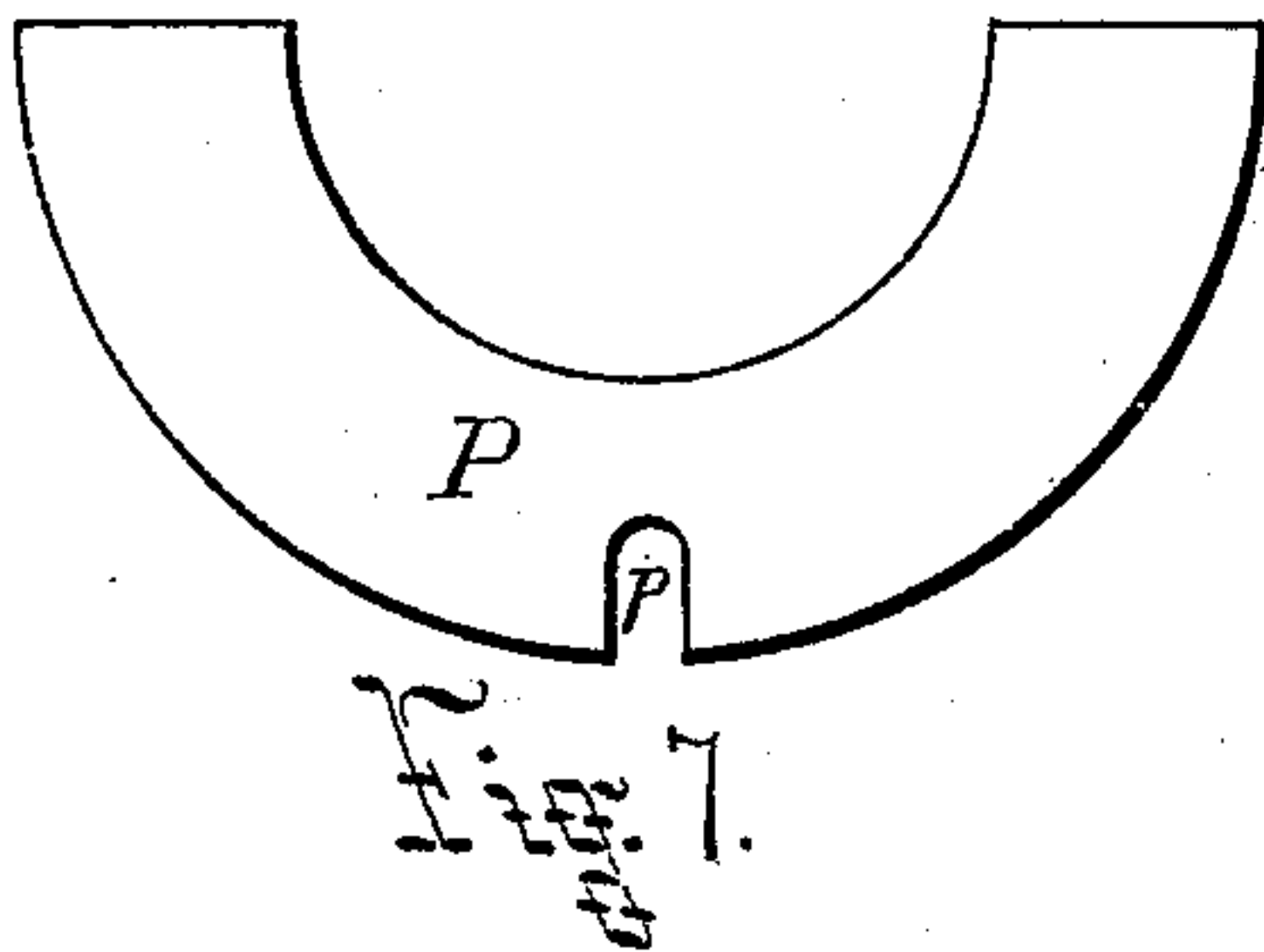
