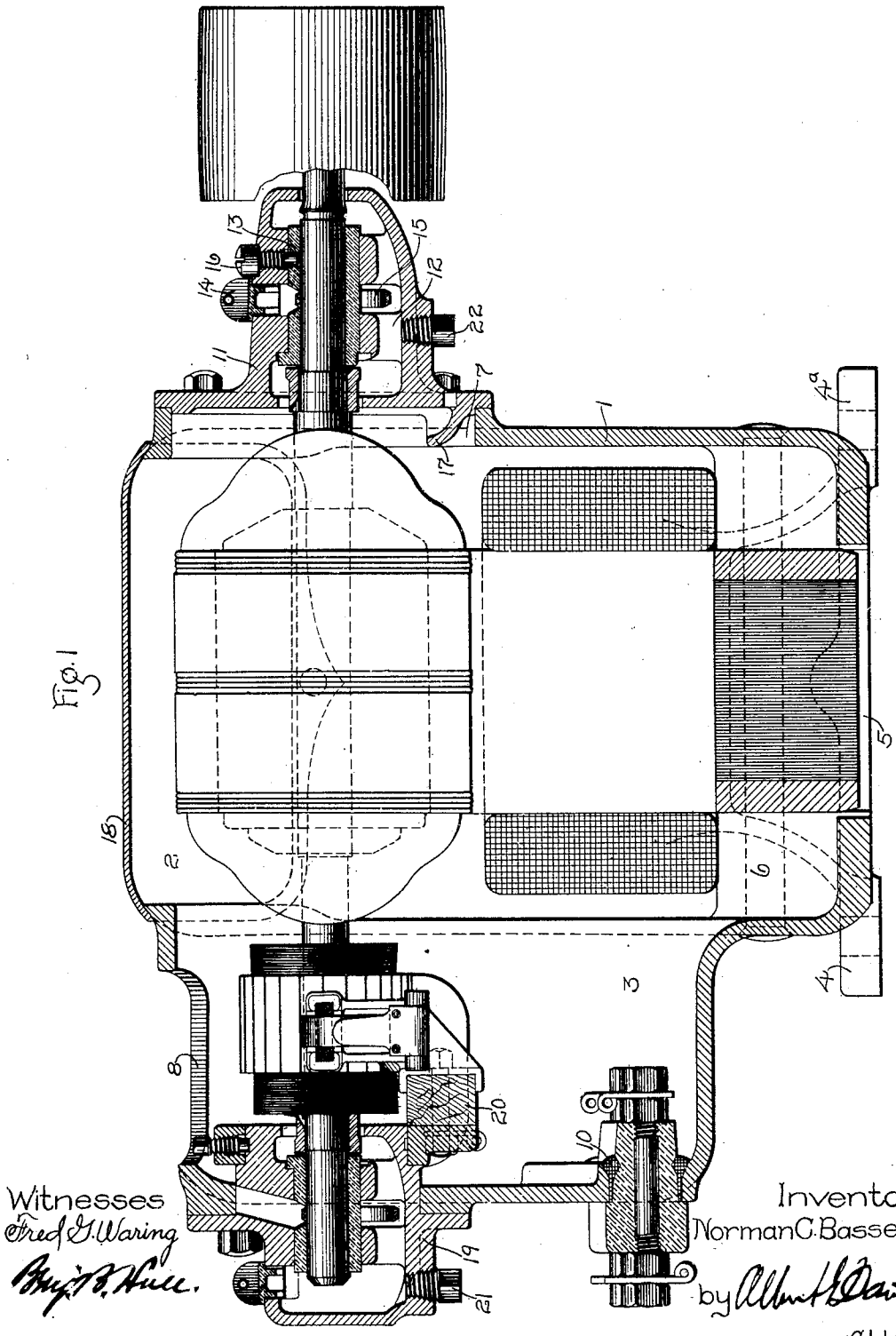


Fig. 1

Witnesses
Fred G. Waring
Burt B. Hill.

