

T. E. MURRAY.  
ELECTRIC CUT-OUT.  
APPLICATION FILED DEC. 30, 1908.

928,999.

Patented July 27, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

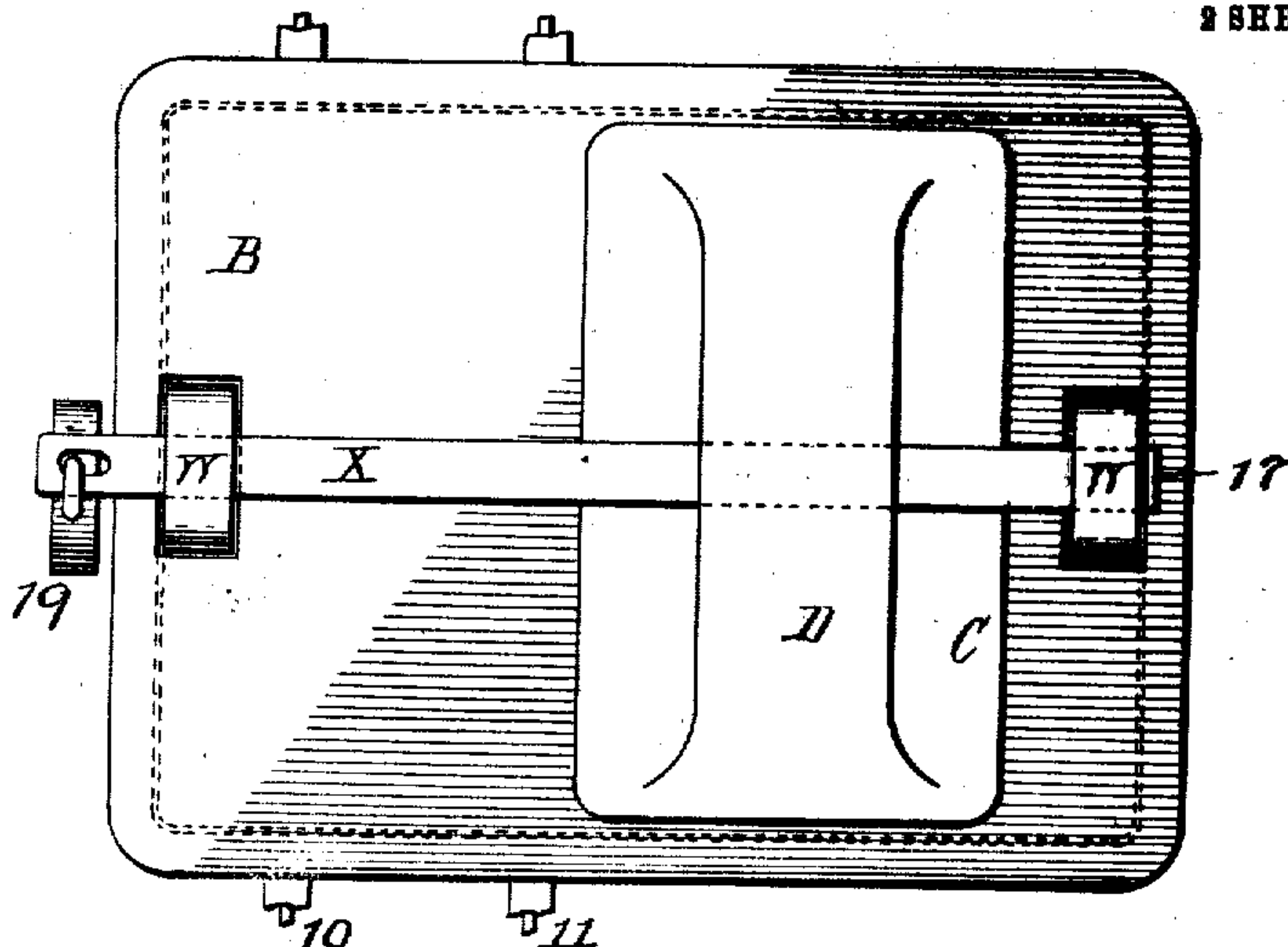


Fig. 2.