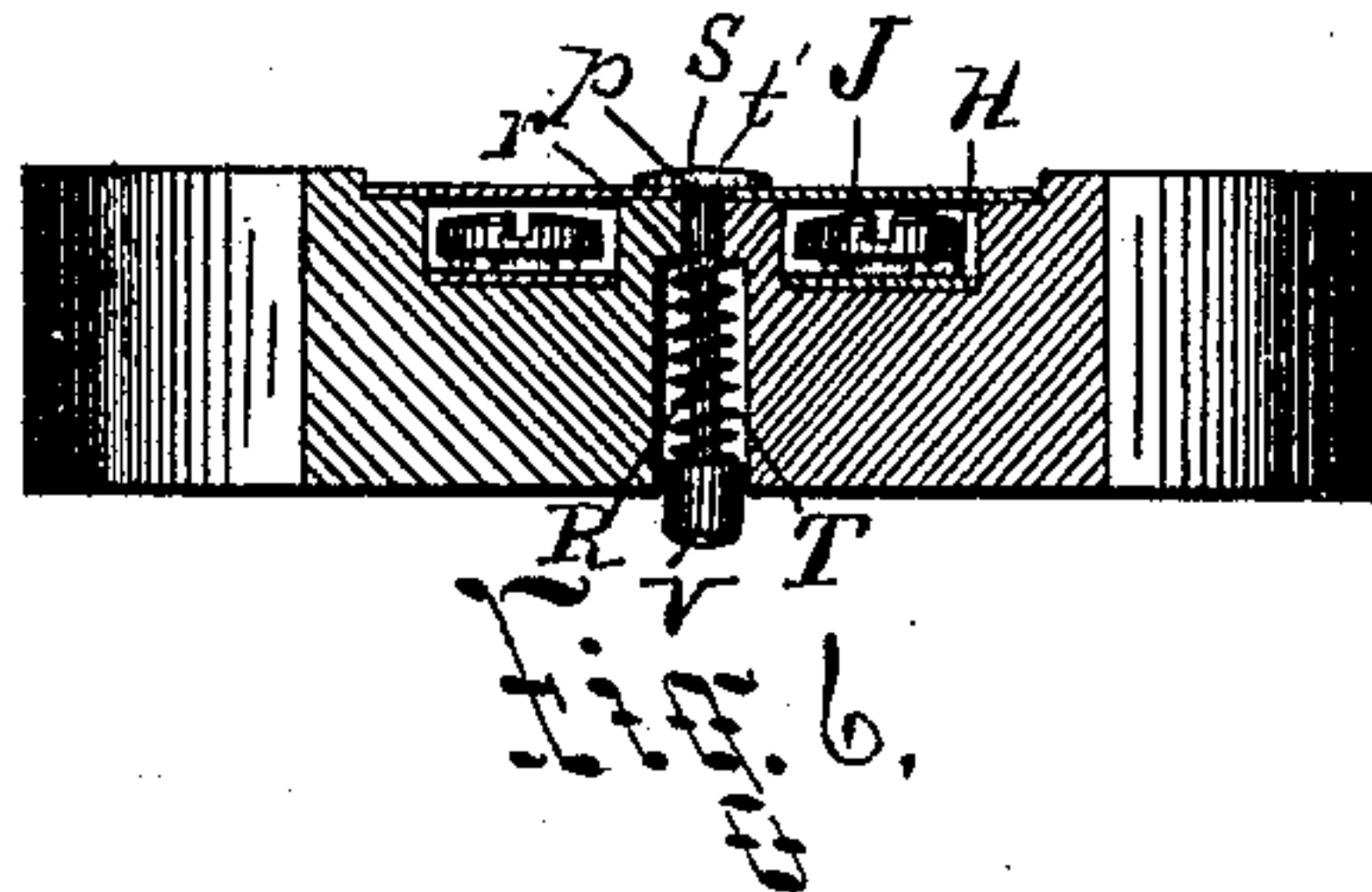
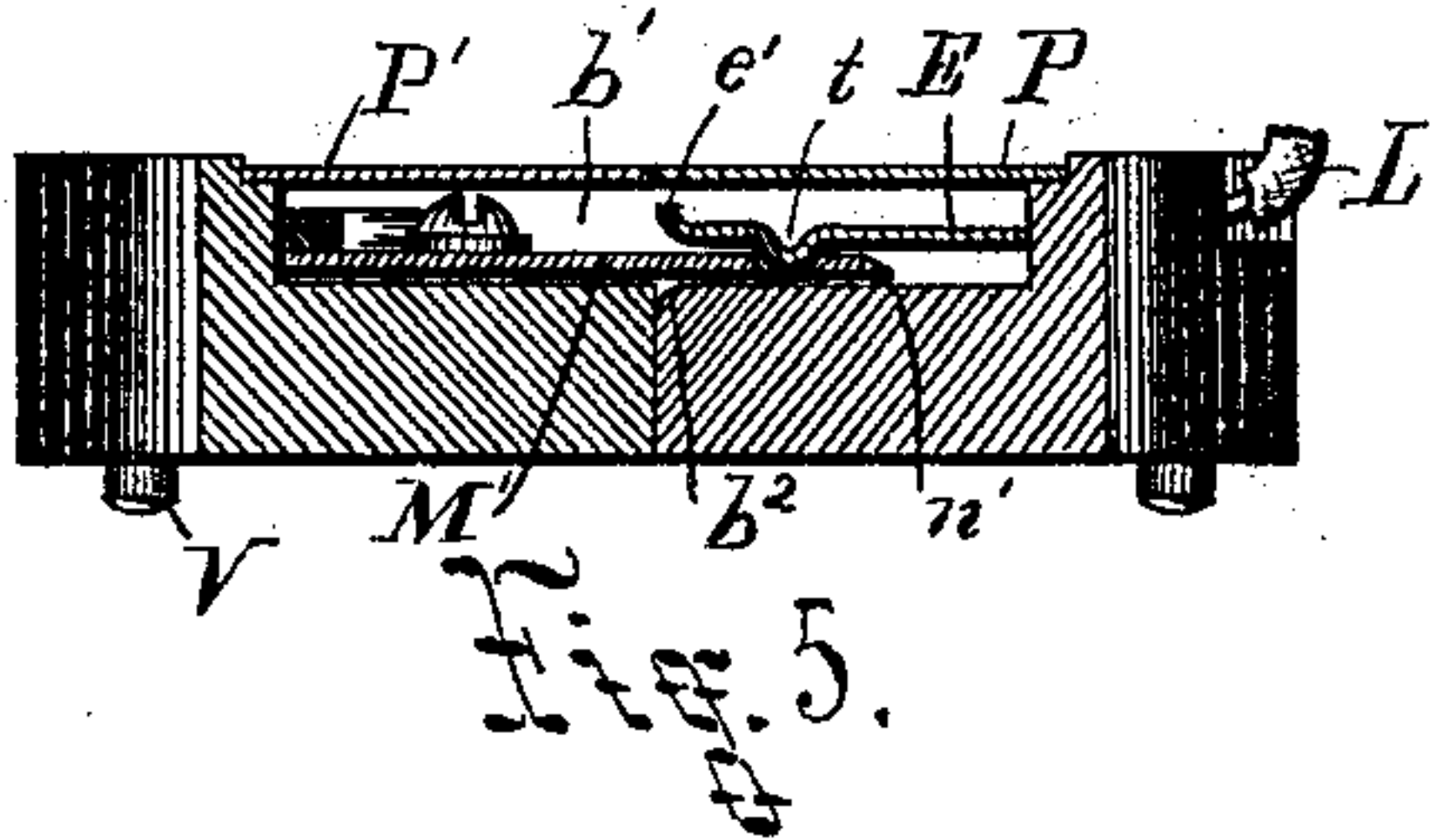
