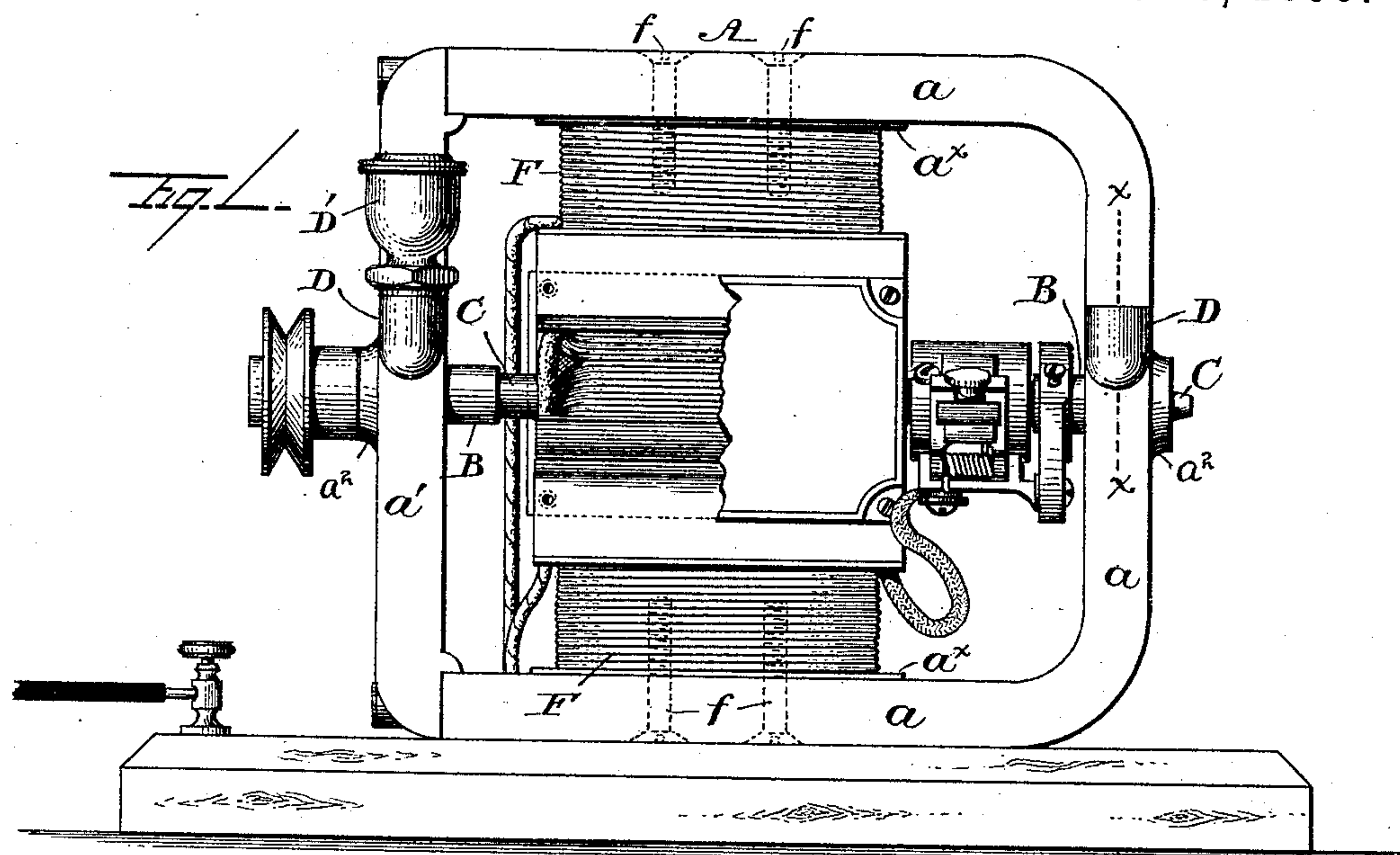


(No Model.)