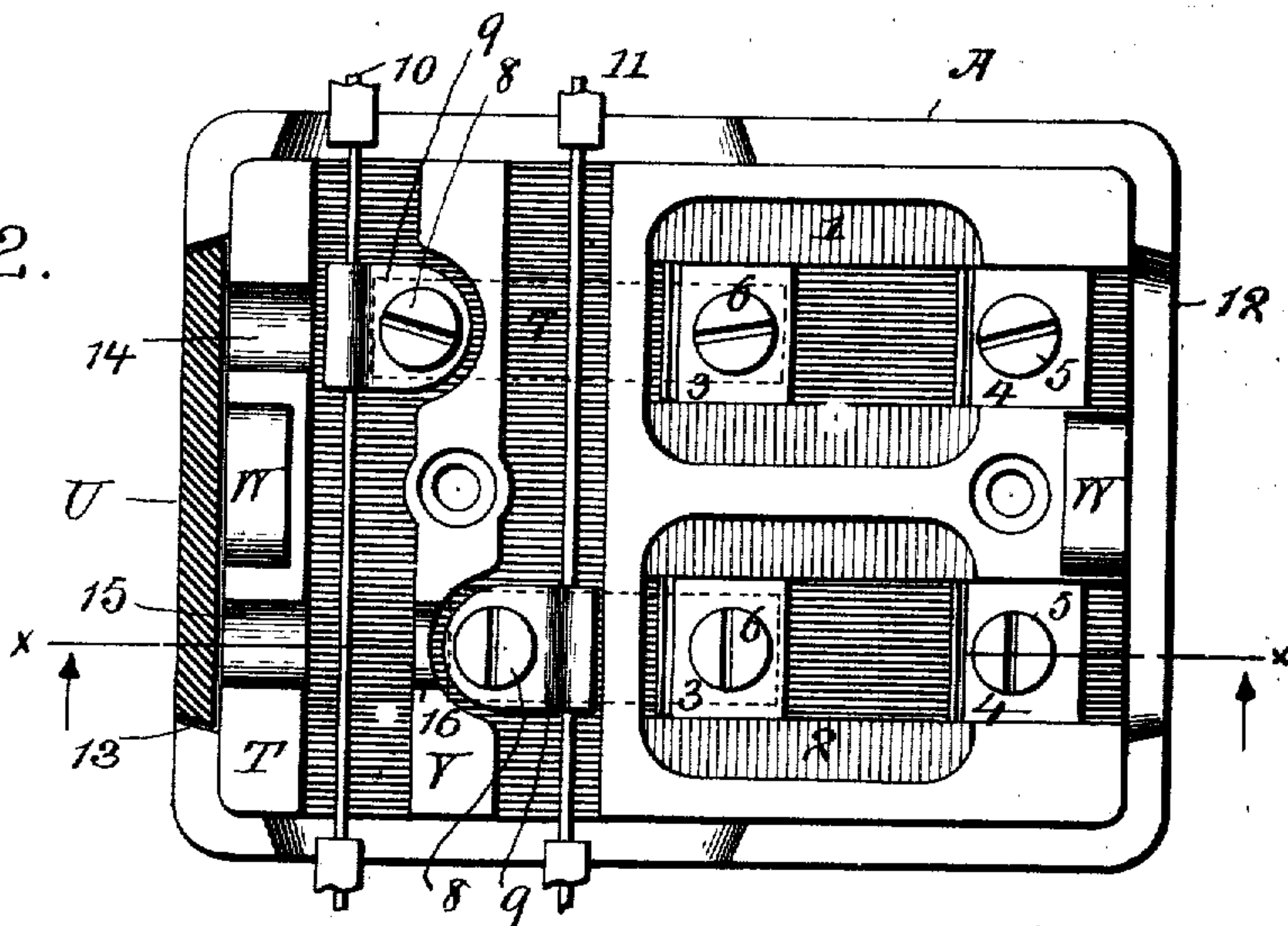
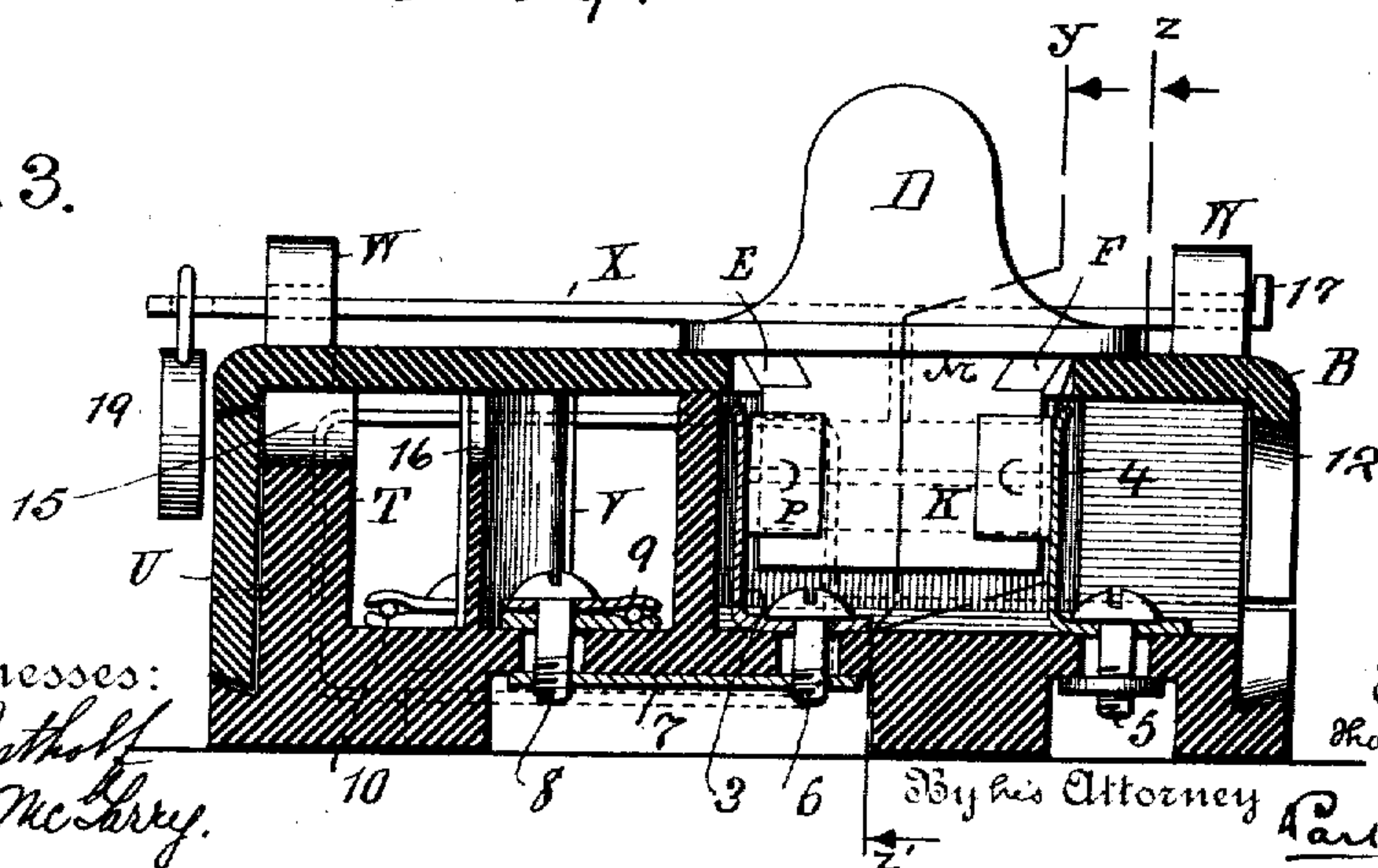