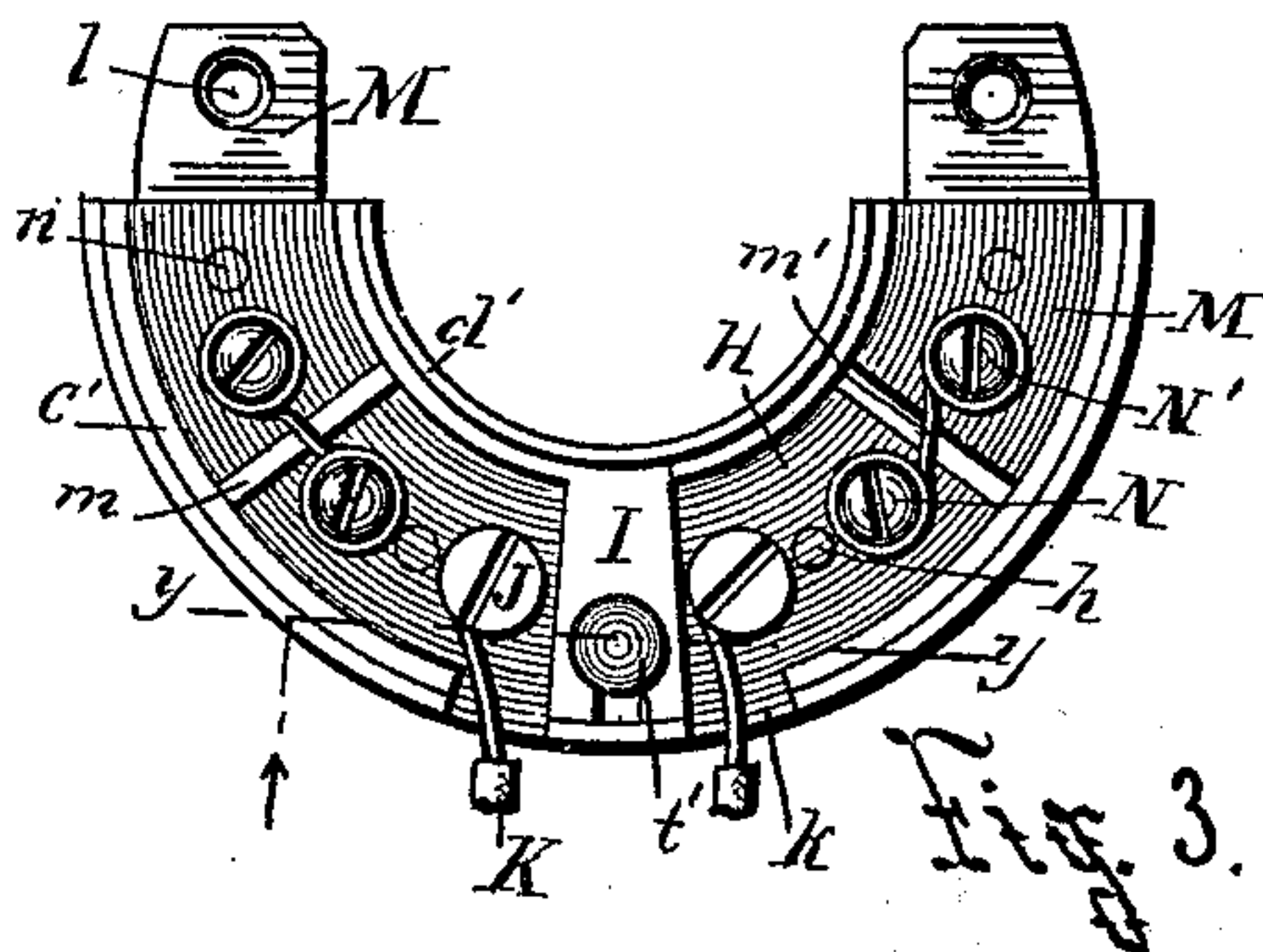
