

No. 864,261.

PATENTED AUG. 27, 1907.

W. H. RINGWOOD.
ELECTRICAL CUT-OUT SWITCH.

APPLICATION FILED NOV. 22, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

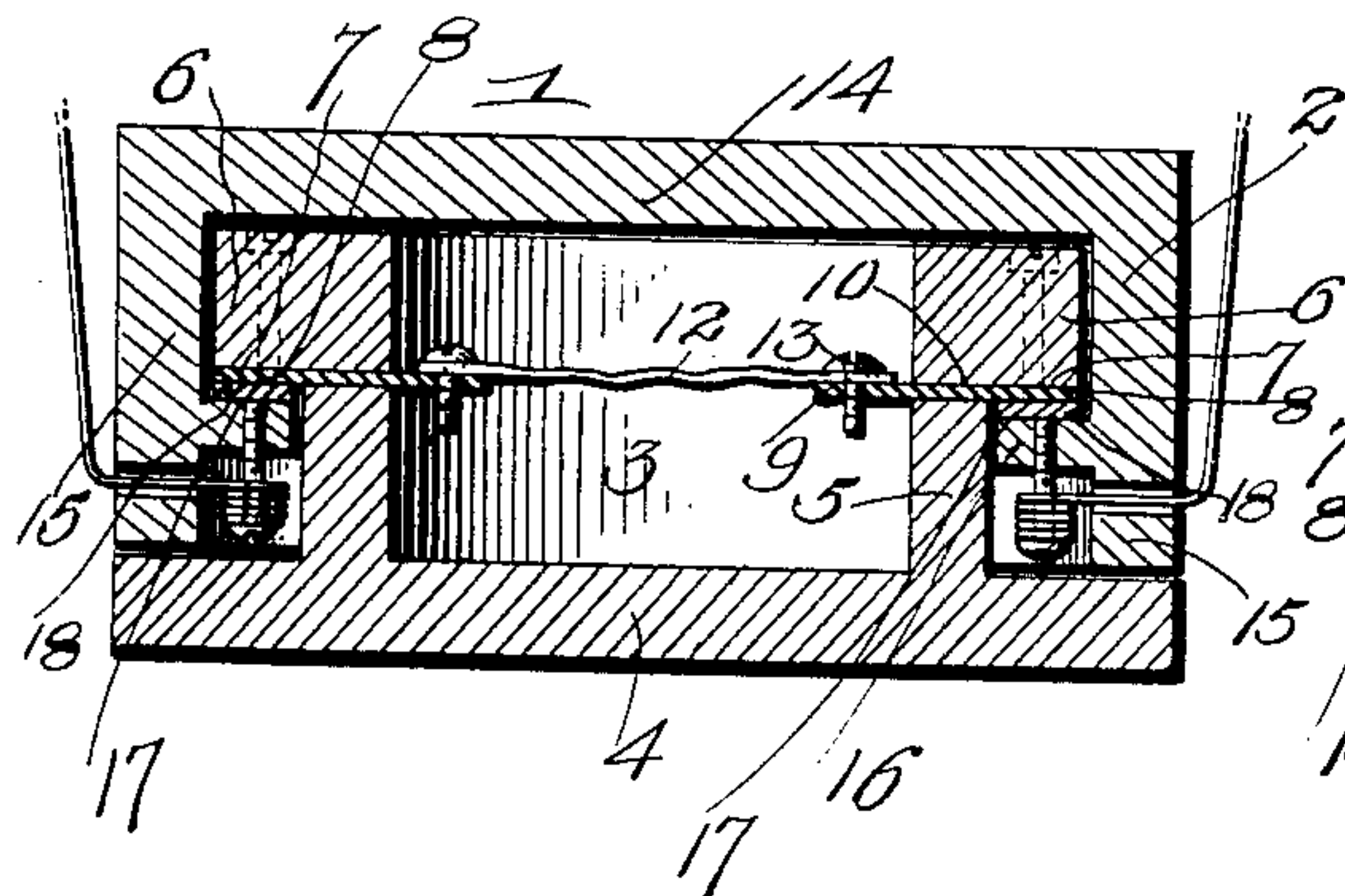


Fig. 2.

