

No. 791,310.

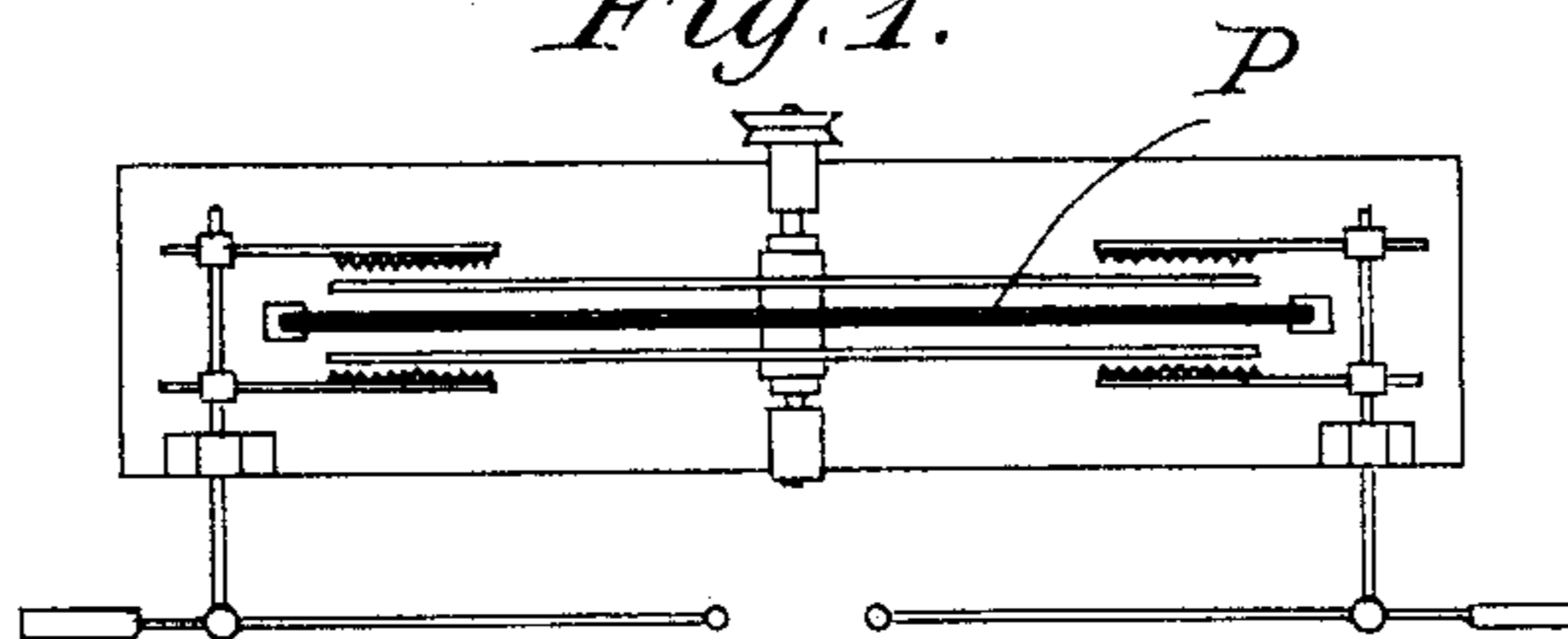
PATENTED MAY 30, 1905.