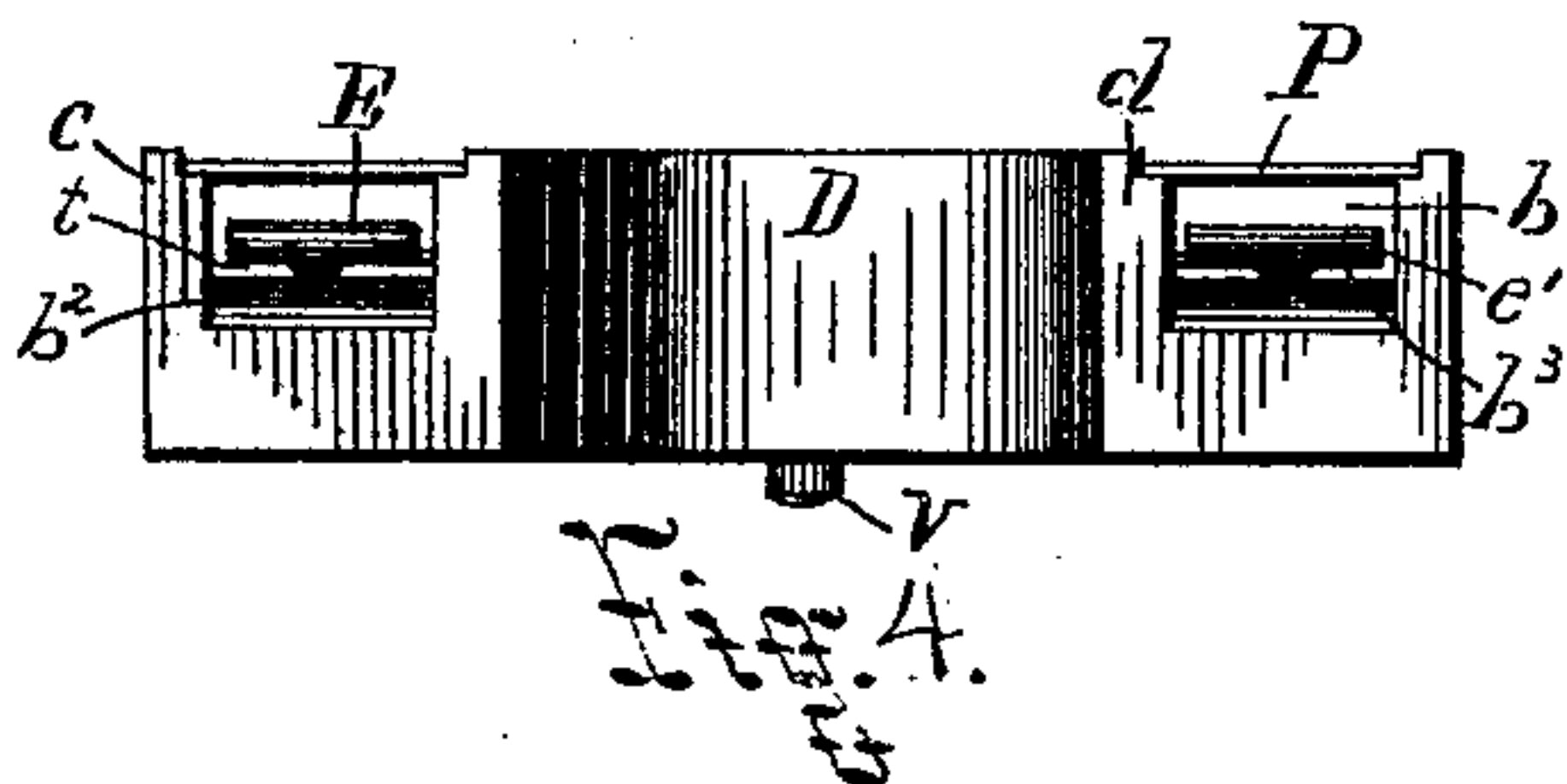
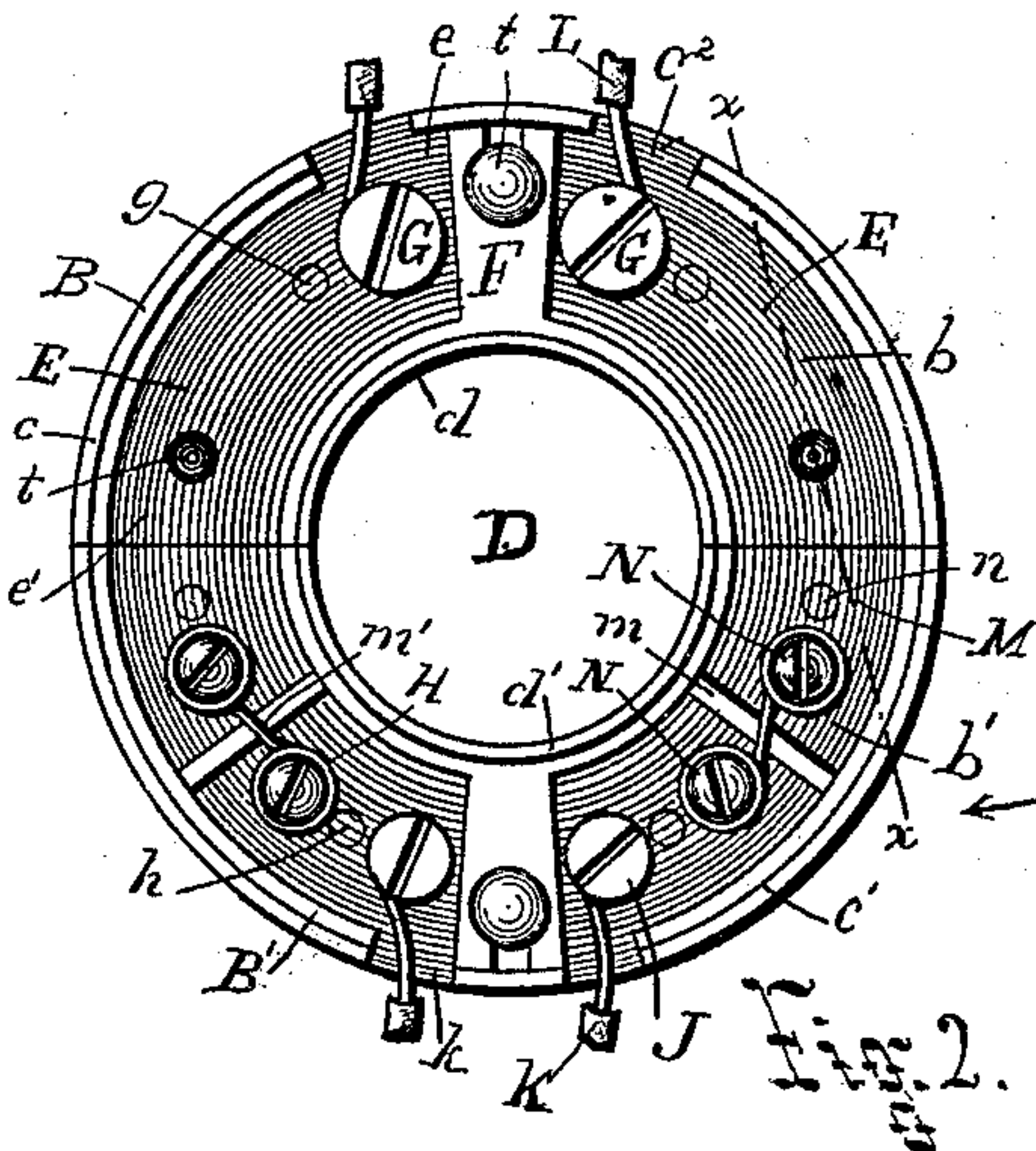