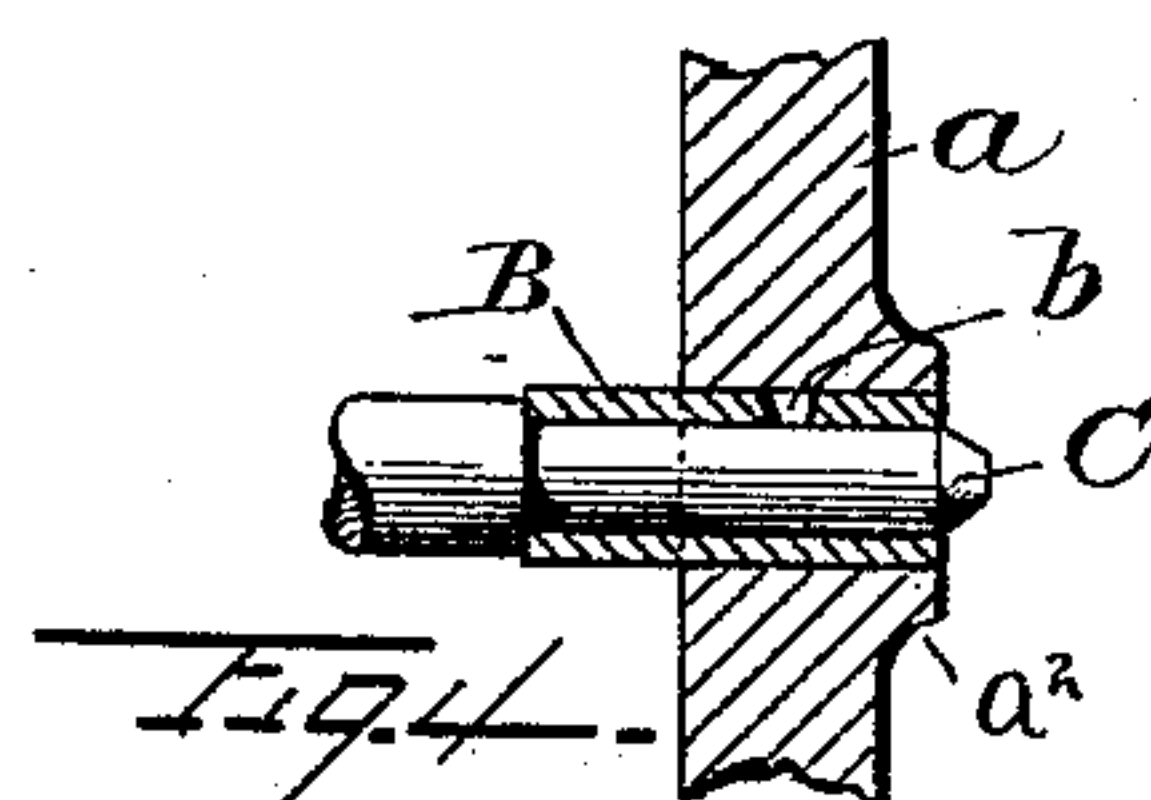
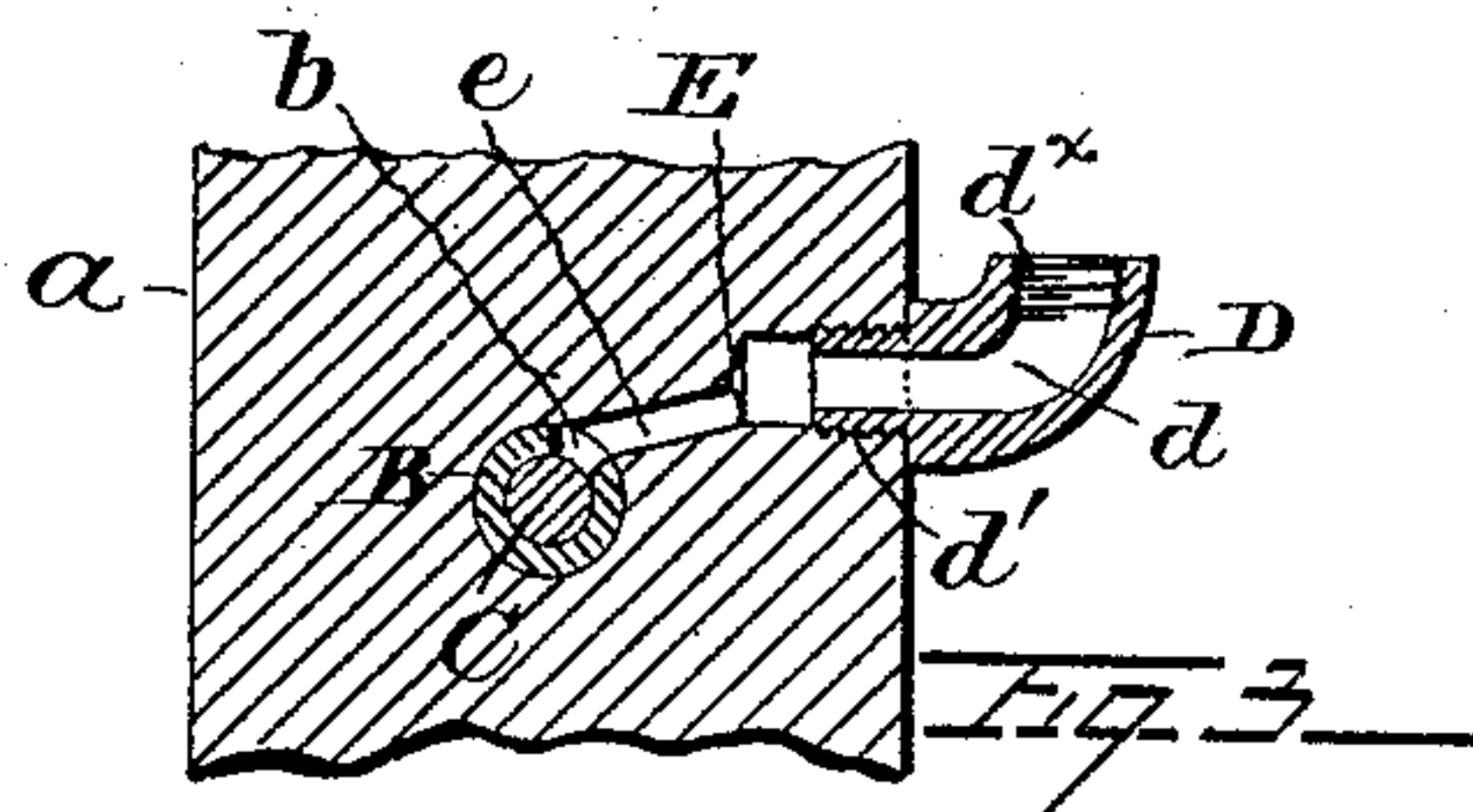