Inventor
Norman C. Bassett
by Albert G. Davis
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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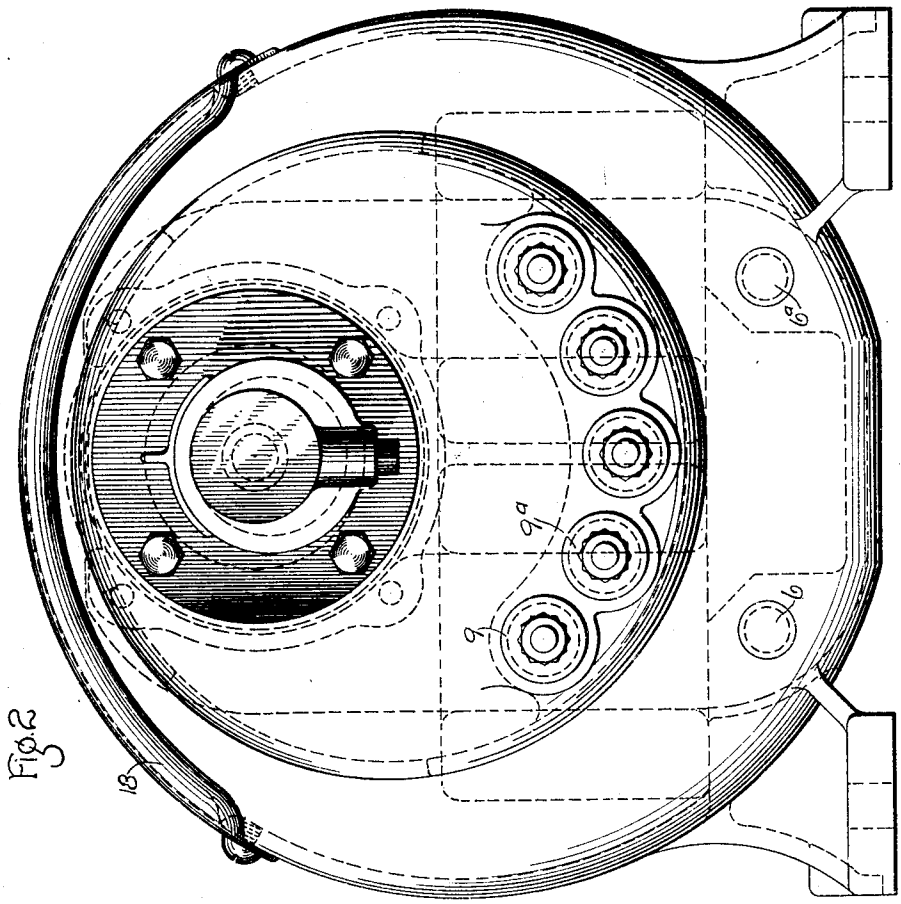


Fig. 2

Witnesses:
Fred G. Waring
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UNITED STATES PATENT OFFICE.

NORMAN C. BASSETT, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE GENERAL ELECTRIC COMPANY, OF NEW YORK.

DYNAMO-ELECTRIC MACHINE OR ELECTRIC MOTOR.

SPECIFICATION forming part of Letters Patent No. 669,613, dated March 12, 1901.

Application filed January 13, 1900. Serial No. 1,826. (No model.)

To all whom it may concern:

Be it known that I, NORMAN C. BASSETT, a citizen of the United States, residing at Lynn, in the county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Dynamo-Electric Machines or Electric Motors, (Case No. 1,549,) of which the following is a specification.

The object of this invention is to provide a casing for electric generators or electric motors to protect the field-magnet and armature and other operative parts from damage by shock and to prevent external dissipation of the magnetic field.

In carrying out the invention I provide an inclosing casing for the field-magnet, armature, and commutator formed of a single casting of magnetic material, in which are provided openings into which the armature and field-magnet may be inserted. I preferably provide the opening for the introduction of the field-magnet and its spools at the top of the casing and a lateral opening at the side through which the armature may be introduced, a hand-hole being provided in the casting by which access may be given to the commutator for adjustment of the brushes and terminals.

The essential feature of my invention is forming the casing of a single casting so arranged that the parts may be easily assembled and the armature, field-magnet, and commutator housed. For purposes of economy of metal and space the body of the casing which houses the field-magnet and armature is of larger diameter than the housing for the commutator, the latter forming a lateral extension of smaller size than the body and completely closed, except for the hand-hole which gives access to the commutator and its parts and the bearing for the armature-shaft. The opening through which the armature is introduced into the casing is preferably made on the opposite end of the casting and is covered by a cup-shaped bearing bolted fast to the casing, in which are suitable provisions for feeding lubricating material to the shaft.

The novel features of the invention will be hereinafter more fully described and will be definitely indicated in the claims.

In the drawings which illustrate the invention, Figure 1 is a sectional view of an electric machine embodying my improvements, and Fig. 2 is an end elevation.