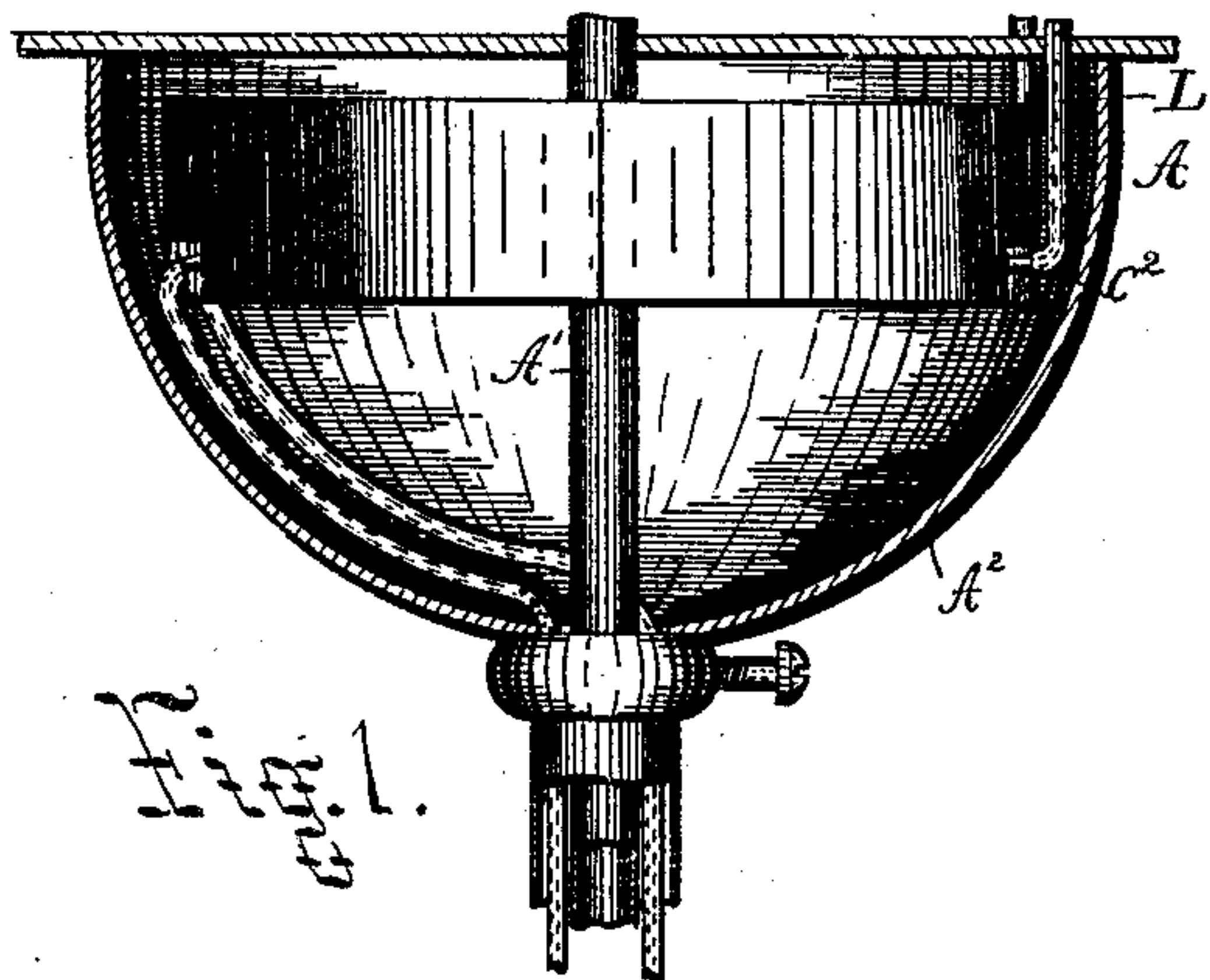