Fig. 3.



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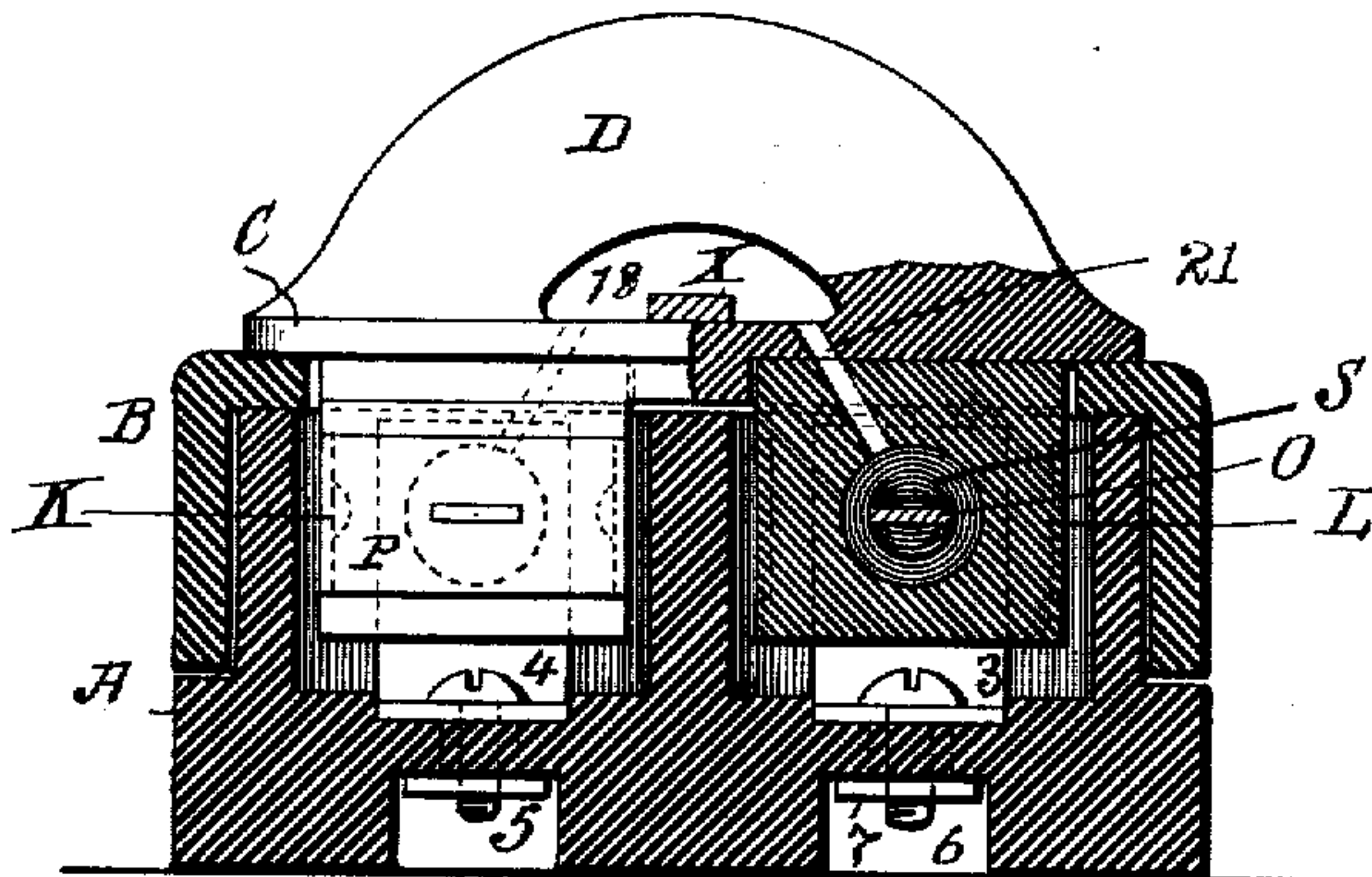