Referring to Fig. 1, 1 represents my improved casing, which is provided with a large chamber 2 to contain the armature and field-magnet and at one side an extension 3 to house the commutator and the leads to the armature and field-magnet. Openings are provided in the casting, which is preferably made of a magnetic material, such as cast-steel, of a good degree of magnetic permeability. The largest of these openings is at the top of the casting and is of sufficient size to permit the insertion of the field-magnet and its windings from the top. The casting is formed of a single piece of metal and carries feet 4 4^a, forming an integral part of the casting. An opening is provided at the bottom, as indicated at 5, into which the core of the field-magnet projects when the parts are assembled. The field-magnet is supported in position by metal bars 6 6^a, passing through the walls of the casing and through the core of the field-magnet and riveted into the walls of the casing. At one side of the casing is an opening 7, sufficiently large in diameter to admit of the lateral insertion of the armature. The extension 3, which houses the commutator, is provided at the top with one or more hand-holes 8, by which the connections of the leads from the windings and brushes may be made with terminals 9 9^a, &c. These terminals extend through holes bored or cast in the end of the casing, being insulated by bushings of porcelain or fiber or other good insulating material, which may be locked in place by running Babbitt metal or lead into the joint, as indicated at 10. In the opening 7 is supported a cup-shaped bearing 11, which supports one end of the armature. This bearing is formed of a casting having several internal ridges cored with openings at the lower part, as indicated at 12, which ridges form a seat for an antifriction-lining of Babbitt metal or other material, as indicated at 13. This may be formed in a single cylindrical piece notched at the center and top at a point corresponding to an opening in the casing, in which a plug 14 is inserted. This permits the introduction of oil to the well or cellar formed by

the bottom of the casting, in which dips a ring 15, bearing on the journal and adapted to pick up oil from the cellar and feed it to the journal. The lining may be locked in place by a set-screw 16, passing through the wall of the bearing. On the inside of the cup-shaped bearing is cast an extension 17, forming a trough to catch the oil-drip, which may be led through a hole in the side of the casting and caught in a receptacle on the outside of the machine. The top of the body part of the casing is provided with a removable cover 18, permitting the opening through which the field-magnet is inserted to be completely closed after the parts have been assembled. The commutator end of the casing is also provided with a cup-shaped casting 19, provided with an antifriction-lining and an oil-feed similar to that just described, provided also on the inside with shoulders, forming a seat for a ring, to which is bolted the support 20 for the brush-holder. The lower part of the castings which form the bearings may be tapped and provided with set-screws 21 22 to permit withdrawal of the oil when necessary. The opening 5 at the bottom of the casing and the hand hole or holes 8 permit a circulation of air through the casing and prevent rise of heat in the machine. The machine is provided with a plurality of terminals, five of which are indicated, which permit different groupings of the field-magnet coils to change the speed of the machine.

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

1. A dynamo-electric machine or electric motor having its armature, field-magnet and commutator inclosed within a metallic casing formed of one integral casting having an opening for the introduction of the field-magnet, and an independent opening for the insertion of the armature.

2. An electric motor or generator, comprising a casing formed of a single integral casting forming a substantially complete housing for the field-magnet, armature and commutator, and provided with an opening for the introduction of the field-magnet.

3. An electric generator or motor, provided with an inclosing casing for the field-magnet and armature, formed of a single casting, forming a housing over the field-magnet and armature, and provided with integral supporting-feet.

4. An electric motor or generator, provided with a casing for its field-magnet, armature and commutator, housing the same, and having an opening at the top for the introduction of the field-magnet, and an opening at the side for the introduction of the armature.

5. An electric generator or motor, provided with a casing to house the operative parts, formed of a single casting, openings to permit the introduction of the armature and field-magnet, and supporting-rods for the latter riveted into the walls of the casing.

6. An electric generator or motor, having a casing for the field-magnet and armature, formed of a single casting provided with openings for the insertion of the operative parts, an opening in the bottom into which the field-magnet frame projects, and rods extending through the field-magnet and secured to the walls of the casting, for locking the field-magnet in position.

7. An electric generator or motor, comprising a casing for the field-magnet and armature, formed of a single casting, having an opening at the top for the introduction of the field-magnet and a removable cover for said opening, an opening at one end for the introduction of the armature, a lateral extension of the casting at the other end forming an inclosure for the commutator, and hand-holes in the casting to permit access to the commutator.

8. An electric generator or motor provided with a casing for its field-magnet and armature, an opening at the top for inserting the field-magnet, and cup-bearings at the sides for the armature, the opening covered by one of said bearings being of a size to permit insertion of the armature.

In witness whereof I have hereunto set my hand this 16th day of January, 1900.

NORMAN C. BASSETT.

Witnesses:
DUGALD MCKILLOP,
HENRY O. WESTENDARP.