B. E. BAKER.

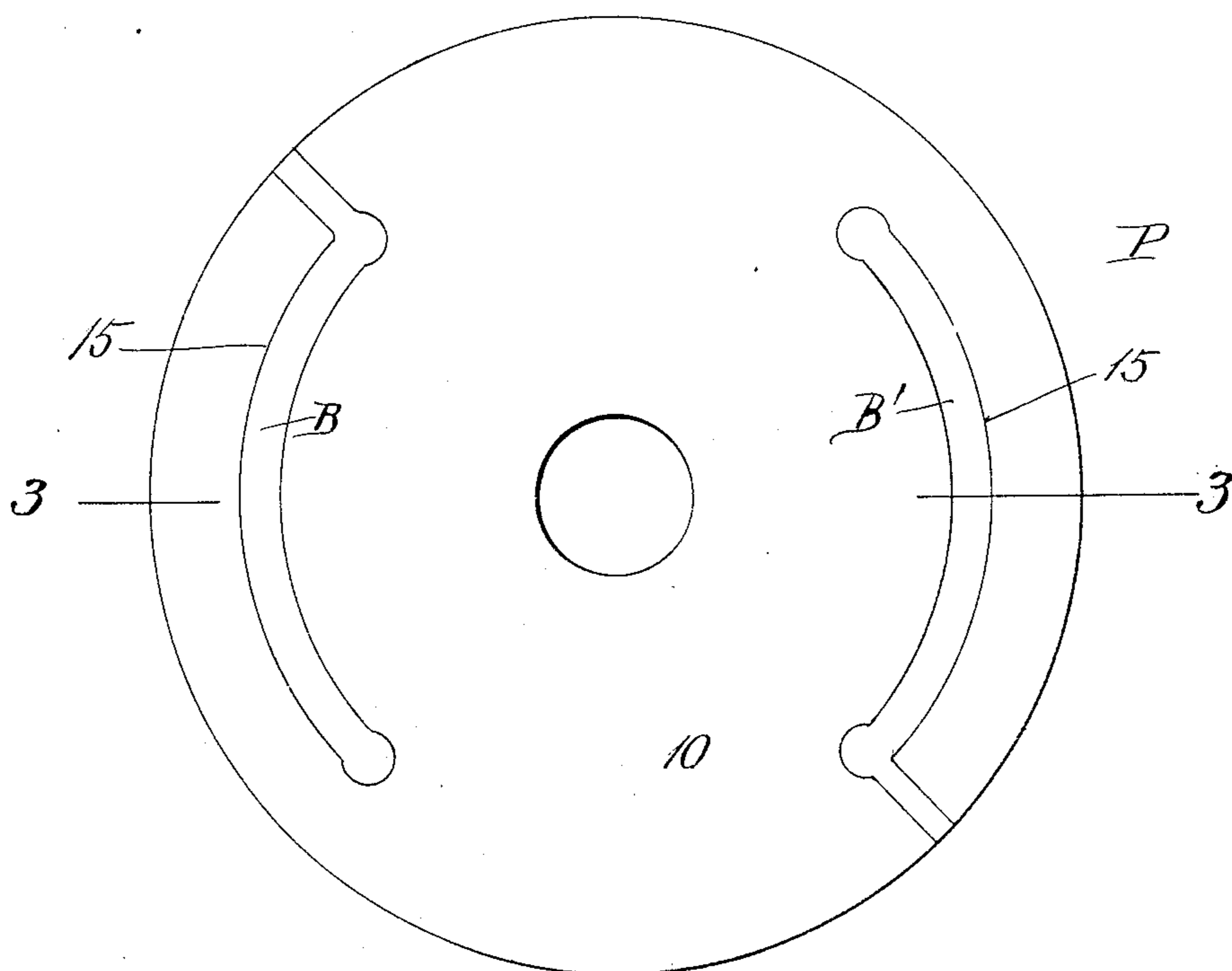
STATIONARY PLATE FOR STATIC MACHINES.

APPLICATION FILED DEC. 31, 1904.

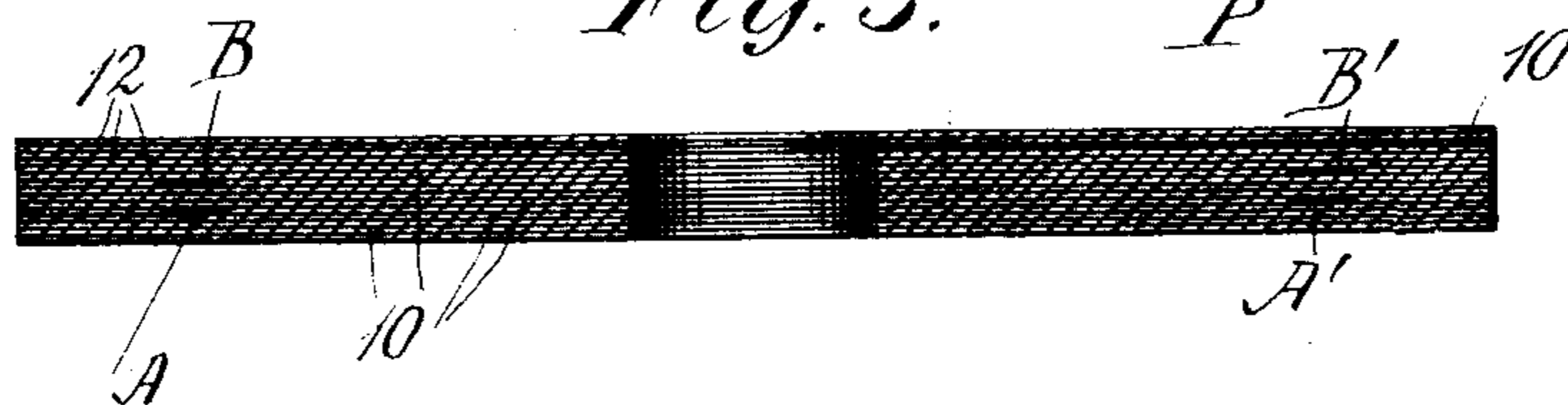
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

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## STATIONARY PLATE FOR STATIC MACHINES.