Fig. 4.

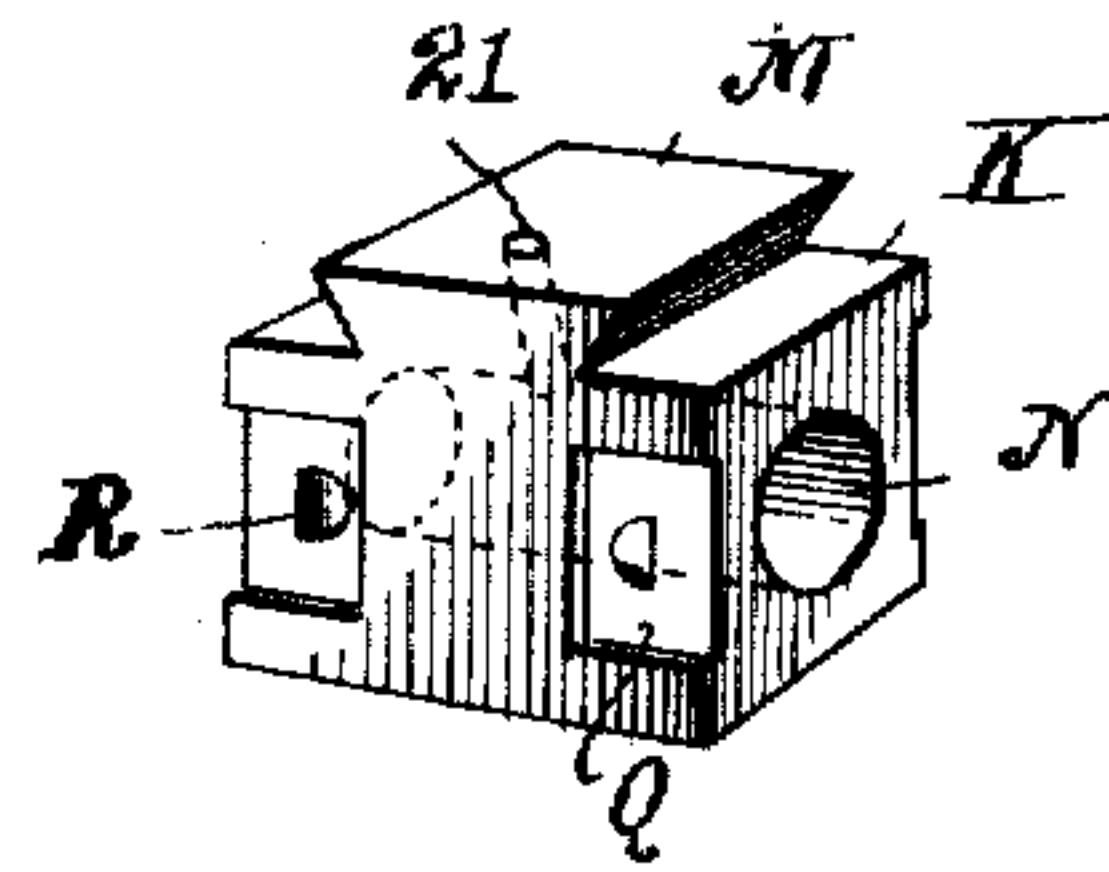


Fig. 5.