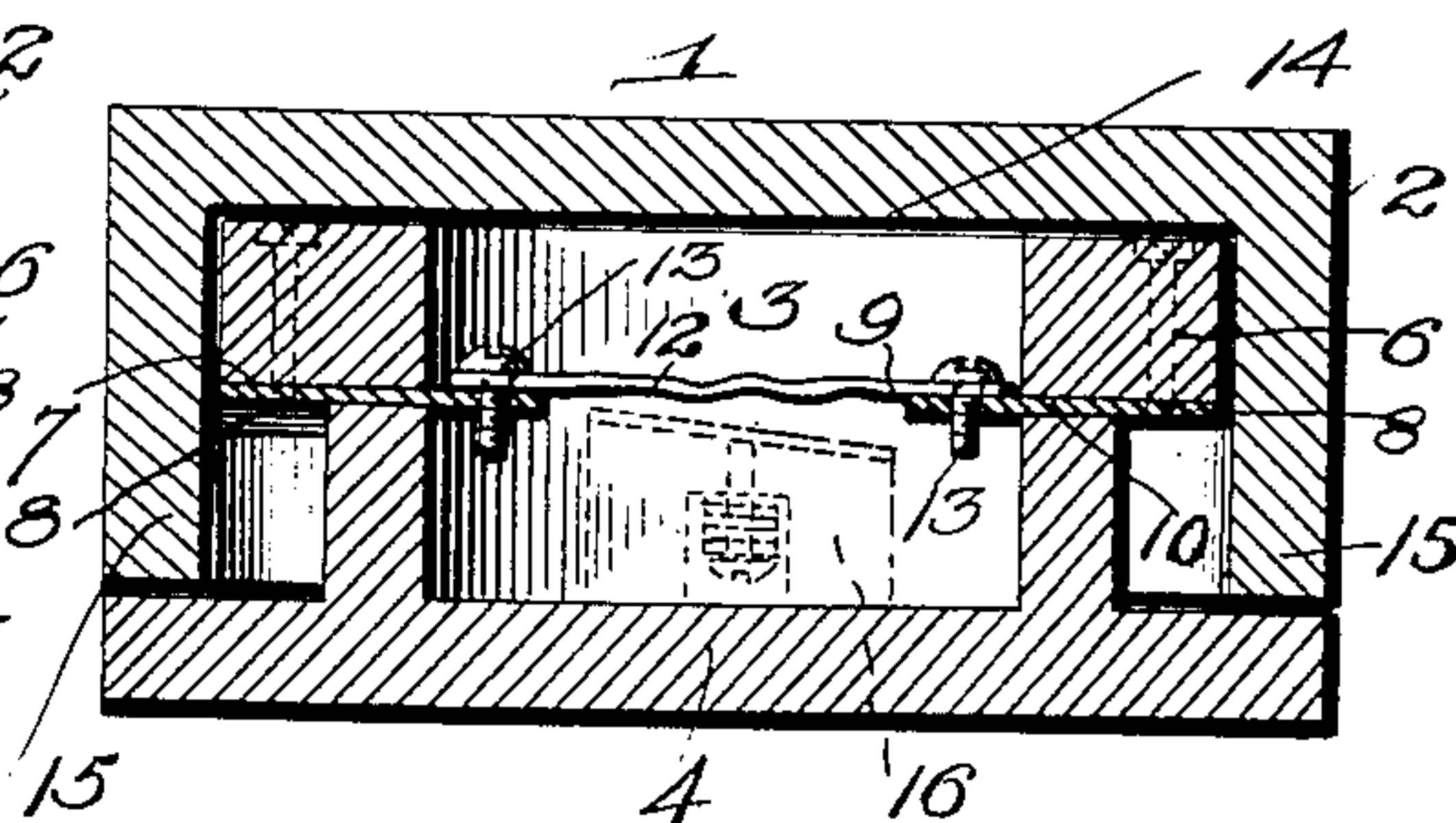


Fig. 3.