(No Model.)

H. E. WERLINE.  
ELECTRIC DOUBLE POLE FIXTURE CUT-OUT.

No. 509,500.

Patented Nov. 28, 1893.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## ELECTRIC DOUBLE-POLE FIXTURE CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 509,500, dated November 28, 1893.

Application filed February 15, 1893. Serial No. 462,441. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY ELMER WERLINE, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Electric Double-Pole Fixture Cut-Outs, of which the following is a specification.

This invention relates to improvements in that class of cut-outs by which electric fixtures are disconnected from the line-wires; and the object of the invention is to provide a safe, convenient and compact cut-out.

This invention consists in forming the cut-out of segments separably connected through and longitudinally of the pipe or stem-opening therein.

The invention consists, also, in making the cut-out circular in form, and separable horizontally to detach it from the stem or pipe.

The invention consists, further, in securing the separable parts of the cut-out together by spring-connection.

The invention consists, finally, in fastening the mica or other non-conducting coverings to the cut-out by spring-studs or other resilient connections.

The invention is illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of the cut-out in its normal position, the fixture canopy being shown in section. Fig. 2 is a bottom plan view of the cut-out. Fig. 3 is a bottom plan view of the branch segment of the cut-out, detached from the other and showing a face view of the contact arms. Fig. 4 is an inner edge view of the main segment. Fig. 5 is a vertical section of the cut out on the line  $x-x$ , Fig. 2, viewed from the direction of arrow 1. Fig. 6 is a vertical section on the line  $y-y$ , Fig. 3, viewed from the direction of arrow 2. Fig. 7 is a face view of one of the mica plates.

Referring to the details of the drawings, A represents the ceiling; A', the stem or pipe, and A<sup>2</sup> the fixture canopy. These parts are constructed substantially as those in general use, and, forming no part of the invention, need not be specially described.