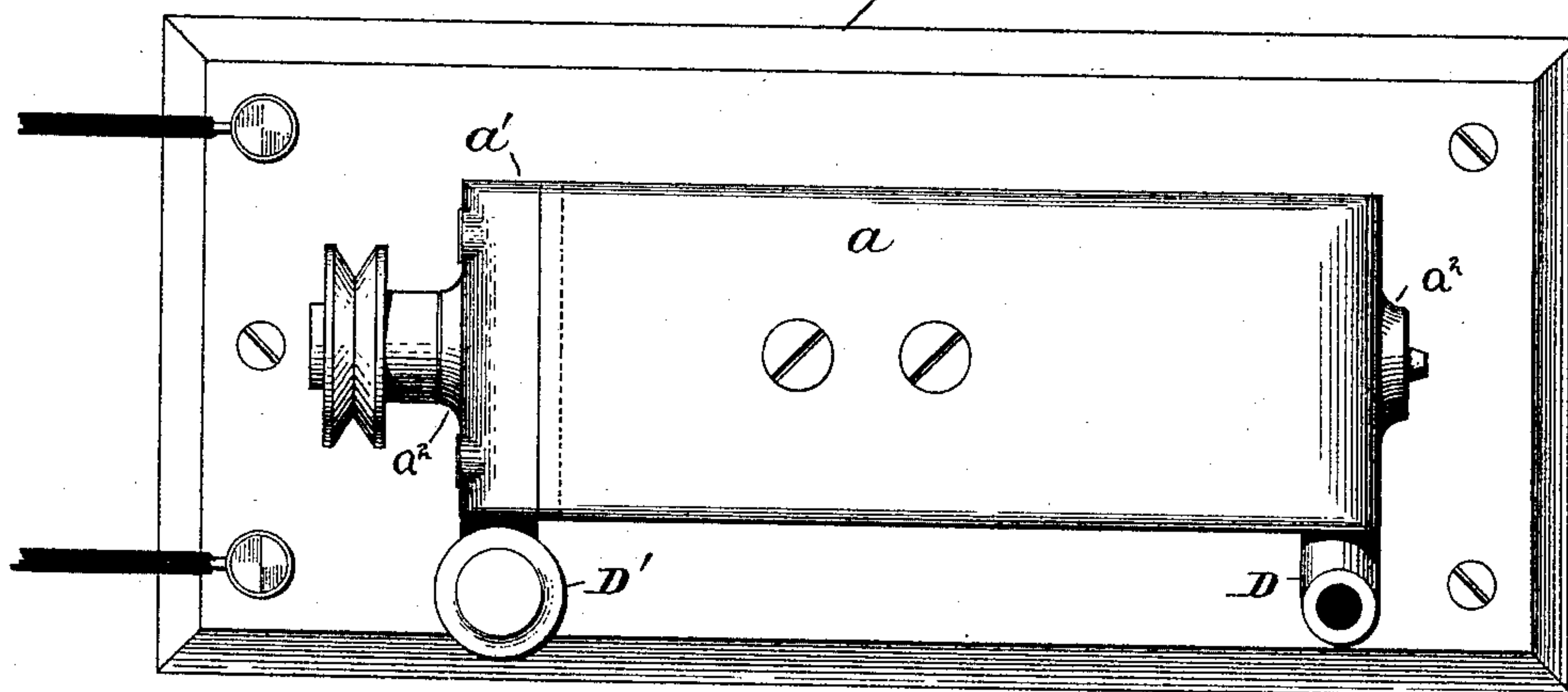
N. H. EDGERTON.  
DYNAMO ELECTRIC MACHINE OR MOTOR.