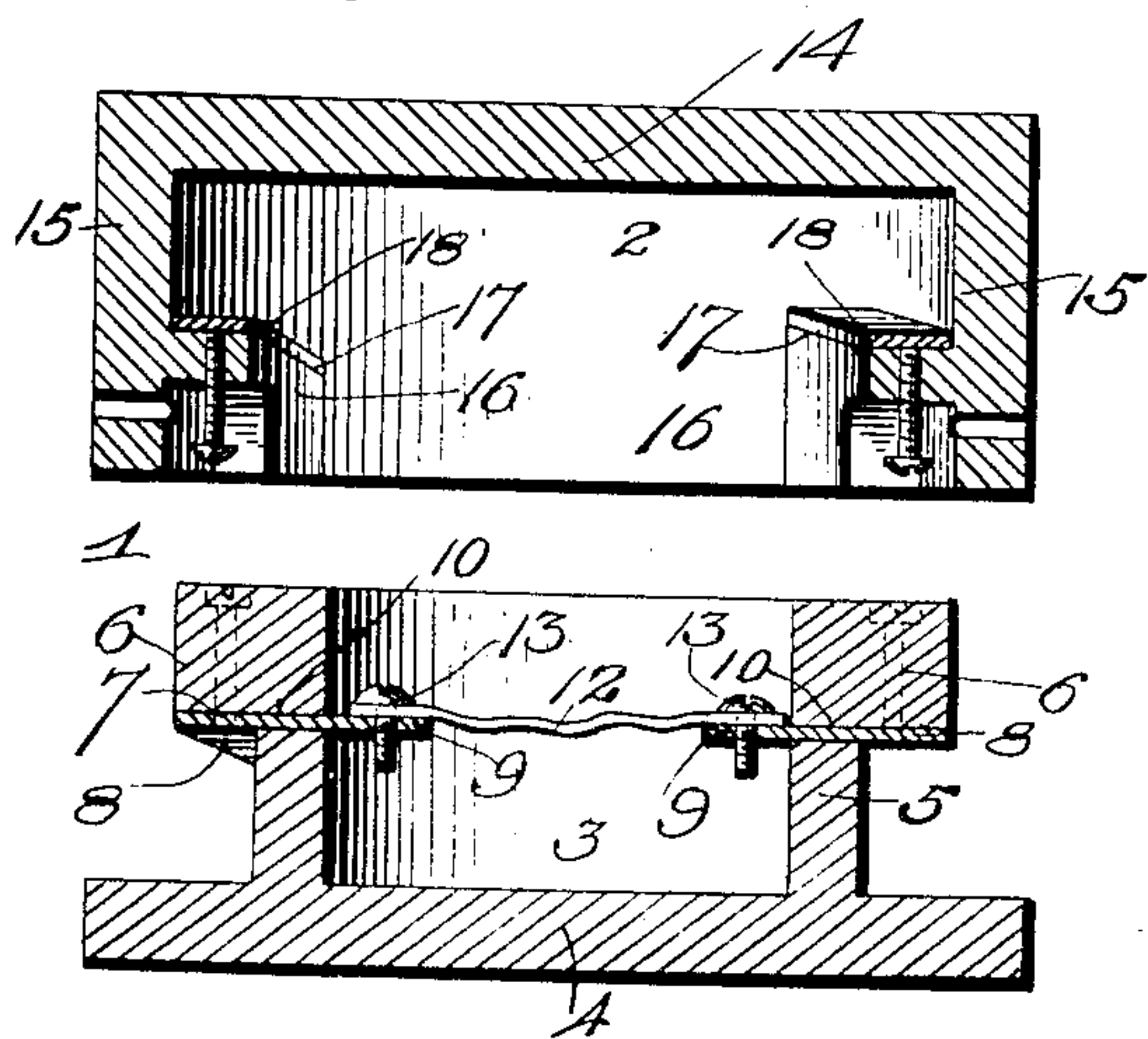