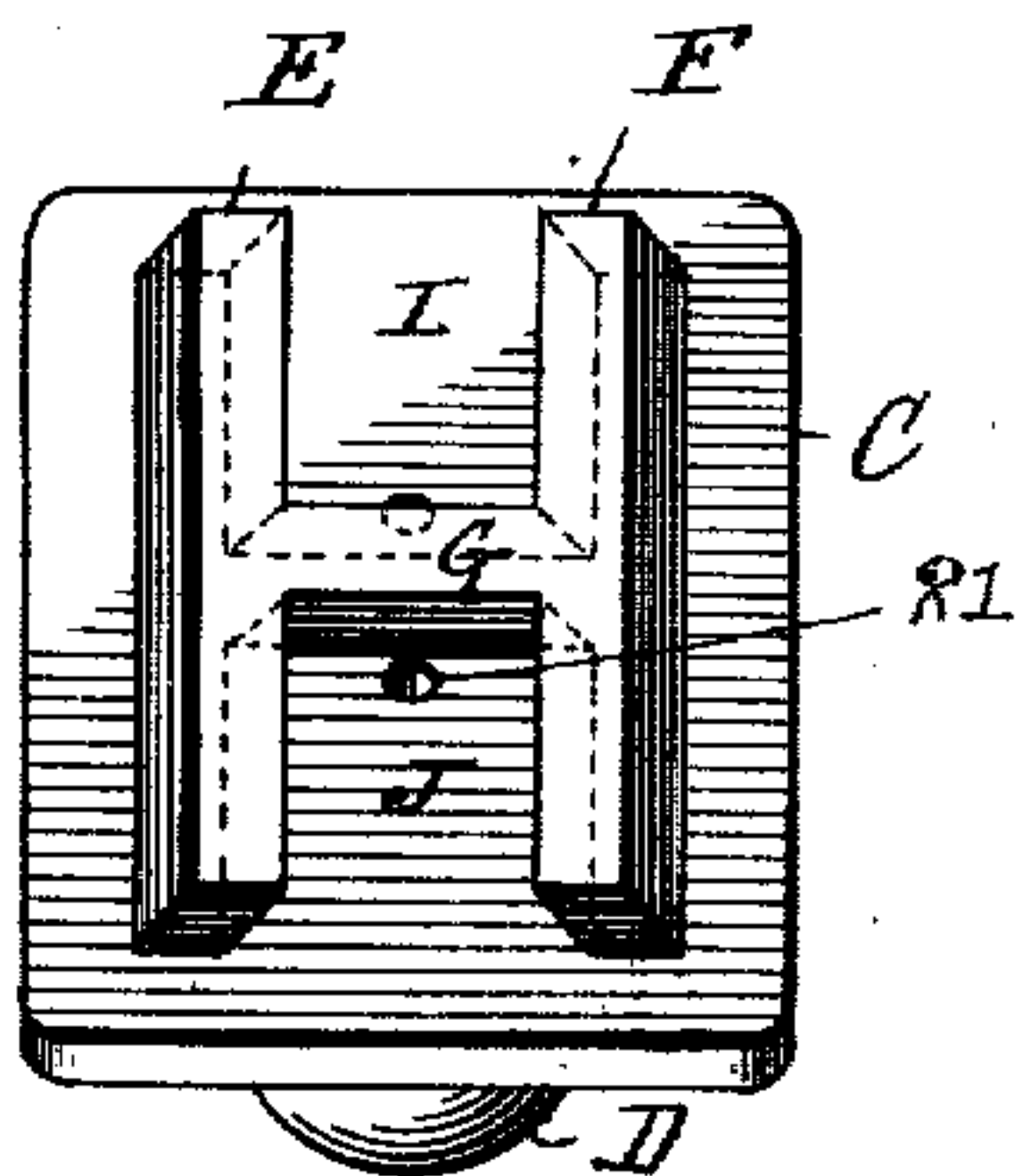


Fig. 7.

