

(No Model.)

M. J. WIGHTMAN & O. C. G. URBAN.
ELECTRIC MOTOR.

No. 551,567.

Patented Dec. 17, 1895.

Fig. 1.

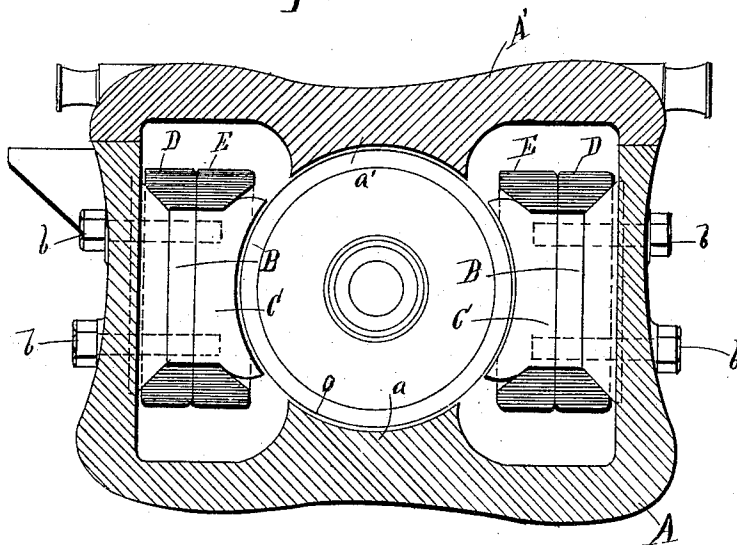


Fig. 2.

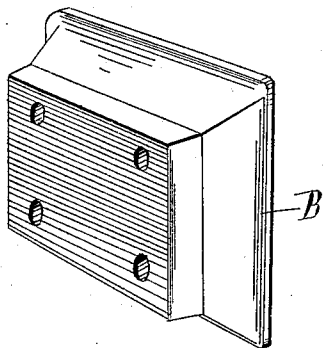
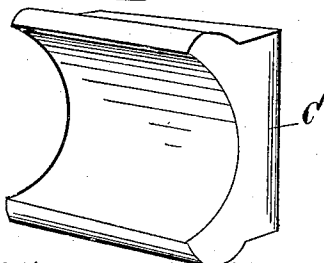


Fig. 3.



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Witnesses.

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UNITED STATES PATENT OFFICE.

MERLE J. WIGHTMAN AND OSCAR C. G. URBAN, OF CLEVELAND, OHIO.

ELECTRIC MOTOR.

SPECIFICATION forming part of Letters Patent No. 551,567, dated December 17, 1895.

Application filed May 16, 1893. Renewed May 15, 1895. Serial No. 549,445. (No model.)

To all whom it may concern:

Be it known that we, MERLE J. WIGHTMAN and OSCAR C. G. URBAN, of Cleveland, in the county of Cuyahoga and State of Ohio, have
5 invented certain new and useful Improvements in Electric Motors; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which
10 it pertains to make and use the same.

Our invention relates to improvements in electric motor, and more especially to the construction and arrangement of pole-pieces for a four-pole motor.

15 In the accompanying drawings, Figure 1 is an end view in section of a four-pole motor embodying our invention. Figs. 2 and 3 are perspective views respectively of the two sections of one of the side pole-pieces.

20 A represents the frame of the motor, the same being a box-slide structure, having bottom, side, and end walls cast integral and having a removable cover A'. The bottom wall of the frame has an integral pole-piece *a* and
25 the cover has an integral pole-piece *a'*. The side pole-pieces are supposed to be alike, and are each constructed in two sections B and C. Sections B B respectively engage, internally, the side walls of the motor-frame,
30 and sections C C engage sections B B in the manner shown in Fig. 1. The securing-bolts *b b* extend with easy fits through holes in the side walls of the motor-frame and through
35 holes in sections B B, and screw into screw-threaded holes in section C.

The cover of the motor-frame having been removed, by first removing-bolts *b*, the back sections B of the side pole-pieces can be removed, after which sections C can be moved
40 back from the armature far enough to admit of removing the armature from the frame, as is occasionally necessary in making repairs.

In assembling the parts, the armature having been placed in position, sections C are
45 moved to or toward the armature to make room for inserting sections B, after which bolts C are inserted and screwed home to hold the pole-pieces rigidly in position.

50 The side field-coils are each constructed in two sections for the reason that if constructed in one broad coil sections B of the pole-pieces could not be removed. The outer sec-

tion D of each field-coil encircles section B of the pole-piece, and is removed and returned with member B. Section E of each side field-coil encircles section C of the opposing pole-piece, and consequently member E need not be removed in removing the armature. The wires of sections D and E of each field-coil are of course connected and such connection of
60 these wires is usually made on top, where they are accessible when cover A' is removed, and any variety of coupling that can be easily manipulated will answer the purpose.

In connecting the motor after the pole-pieces
65 are assembled the faces of the pole-pieces are bored concentric with the axis of the armature, the circumferential line or face of the armature being indicated by the circle at O.

What we claim is—

70 1. An electric motor having a pole piece constructed in two sections, the rearward or outer section whereof is removable whereby the inner section thereof is capable of being moved outwardly or backwardly from the armature,
75 substantially as and for the purpose set forth.

2. A four pole electric motor, two opposite poles whereof are constructed each in two sections, the outer section being removable, in combination with field coils constructed in two
80 sections to correspond with the co-operating sections of the pole-pieces, substantially as set forth.

3. A four pole electric motor the side poles of which are constructed each in two sections, the rearward or outer sections whereof are removable whereby the inner sections thereof may be moved outward or back from the armature, substantially as, and for the purpose set
90 forth.

4. A four pole electric motor two opposite poles of which are constructed each in sections whereof the outer sections are removable combined with field coils constructed in sections to correspond with the cooperating sections
95 of the pole pieces, substantially as described.

In testimony whereof we sign this specification, in the presence of two witnesses, this 13th day of May, 1893.

MERLE J. WIGHTMAN.
OSCAR C. G. URBAN.

Witnesses:

D. W. AYLWORTH,
G. C. NASH.