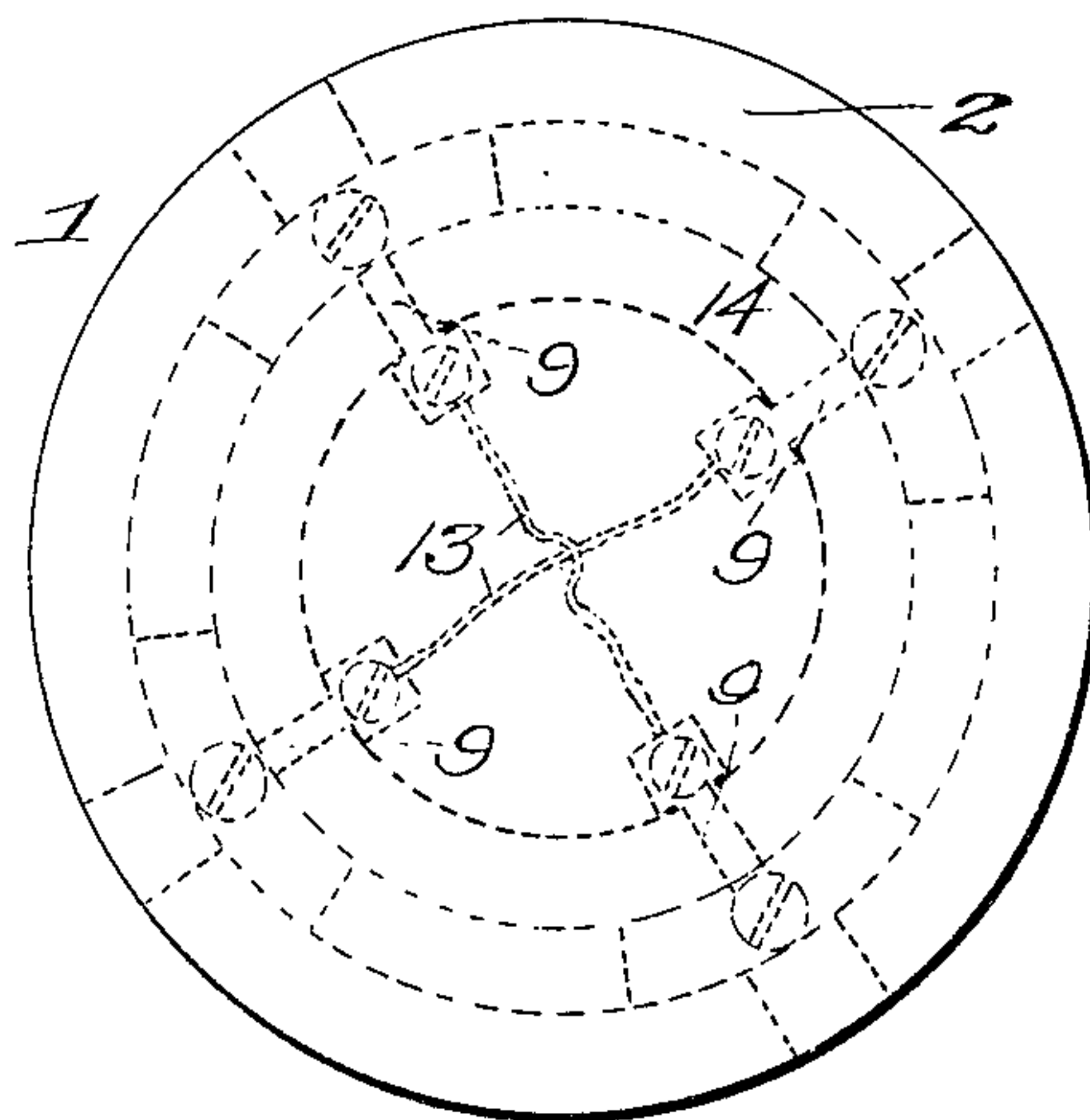