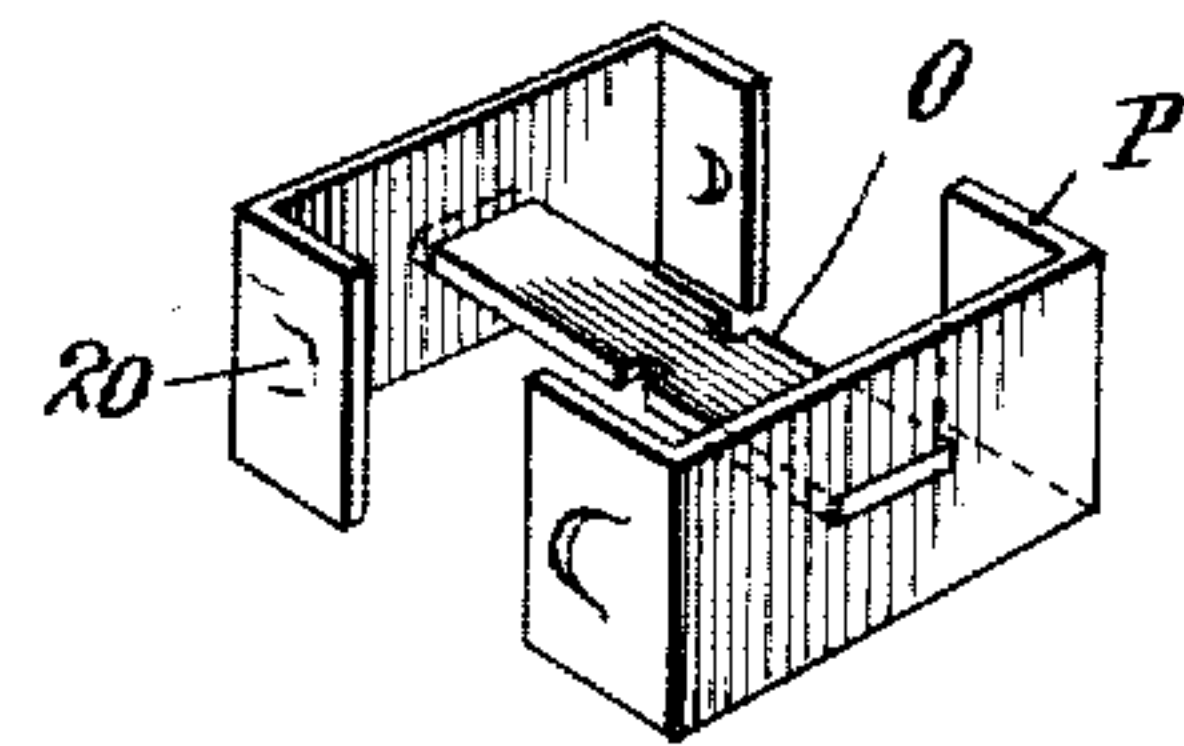


Fig. 6.