No. 442,870.

Patented Dec. 16, 1890.



592



Witnesses:

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By his Attorney  
John J. Allen Jr.



# UNITED STATES PATENT OFFICE.

NATHAN H. EDGERTON, OF PHILADELPHIA, PENNSYLVANIA.

## DYNAMO-ELECTRIC MACHINE OR MOTOR.

SPECIFICATION forming part of Letters Patent No. 442,870, dated December 16, 1890.

Application filed October 22, 1890. Serial No. 368,984. (No model.)

*To all whom it may concern:*

Be it known that I, NATHAN H. EDGERTON, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Dynamo-Machines and Motors, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof.

My invention relates generally to dynamo-machines and motors, and specifically to a new and improved construction of frame therefor forming a double yoke for the field-magnets and also bearings for the armature-shaft and field-magnets, and, further, in combining therewith means for feeding a lubricant to said bearings, and has for its object cheapness, simplicity, and compactness of construction; and to this end it consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a front elevational view of a motor embodying my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a detail sectional view taken on the line  $xx$  of Fig. 1 and of so much thereof as is necessary to illustrate the method of construction and attachment of the oil-cup arm to the frame and of the means of supplying a lubricant to the bearings for the armature-shaft; and Fig. 4 is a detail view, partly sectional, of one end of the armature-shaft and its bearing.

Referring to the drawings, A is the frame, it being preferably an iron casting in two sections  $a$  and  $a'$ , united at their meeting ends, as shown, and forming a double yoke for the field-magnets. One of these sections  $a$  is preferably U-shaped and forms three sides of the frame, while the other section  $a'$  forms the remaining side and is secured to the former by screws at its points of contact. Each section is formed with a bearing B for the armature-shaft C. These bearings are formed by driving a bushing, preferably of brass, into a hole cast in the respective sections of the frame about midway of their length, so as to be oppositely located when the frame is set up, one end of said bushing coming flush with the outer side of the frame or a boss  $a^2$  formed on said frame to give sufficient bearing-surface, as required, while its

opposite end extends away from the inner side of the frame and provides additional bearing-surface for the armature-shaft, and on which a brush-holder arm can be conveniently mounted, if desired, all as clearly shown in Figs. 1 and 4. The section  $a$  of the frame A has also formed with it at opposite points on the inner side thereof chipping-pieces  $a^x a^x$ , which are dressed off to furnish true bearing-surfaces for the field-magnets F F. These field-magnets have the usual core of soft iron, and are conveniently mounted within and attached to said frame A by screws  $f$ , passing through the frame into said core, and constitute the poles of the motor, as shown in Fig. 1.

It will be obvious from the construction and arrangement of parts as shown and described that the frame forms the double yoke for the field-magnets and also the bearings for the armature-shaft and for the support of the field-magnets. All supplementary supports or bearings other than provided by the frame direct for the armature-shaft and field-magnets heretofore employed in like machines are avoided, and consequently a much cheaper, simpler, and more compact construction of machine is as a whole the result.

D are the oil-cup arms or supports for the oil-cups  $D'$ , one for each bearing. These arms are of elbow form, provided with a central passage-way  $d$ , interiorly screw-threaded at one end  $d^x$  to receive a screw-threaded neck or shank on the oil-cup, (not shown,) and at the opposite end provided with a neck  $d'$ , exteriorly screw-threaded to engage a screw-tapped recess E in the frame at a point about on line with the bearings. From this recess E an oil-duct  $e$  leads to the bearing, whereby a lubricant may be fed thereto, the bushing forming part of the bearing being perforated, as at  $b$ , Figs. 3 and 4, to this end.

I do not wish to be understood as restricting my invention to the exact construction of parts as shown and described, as it is obvious that many details of construction may be adopted without departing from the spirit of my invention strictly as such. Thus, for instance, the frame may be formed of more than two sections and suitably united to the same end, the chipping-pieces on the frame may be dispensed with and the flush surface

of the frame dressed off to provide suitable bearings for the field-magnets, and means other than shown and described for attaching the field-magnets to the frame be employed, the essence of my invention residing in the provision of a frame forming a double yoke for the field-magnets and at the same time bearings for the armature-shaft.

Having thus described my invention, I  
10 claim—

In a dynamo-machine or motor, a frame forming a double yoke for the field-magnets and consisting of two sections, one of said

sections forming three sides of the frame and the other section forming the remaining side 15 and united at their meeting ends, said frame formed with oppositely-located bearings for the armature-shaft, and means for securing the field-magnets to and within said frame, as set forth. 20

In testimony whereof I have hereunto signed my name this 27th day of March, A. D. 1890.  
N. H. EDGERTON.

In presence of—  
JOHN JOLLEY, Jr.,  
CHAS. BUSH.