Fig. 4.



Witnesses
E. E. Hunt.
C. H. Griesbauer.

Inventor
William H. Ringwood.
by *A. B. Wilson & Co.*
Attorneys

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2 SHEETS—SHEET 2.

FIG. 5.

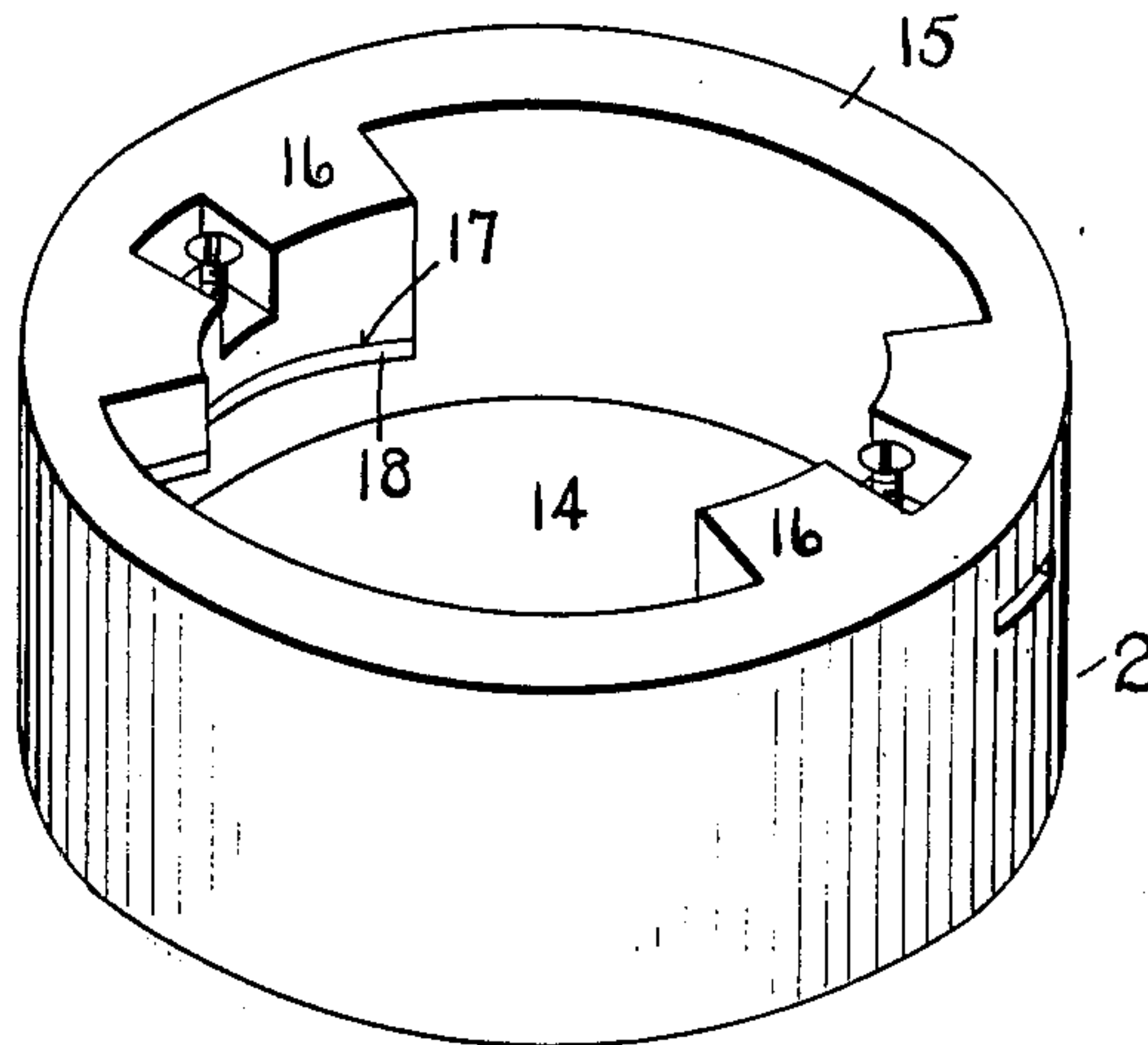


FIG. 6.