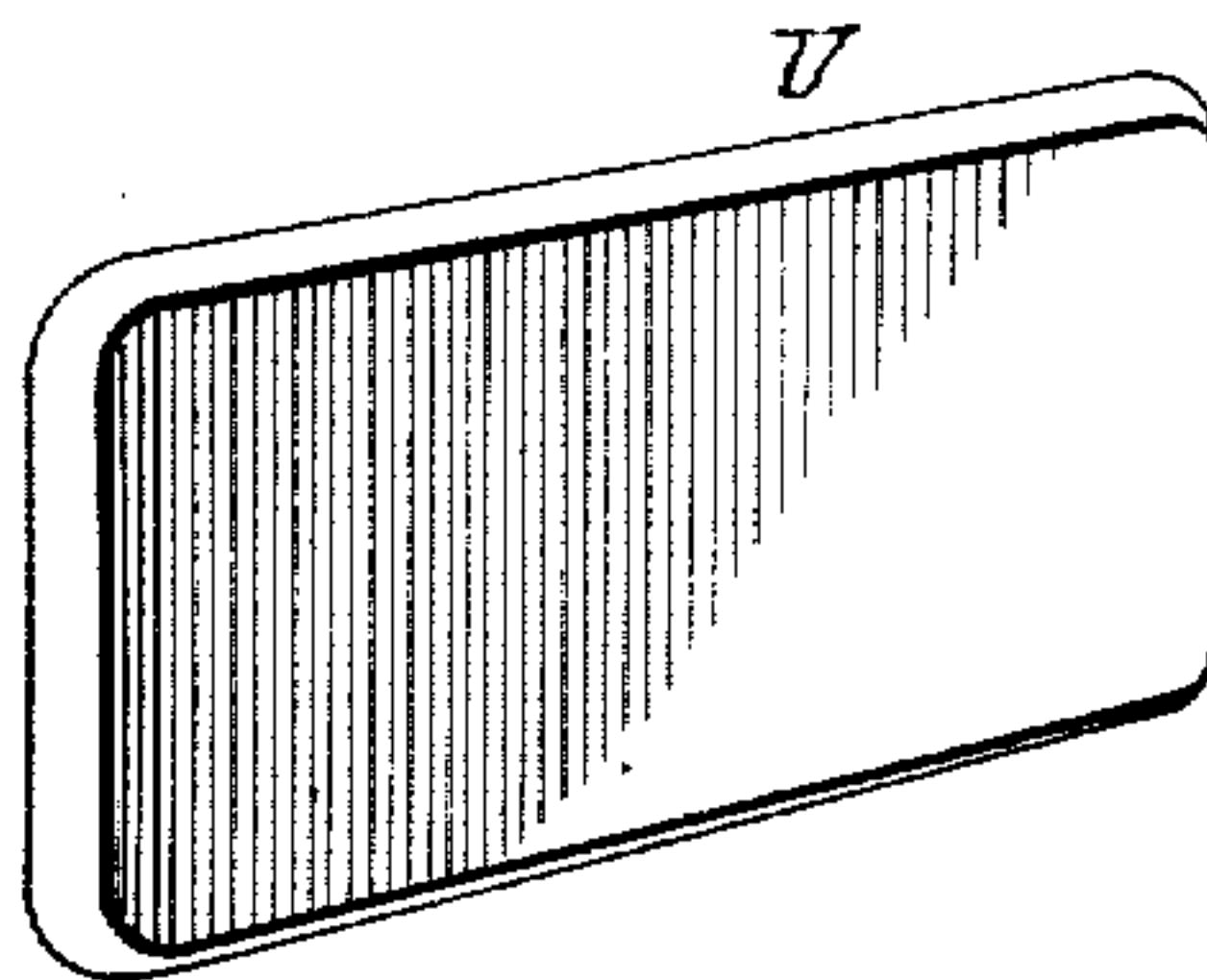


Fig. 8.

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# UNITED STATES PATENT OFFICE.

THOMAS E. MURRAY, OF NEW YORK, N. Y.

## ELECTRIC CUT-OUT.

No. 928,999.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed December 30, 1908. Serial No. 470,065.

*To all whom it may concern:*

Be it known that I, THOMAS E. MURRAY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Electric Cut-Outs, of which the following is a specification.

The invention relates to electric cut outs and consists in the novel construction of the fuse plug; in the covering of the fuse in the plug with a wrapping of fibrous incombustible material, whereby rupture of the plug on the blowing of the fuse is prevented; in the detachable connection of the plug and the plug holder; in the removable plate for closing the openings, provided for the introduction of the circuit conductors; in the means for locking plate, cover and holder in place on the base, and in the various combinations as more particularly set forth in the claims—the object of the whole being to simplify, cheapen and improve the device and to prevent access to its internal connections.

In the accompanying drawings—Figure 1 is a top view of my cut out with the cover in place. Fig. 2 is a top view with the cover removed. Fig. 3 is a section on the line x, x, of Fig. 2 showing the cover B and the plug D in place as in Fig. 1. Fig. 4, on the left hand side, is a section on the line z, z', of Fig. 3, and on the right hand side, on the line y, y', of said figure. Fig. 5 shows separately and in perspective one of the fuse plugs with the end caps and fuse removed. Fig. 6 shows said caps and fuse separately and in perspective. Fig. 7 is a bottom view in perspective of the fuse plug holder. Fig. 8 shows separately and in perspective one of the plates used to close openings in the base of the cut out, when it is not desired to carry conducting wires through said openings.

Similar numbers and letters of reference indicate like parts.

The base A is preferably made of porcelain or other fictile material and is shouldered to receive the downwardly flanged cover B of like material. The fuse plug holder, also of porcelain, comprises a flat plate C and an arched handle portion D, preferably integral therewith. On the under

side of the holder plate C, Fig. 7, are two ribs E, F and a cross rib G which form two dovetail sockets I, J. The fuse plugs K, L, Fig. 5, are formed integrally of porcelain, and each is provided on its upper side with dovetail projection M constructed to slide into one of the dovetail sockets I or J. Two fuse plugs are in this way held on the under side of the holder plate C, one in socket I and the other in socket J, and it is obvious that either or both of said plugs can be attached to or removed from the said plate, at will.

In each plug is a cylindrical transverse opening N which receives the metal fuse strip O. On each side of the plug are recesses Q to receive the turned over ends of the metal cap plate P, which cap plates extend across the end faces of the plug and close the extremities of the opening N. The fuse strip O is connected at its ends to said plates, and the plates are connected to the fuse plug by means of struck up clips engaging in corresponding depressions R formed in the recesses Q. Before the fuse strip is inserted in the opening N, it is wound with asbestos paper or other non-combustible yielding material, as shown at S, Fig. 4. Said paper envelop is used instead of the pulverized non-conducting material commonly employed in cartridge fuses. It serves to prevent the shock of explosion due to the blowing of the fuse reaching the porcelain fuse plug, and so prevents breakage of said plug, and by varying the thickness of said envelop, as by increasing or decreasing the number of layers or windings of the paper, I can vary its shock absorbing quality to suit any given conditions.

When the fuse plugs K, L are attached to the holder they are inserted through openings in the cover B into recesses 1, 2 in the base A, so that the cap plates P on each plug are received between the members of a pair of upwardly extending spring arms 3, 4. The arms 4 are bent horizontally and secured to the base A by bolts 5, which bolts may also serve to connect branch circuit wires, not shown, to said arms. The arms 3 are also bent horizontally and are connected by bolts 6 to metal strips 7 on the under side of the base, which strips are also connected by



bolts 8 to clips 9, in which clips the main circuit wires 10, 11 are secured.