SPECIFICATION forming part of Letters Patent No. 791,310, dated May 30, 1905.

Application filed December 31, 1904. Serial No. 239,061.

*To all whom it may concern:*

Be it known that I, BURTON E. BAKER, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Stationary Plates for Static Machines, of which the following is a full, clear, and exact specification.

This invention relates to plates for static machines, and more especially to those which are stationary and coöperate with the so-called "revolving" plates of the machine in generating an induced electric current of uniform quality.

My invention has for its object the provision of an inexpensive plate in which the armatures, generally made of tin-foil, are completely embedded or sealed, therefore rendering it impossible that dirt or moisture can accumulate thereon or that a leakage of electricity from one armature to the other diametrically across the plate can occur. This question of leakage from the positive armature to the negative armature on the same side of the stationary plate is one of the elements which interferes with the uniform performance of the machine, inasmuch as the usual construction merely protects the foils against direct contact with the atmosphere by the employment of a sheet of paper pasted over each of the armatures.

Now as it is a well-known fact that paper will be affected by and absorb more or less moisture it follows that the amount of leakage of electric current will vary in accordance with the condition of the atmosphere, or, in other words, that during damp weather the leakage will be more than when the air is dry. The consequence of this circumstance is a variation in efficiency of the machine, and it often happens that when the best results are desired the leakage is greatest and the developed energy is therefore the poorest.

Therefore the essential feature of my invention consists in embedding each armature individually into the plate in such a manner that absolute insulation prevails.

Another feature of my invention consists

in the particular manner in which the plate itself is formed, so as to possess all the necessary qualifications, and for the sake of showing the location of my improved plate relative to the other parts of the apparatus I have illustrated, in—

Figure 1 of the drawings, a static machine of simple and well-known form. Fig. 2 represents a face view of one of the layers of fibrous material, of which a certain number are used in building up my improved plate; and Fig. 3 is a section of the plate as indicated by line 3 3 of Fig. 2, it being understood, of course, that the thickness of the several layers is greatly exaggerated in order to distinguish between them.

It should be understood at this time that the particular construction and the material of which the plate is formed do not, primarily, enter the merits of the case, provided that the armatures or field-plates are conductors and that the plate proper is made of some suitable insulating material. For instance, glass, mica, vulcanite, fiber, rubber, &c., may be used for the plate-body, and foil, platinum, &c., may be employed for the armatures, which, as above stated, should be embedded into the insulating material. In order to carry out this one feature of my present invention in a comparatively inexpensive and yet thorough manner, I preferably form the plate P of a series of layers of fibrous material which are united into what may be termed a "homogeneous" mass by means of a suitable penetrating adhesive and under a high pressure. This fibrous material may be in the nature of textiles—as, for instance, linen, silk, &c.; but I prefer to employ a tough paper of strong fiber and cut into sheets between which the adhesive is placed. The plates consist in their preferred form substantially of a series of paper sheets 10 and layers of shellac 12 interposed between said sheets. Disposed adjacent to a pair of sheets near the middle of the plate, but separated from each other by a few sheets of paper and shellac, are two sets of armatures A A' and B B', respectively, the armatures A A' being on the

same side of a sheet, but diametrically opposite each other and forming positive and negative poles, respectively. The other set of armatures, B B', are also diametrically opposite each other, forming positive and negative poles in axial alinement with the armatures A A', respectively. If desired, apertures 15, shaped to correspond with the contour of the armatures, may be provided in their respective paper sheets, thus assisting in keeping the armatures in proper position. The layers thus built up are then subjected to high compression under heat, thereby excluding all moisture, melting the shellac, and forcing the same into the paper, which in this manner loses its identity as such and unites with the shellac into a homogeneous mass in

which the armatures are embedded and kept free from atmospheric influences.

Having described my invention, I claim— 20

1. A plate of the class specified, composed of a plurality of sheets of insulating material, and armatures interposed between said sheets, and insulated from each other thereby.

2. A plate of the class specified, formed of a plurality of alternate layers of fibrous material and shellac united into a homogeneous mass, and armatures embedded in said mass and insulated from each other thereby. 25

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