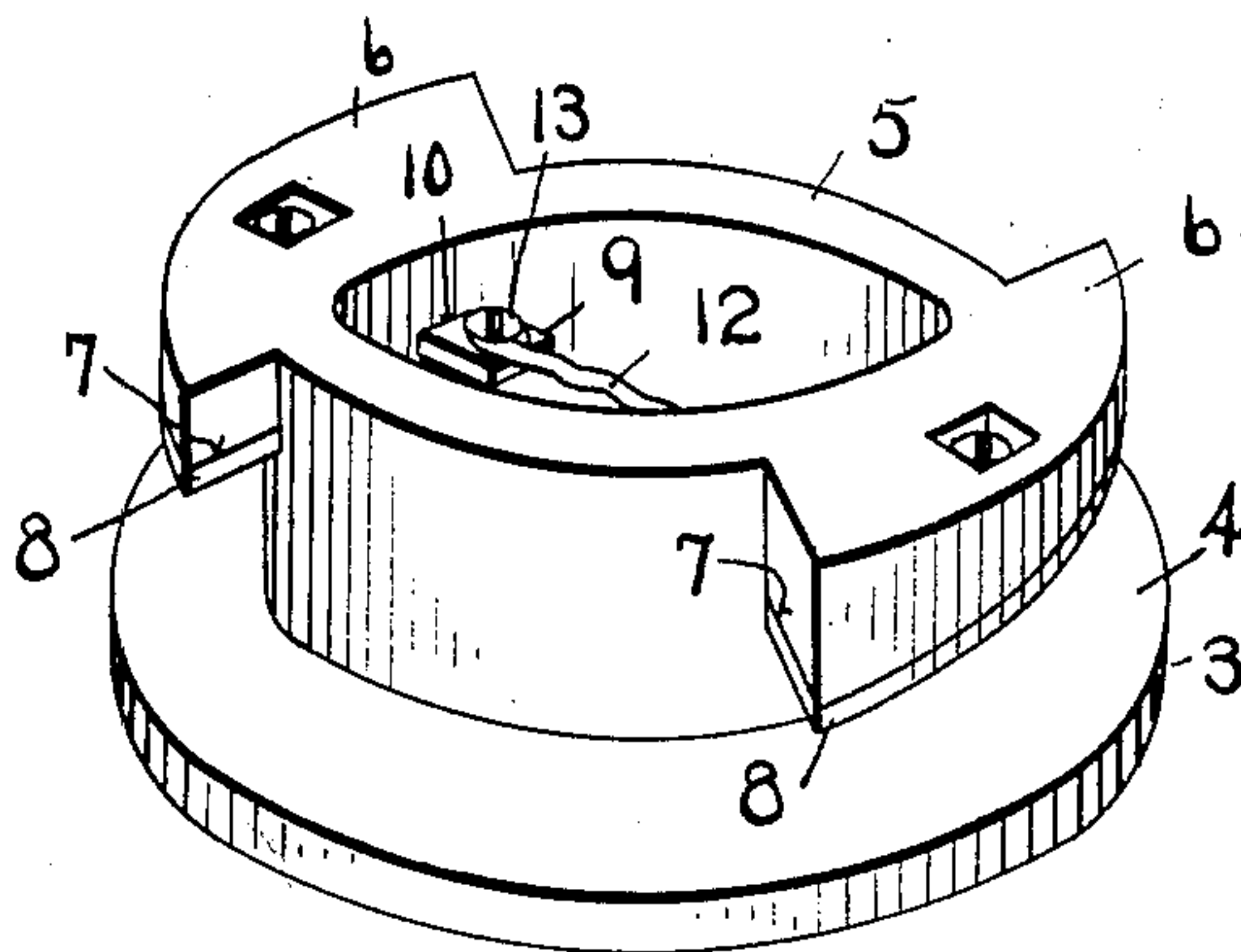
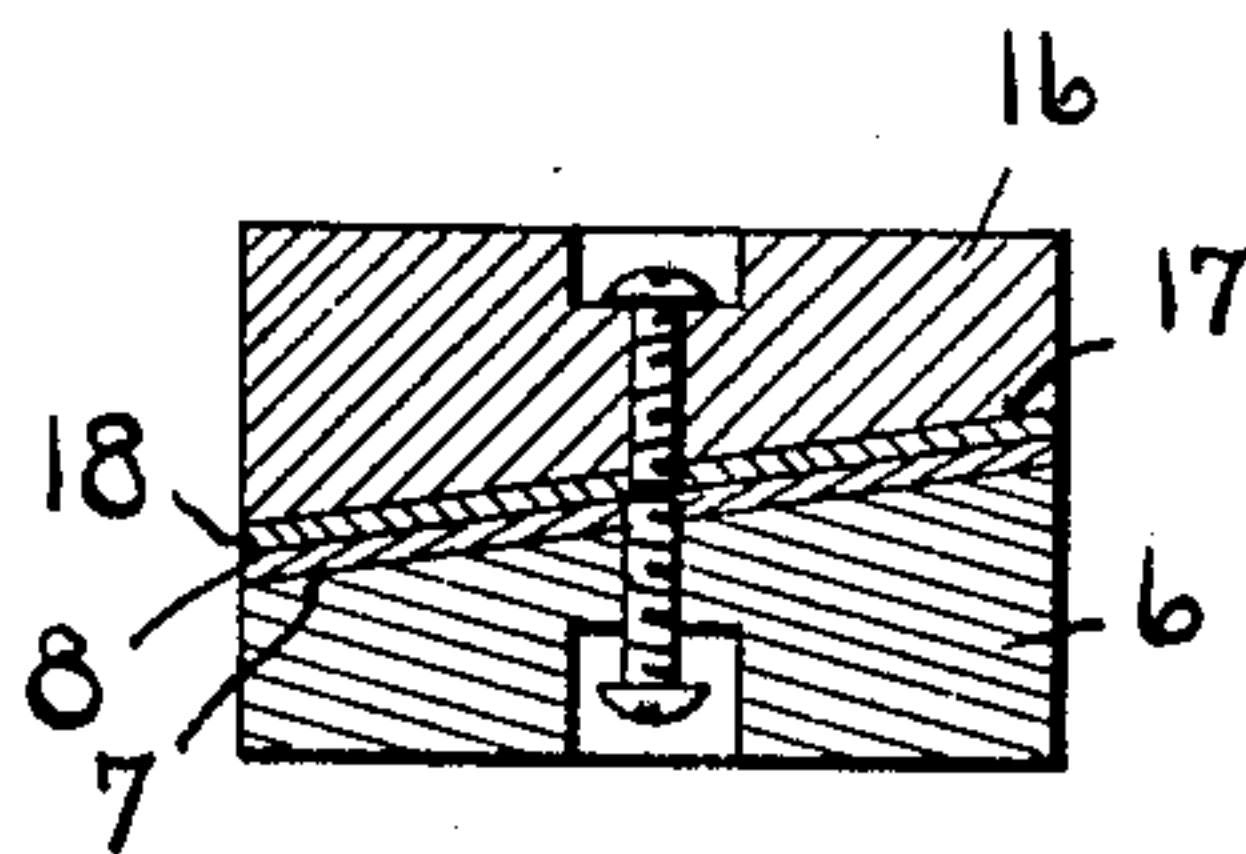