The branch wires, not shown, which connect with the horizontal portions of arms 4, may enter the base through an opening 12 formed partly in said base and partly in the flange of cover B. On the opposite end of the base is a recess 13 formed in the outer face of the end wall T, and continued by an opening in the cover flange. In the end wall T are openings 14, 15, and in the partition wall V which lies between the main circuit conductors 10, 11 is an opening 16 in line with opening 15. The object of openings 14 and 15, 16 is to enable circuit wires to be led into the base to connect directly with clips 9. When the branch circuit wires are connected to the spring arms 3, 4, the recess 13 is closed by means of a porcelain plate U, Fig. 8, having inclined edges to fit in the correspondingly inclined edges of said recess. Said plate is inserted in place before the cover B is put in position, and by reason of the inclination of the edges above noted, is held in said recess. When the branch wires are led directly to the clips 9 through the openings 14 and 15, 16, the plate U is inserted and held in like manner in the opening 12 in the other end of the box.

At each end of the base are upwardly projecting lugs W which pass through openings in the cover B when said cover is in place. A locking bar X, having a head 17 at one end and an aperture near the other end, is passed through openings in said lugs and the opening 18 in the fuse plug handle, and is secured against withdrawal by the shackle of any suitable seal fastening 19 received in the aperture near its end.

The area of the plug holder plate C is to be sufficiently large to cause the plate completely to cover the sockets in the base which receive the fuse plugs, as shown in Fig. 1. The fuse plug, Fig. 5, is a simple small block of porcelain or like material, and after the blowing of its contained fuse, is intended to be thrown aside, and a new one is provided with new fuse substituted. The wrapping of the fuse strip with asbestos paper is an improvement over embedding said strip in a pulverized non-combustible material; since the thickness of the paper may be regulated at will, it affords ample protection for the porcelain plug, and is more conveniently applied. The inclined passage 21, Fig. 4, formed in the fuse plug is to permit the gas due to explosion of the fuse to escape and mark the under side of the handle, thus indicating visually the fact that the fuse has blown. The plate U closes the openings for the branch wires not in use, and thus prevents access through said openings to the interior of the base. The single locking rod secures in place the fuse plug holder, and

fuse plugs thereon, the cover and the plate U, and any unauthorized removal of said rod is indicated by the breakage of the seal fastening 19.

I claim:

1. In a fuse plug, a casing of fictile material, metal terminals at the ends thereof, a fuse strip in said casing and connected at its ends to said terminals, and a wrapping of fibrous incombustible material surrounding said fuse strip and filling the said casing.

2. In an electric cut out, a base having a socket and circuit terminals therein, a fuse plug constructed to enter and fit said socket and make contact with said terminals, a fuse plug holder closing said socket, and a device for detachably connecting said plug and holder.

3. In an electric cut out, a base having a socket and circuit terminals therein, a fuse plug constructed to enter and fit said socket and make contact with said terminals, a fuse plug holder comprising a handle and a bottom plate the said bottom plate closing said socket, and means on the under side of said plate for detachably engaging with said fuse plug.

4. In an electric cut out, a base having a socket and circuit terminals therein, a fuse plug constructed to enter said socket and make contact with said terminals, a fuse plug holder comprising a handle and a bottom plate having a dove-tail socket on its under side, and a fuse plug having a dove-tail projection constructed to enter said socket.

5. In an electric cut out, a base having an opening for the introduction of circuit conductors, a cover having a depending flange cut away to form part of said opening, a removable plate constructed to enter and fit said opening, and means for locking said plate in said opening.

6. In an electric cut out, a base having an opening for the introduction of circuit conductors, a cover having a depending flange cut away to form part of said opening, a removable plate constructed to enter and fit said opening, and means for locking said plate in said opening and said cover on said base.

7. In an electric cut out, a base having an opening with inclined edges for the introduction of circuit conductors, a cover having a depending flange cut away to form part of said opening, a removable plate having inclined edges constructed to enter and fit said opening, and means for locking said plate in said opening and said cover on said base.

8. In an electric cut out, a base having an opening for the introduction of circuit conductors, a cover having a depending flange cut away to form part of said opening, a removable plate constructed to enter and fit

in said opening, a fuse plug holder, a fuse plug carried by said holder, sealed in said base and passing through an opening in said cover, and means for locking said cover, said plate  
5 and said holder in place.

9. In an electric cut out, a base having openings in its end wall for the introduction of circuit conductors and a shoulder below said openings, a cover having a depending  
10 flange cut away to expose said openings, a

removable plate constructed to enter and fit in the recess formed by said shoulder and the edges of the cut away portion of said flange, and means for locking said plate in place.

In testimony whereof I have affixed my 15 signature in presence of two witnesses.

THOMAS E. MURRAY.

Witnesses:

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