The segments B B' are similar in construction, and when united constitute a ring having a central stem or pipe opening D, around which is formed a groove  $b b'$ , separated from said opening by a wall  $d d'$  and having an outer or peripheral wall  $c c'$ . In the main segment B, the end edges of the section  $b$  of groove  $b b'$  are beveled, as shown at  $b^2$ , Figs. 4 and 5, for a purpose to be described; and in said groove  $b$  there are located two flat spring contact-plates E, having their adjacent ends  $e$  separated by a non-conducting partition F, extending radially across the groove, said ends being secured by binding-screws G, to which the line-wires L are attached and which pass through openings  $c^2$  in the outer wall of the groove. These ends of contact-plates E are firmly and immovably held to their connection with binding-screws G by bolts or screws  $g$ . The free or vibrating ends  $e'$  of contact-plates E extend to the chord line of the segment and are bent or turned upward above the beveled ends  $b^2$  of section  $b$  of groove  $b b'$ , so as to form a mouth or enlarged opening between the two, as seen at  $b^3$ , Fig. 4. Inside of this mouth the plates E are dented to form dents or teats  $t$  on their under sides, for a purpose to be described.

B' is the branch segment, and has two contact-plates H located in section  $b'$  of groove  $b b'$  adjacent to each other and separated by a non-conducting partition I. Each contact-plate H is fastened in place by a bolt or screw  $h$  and is further fastened at one end by a screw J, to which is secured one of the fixture wires K that passes through openings  $k$  in the outer wall of the groove. The outer end of each contact-plate H is separated from a spring contact-arm M by a rib  $m$  and is provided with a screw N from which it is connected with a similar screw N', securing said contact-arm, by a fuse-wire  $m'$ , passing over one of the ribs  $m$ , whereby, upon the occurrence of a "short-circuit" or "ground-on," electrical connection with the wire, lamp or socket beyond the cut-out is destroyed by the fusing of said wire  $m'$ . Contact-arms M are also secured by bolts or screws  $n$ , which are located between screws N' and the free or



spring-ends M' of said arms, by which means the vibrating movements of the spring-ends are prevented from affecting the connection between the contact arms and screws N'. The  
 5 extremities of ends M' are pointed or beveled, as shown at n', Fig. 5, to facilitate their insertion in mouths b<sup>3</sup>, and each of said ends has a hole l through it adapted to be engaged by one of the teats t. When the cut-out is  
 10 attached to the stem or pipe the segments are engaged about it from opposite sides, the spring ends being inserted in mouths b<sup>3</sup> and the segments closed upon each other until their edges meet, as shown in Fig. 2, when  
 15 teats t are in engagement with holes l, the junction of those parts being maintained by the resiliency of the ends of contact-plates E and the ends M'. But as teats t are spherical in outline, the segments B B' can readily  
 20 be separated by pulling them in opposite directions. It will thus be seen how easy it is to engage the cut-out with the pipe or stem, and close the circuit, or disengage the segment containing the fuse-wires from the seg-  
 25 ment carrying the line-wires and thus open the circuit and render the fuse-segment safe to handle in renewing the fuses and adjusting the insulating covers.

To prevent the charged parts from coming  
 30 in contact with the person or the escape of sparks or molten fuse-wire attendant upon the forming of a "short-circuit" or "ground-on," the parts in groove b b' are covered by mica or other non-conducting plates, P P',  
 35 resting in the groove and conforming in length with that of the arcs of the segment. Each plate P P' is removably secured in place by a spring-stud, the stem, S, of which passes through a perforation, T, in one of the par-  
 40 titions F I and through a recess, p, made in the periphery of said plate. The head t' of the stud laps over the edges of recess p and binds them down on the face of the partition by reason of the action of a spring R,  
 45 coiled about stem S and having one end bearing against a shoulder r in one end of perforation T and the other against a thumb-button V, formed on the opposite end of stem S. To release one of these plates, thumb-button  
 50 V is pressed inward so as to push head t' away from partition F or I and then recess p is disengaged from stem S by raising the plate and drawing it inward. In replacing the plate, the operation is reversed. This  
 55 construction affords a very simple and efficient means for removably securing the plates. Heretofore, these mica plates have been attached by screws, requiring the employment of a screw-driver in detaching and  
 60 replacing them.

Throughout, the construction of this cut-out is simple and convenient. Being annular in outline it occupies the least possible amount of space, and as it is divided into seg-  
 65 ments separably connected it is readily put in place or detached from the stem or pipe, while the connection of the segments by interlock-

ing spring-arms held in engagement by their own resiliency alone makes the attaching and detaching of the parts very simple and easy. 70

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An electric-fixture cut-out divided through and longitudinally of the pipe or 75 stem-opening thereof into segments separably connected by electrical conductors, substantially as and for the purpose specified.

2. An electric-fixture cut-out divided through and longitudinally of the pipe or 80 stem-opening thereof into segments, one of said segments being provided with contact-plates and the other with spring-contact-arms, the said contact-arms engaging the contact-plates and holding the segments separably 85 together, substantially as and for the purpose specified.

3. An annular electric fixture cut-out divided into segments, one of said segments being provided with contact-plates and the 90 other with spring-contact-arms, the said contact arms engaging the contact-plates and separably uniting the segments, substantially as and for the purpose specified.