FIG. 7.



Witnesses
L. B. James
C. H. Griesbauer

Inventor
WILLIAM H. RINGWOOD
by *A. B. Wilson & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM H. RINGWOOD, OF EAST PITTSBURG, PENNSYLVANIA.

ELECTRICAL CUT-OUT SWITCH.

No. 864,261.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed November 22, 1906. Serial No. 344,592.

To all whom it may concern:

Be it known that I, WILLIAM H. RINGWOOD, a citizen of the United States, residing at East Pittsburg, in the county of Allegheny and State of Pennsylvania, have

invented certain new and useful Improvements in Electrical Cut-Out Switches; and I do 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 it appertains to make and use the same.

This invention is an improved electrical cut-out switch.

The object of the invention is to provide a device of this character, by means of which one or more poles or lines of an electric circuit may be quickly and easily connected to fuses.

With the above and other objects in view, the invention consists in certain novel features of construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawings,—Figure 1 is a vertical sectional view of a cut-out switch constructed in accordance with the invention, showing the parts in an operative position; Fig. 2 is a similar view, showing the parts in an inoperative position; Fig. 3 is a similar view, showing the parts or sections of the switch detached or separated; Fig. 4 is a plan view of the switch, showing in dotted lines the arrangement of the fuse connections when both poles or lines of the circuit are to be connected by fuses. Fig. 5 represents a perspective view of the upper section in inverted position; Fig. 6 represents a similar view of the lower section; Fig. 7 represents a detail sectional view, showing the coacting cam lugs in operative position.

