

(No Model.)

F. C. WHITMORE.
ELECTRIC MOTOR.

No. 524,011.

Patented Aug. 7, 1894.

Fig. 1.

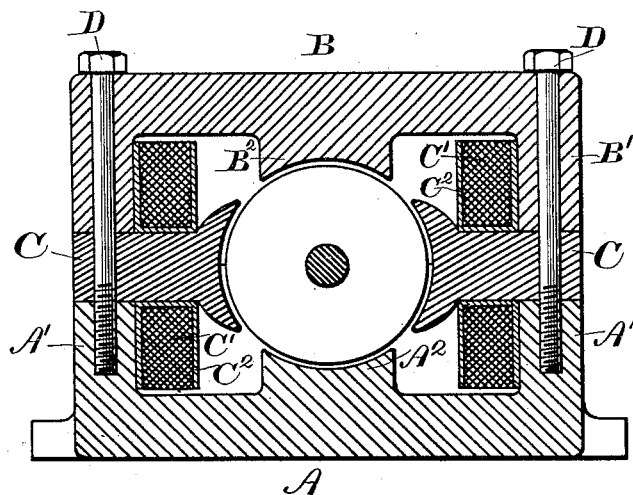
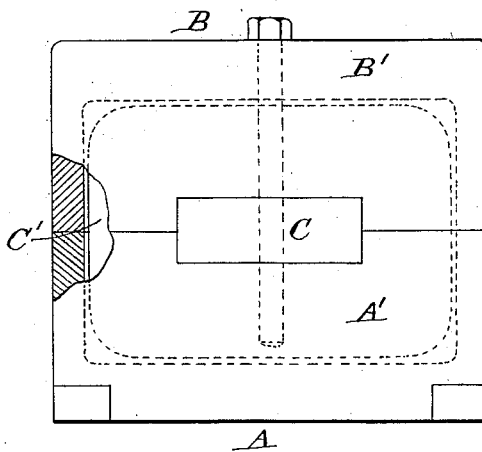


Fig. 2.



WITNESSES

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FREDERIC C. WHITMORE, OF LYNN, ASSIGNOR TO THE GENERAL ELECTRIC COMPANY, OF BOSTON, MASSACHUSETTS.

ELECTRIC MOTOR.

SPECIFICATION forming part of Letters Patent No. 524,011, dated August 7, 1894.

Application filed May 5, 1893. Serial No. 473,101. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC C. WHITMORE, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented a certain new and useful Improvement in Electric Motors, of which the following is a specification.

My invention relates to dynamo electric machinery, its object being to provide a simple and economically constructed motor comprising but few parts readily assembled and occupying but little space when completed and in running order. Such a motor is especially designed for boats or launches, although of course, it might be equally well applied in any other case where motive power is required.

In the construction of this invention, four pole pieces are employed, two being fixed and two removable. The two removable pole-pieces are wound and the two fixed are unwound, the latter forming consequent poles as is usual in four pole machines. The base portion of the machine is a solid box-shaped casting, having an internal projection extending upward from the bottom thereof and forming one of the unwound or consequent poles, and on opposite sides of the said box-shaped casting are supported the said wound cores. Upon the said wound cores in turn is placed in an inverted position a box-shaped casting corresponding to the said base portion and having a similar internal projection which forms the other consequent pole. The parts are then secured in place by bolts passing downward through holes bored in the walls of the upper casting and the wound cores, and threaded in the walls of the lower casting or base portion. The parts thus assembled form a closed box with the wound cores extending inwardly from the opposite walls thereof while the armature shaft passes through the other opposite walls at right angles thereto.

Referring to the accompanying drawings—Figure 1, is a vertical transverse section of the invention through the center. Fig. 2, is an elevation of the invention, partly broken away.

A indicates the base portion of the invention consisting of a casting in the form of a

box open at the top, upon the lateral walls A' of which are supported the magnet cores C wound with the coils C'. An upward internal projection from the bottom of said box midway between the said walls A' is opposed to the armature D and forms the consequent pole A². Upon the said walls A' is supported another casting B corresponding to the base portion A but inverted so that the walls B' of the casting B resting upon the cores C are opposed to the walls A'. Bolts D threaded at their inner ends are adapted to pass vertically downward through said walls B' and the cores C, which parts are bored to receive them, and are then screwed into internally threaded openings in the walls A', whereby all of said parts are securely united. The upper casting B' has an internal downwardly projecting pole piece B² corresponding to the pole piece A² and opposite thereto. The coils C' are wound in a suitable sheathing or bobbin C² adapted to fit closely upon the cores C so that the said coils may be wound separately in the usual manner.

In assembling the parts, the bobbins C² containing the coils C' are first slipped over the cores C, which are then set up on the walls A' of the lower casting A. The upper casting B is then placed in position upon the said cores C and all the parts clamped together by the bolts D. If desired the remaining walls of the closed box thus formed may be provided with bearings for the armature shaft or may be simply provided with openings through which said shaft may pass.

It is obvious that the castings forming the base and top portions of the motor may be of any suitable external shape, it being essential only that they be so proportioned as to set up the required consequent polarity in their opposite polar extensions. For example, the base portion might be cast so as to conform to the internal curves of the hull of a launch thereby bringing the center of gravity of the apparatus as low as possible and increasing the steadiness of the craft. The general arrangement of the apparatus would still be the same, its principal advantages being the readiness with which it can be taken apart for repairs and the small space occupied by it when set up.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a multipolar motor, a base portion formed of a box-shaped casting open at the top and having a polar extension in combination with a top formed of a casting similar to the base and inverted, and wound field magnet cores held by the meeting side walls of the top and base portions which are secured together, the polar extensions of the top and bottom portions forming consequent poles to said wound field magnet cores, as set forth.

2. A multipolar motor comprising an armature, a top and base consisting of box-shaped castings, with internal polar extensions secured together, and inclosing said armature, and wound field magnet cores supported be-

tween the side walls of said castings, the internal polar extensions forming consequent poles to said wound magnet cores, as set forth.

3. In a multipolar motor, a field magnet frame, consisting of a top and base bolted together and formed of box-shaped castings, with internal polar extensions, and removable, field magnet wound cores, supported by and clamped between the meeting edges of the side walls of the top and base, the polar extensions forming consequent poles to said field magnet wound cores, as set forth.

In witness whereof I have hereunto set my hand this 2d day of May, 1893.

FREDERIC C. WHITMORE.

Witnesses:

JOHN W. GIBBONEY,
BENJAMIN B. HULL.