4. In an electric fixture cut-out divided into 95 segments, the combination, with a segment provided with contact-plates, of a grooved segment and spring-contact-arms located in said groove and engaging the contact-plates and separably uniting the segments, substantially 100 as and for the purpose specified.

5. In an electric fixture cut-out divided into segments, the combination, with a segment provided with contact-plates having upturned 105 ends, of a segment having spring-contact-arms, said contact-arms engaging with the contact-plates beneath the same and separably uniting the segments, substantially as and for the purpose specified.

6. In an electric fixture cut-out divided into 110 segments, the combination, with a segment provided with contact-plates and having its contacting-edge beveled beneath the contact-plates, of a segment having spring-contact-arms, said contact-arms engaging with the 115 contact-plates beneath the same and separably uniting the segments, substantially as and for the purpose specified.

7. In an electric fixture cut-out divided into segments, the combination, with a segment 120 provided with contact-plates having upturned ends and having its contact-edge beveled beneath the contact-plates, of a segment having spring-contact-arms, said contact arms engaging with and beneath the contact-plates and 125 separably uniting the segments, substantially as and for the purpose specified.

8. In an electric fixture cut-out, divided into segments, the combination, with a segment provided with contact plates having indenta- 130 tions or teats formed therein, of a segment having perforated spring-contact-arms, said contact arms engaging the contact-plates with the perforations therein registering with the



indentations or teats of the contact-plates, substantially as and for the purpose specified.

9. In an electric fixture cut-out divided into segments, the combination, with a segment provided with contact-plates having upturned ends and indentations or teats formed therein, the said segment having its contacting edge beveled beneath the contact-plates, of a segment having perforated spring-contact-arms, said contact-arms engaging beneath the contact-plates with the perforations therein registering with the indentations or teats of the contact-plates, substantially as and for the purpose specified.

10. In an electric-fixture cut-out divided through and longitudinally of the pipe or stem-opening thereof into segments, the combination, with a segment provided with spring-contact plates, of a segment having spring-contact-arms, the said contact-arms engaging said contact-plates and separably uniting the segments, substantially as and for the purpose specified.

11. In an electric fixture cut-out divided into segments having registering grooves, the combination, with a segment provided with spring-contact-plates, of a segment having spring-contact-arms, said plates and arms being located in the grooves, the contact-arms engaging said contact-plates and separably uniting the segments, substantially as and for the purpose specified.

12. The combination with an electric fixture cut-out divided into segments, one of said segments being grooved, of contact-plates located in said groove, ribs separating the contact-plates, and fuse-wires passing over said ribs and connecting the contact-plates, substantially as and for the purpose specified.

13. The combination, with an electric fixture cut-out divided into segments, of a segment provided with contact-plates, a segment having spring-contact arms, said contact-arms engaging with said contact-plates and separably uniting the segments, contact-plates located between the contact-arms and separated therefrom by ribs, and fuse-wires passing over the ribs and connecting the contact-arms with the contact-plates located between them, substantially as and for the purpose specified.

14. The combination, with an electric fixture cut-out divided into segments, of a segment provided with contact-plates, a grooved segment having spring-contact arms, said contact arms engaging with said contact plates and separably uniting the segments, contact-plates placed between the contact-arms and separated therefrom by ribs, the contact-arms and the contact plates placed

between them being located in said groove, fuse-wires passing over the ribs and connecting the contact arms and the contact-plates placed between them, and a non-conducting plate covering the contents of the groove, substantially as and for the purpose specified.

15. The combination, with an electric fixture cut-out divided into segments having grooves registering with each other, of a segment provided with contact-plates, a segment having spring contact-arms, said contact-arms engaging with said contact-plates and separably uniting the segments, contact-plates placed between the contact-arms and separated therefrom by ribs, the contact-arms and contact plates being located in the grooves, fuse wires passing over the ribs and connecting the contact-arms and the contact-plates placed between them, and non-conducting plates covering the grooves, substantially as and for the purpose specified.

16. In an electric fixture cut-out divided into segments, the combination, with the conducting and connecting parts thereof, of non-conducting plates covering said parts secured to each segment, and spring-studs removably connecting said plates with the segments, substantially as and for the purpose specified.

17. The combination with an electric-fixture cut-out divided into segments, of a segment provided with contact-plates, a grooved segment having contact-arms placed in the groove and engaging said contact-plates, contact-plates located in the groove between the contact-arms and connected therewith by fuse-wires passing over interposed ribs, and a non-conducting plate covering the groove and removably connected with the segment by a spring-stud, substantially as and for the purpose specified.

18. The combination, with an electric fixture cut-out divided into segments having grooves registering with each other, of a segment provided with contact-plates, a segment having contact-arms engaging said contact-plates, contact-plates placed between the contact-arms and connected therewith by fuse-wires passing over interposed ribs, said contact-arms and contact-plates being located in the grooves of the segments, and non-conducting plates covering the grooves and removably connected with the segments by spring-studs, substantially as and for the purpose specified.

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