Referring more particularly to the drawings, 1 denotes the switch, which consists of an upper or outer section 2 and a lower or inner section 3 adapted to be engaged by the upper section when the parts of the switch are in position for use. The lower or inner section 3 comprises a base-portion 4, on the upper side of which is formed an annular concentric, upwardly-projecting flange 5. On the outer side of the flange 5 at diametrically opposite points are formed two or more laterally-projecting lugs 6, the lower sides or faces of which are beveled to form cam-surfaces 7. Secured to the cam-surfaces 7 of the lug 6 are upper contact plates 8 that are provided on one end with right angular projections 9 which extend inwardly through apertures 10 in the flange 5 of the lower section, and are connected at their inner ends by a fuse 12. This fuse 12 is removably connected to the projections 9 by screws 13 or other suitable fastening devices.

The upper section or member of the switch is in the form of a cap and comprises a top piece 14, on which is formed a downwardly-projecting annular flange 15. The inner diameter of the flange 15 is equal to

or slightly greater than the distance between the outer faces of the lugs 6 on the flange 5 of the lower section, so that said upper section or cap may be readily slipped down onto the lower section. At diametrically opposite points on the inner wall of the flange 15 adjacent to the lower edge thereof is formed two or more inwardly-projecting lugs 16, the upper sides of which are beveled to form the cam surface 17. On the cam-surface 17 are arranged lower contact plates 18, which when the upper section or cap of the switch is placed on the lower cap and turned in the proper direction are adapted to be brought into tight frictional engagement with the upper contact plates 8 on the lower sides of the lugs 6 of the lower section, thereby providing an electrical connection or engagement between the contact plates of the upper and lower section of the switch. The ends of the poles or lines of the circuit in which the switch is arranged are connected to the contact plates 18 of the upper section in any suitable manner, so that the current in passing through the pole or line must pass through the contact plates 8 and 18 and through the fuse wire connecting the plates 8 of the lower section.

In Figs. 1, 2 and 3 of the drawings, the switch is shown as being constructed and arranged for connecting the fuse with but one pole or line of the circuit, while in Fig. 4 is shown the manner in which both poles or lines of the circuit may be connected by fuses, and it will also be obvious that by increasing the number of cam-lugs and contact plates that any number of poles or lines may be adjustably connected by fuses. The arrangement of the cam lugs on the opposite sections of the switch provides for the engagement and disengagement of the fuses with the ends of the poles or lines of the circuits, thus providing a detachable cam connection for one or more electric poles.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention, as defined by the appended claims.

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

1. A detachable cam connection for electrical poles comprising inner and outer sections adapted to fit one within the other, laterally projecting lugs formed on the outer wall of the inner section and the inner wall of the outer section, one of the lugs on one of said sections having a cam surface which, when one section is turned upon

the other, will be brought into frictional engagement with a lug on the other section, and contact plates arranged on said cam surface and on the coacting lug of the other section.

- 5 2. A detachable cam connection for electrical poles, comprising inner and outer sections adapted to fit one within the other, laterally projecting lugs formed on the outer wall of the inner section and on the inner wall of the outer section, said lugs having cam surfaces, which
10 when one section is turned upon the other, will be brought into frictional engagement, contact plates arranged on said cam surfaces, a fuse connecting the contact plates of one section, and means for connecting the electrical poles to the plates of the other section.
15 3. A cut-out switch for electrical circuits comprising an inner section having a base and an upwardly-projecting annular flange, and an upper section in the form of a cap adapted to be fitted on the flange of the lower section, inwardly-projecting lugs formed on the inner wall of said
20 cap or upper section, outwardly-projecting lugs formed on

the outer wall of the flange of said lower section, cam or inclined surfaces formed on the opposing faces of said lugs, contact plates arranged on the inclined surfaces of the lugs of the inner section, inwardly-extending projections on said contact plates, a fuse detachably connected 25 to the inner ends of said projection, contact plates arranged on the cam surfaces of the lugs on said cap or outer section, whereby when the latter is turned in the proper direction, said plates will be brought into frictional engagement with the plates of the lower section, 30 and means to connect the ends of the electrical poles or circuit wires to the contact plates of the outer section, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. RINGWOOD.

Witnesses:

WILLIAM ADAMS,
FRANK E. SIX.