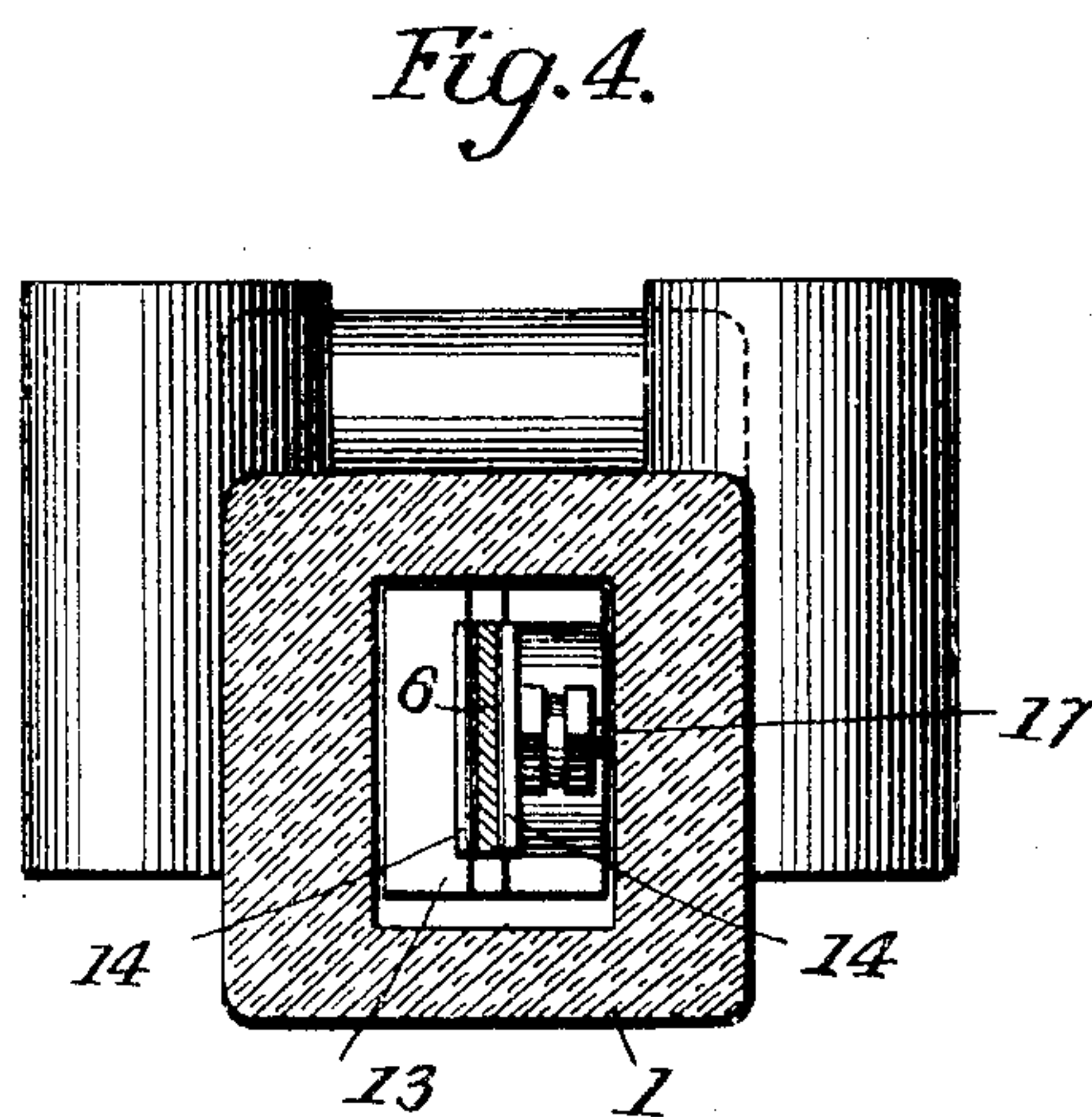
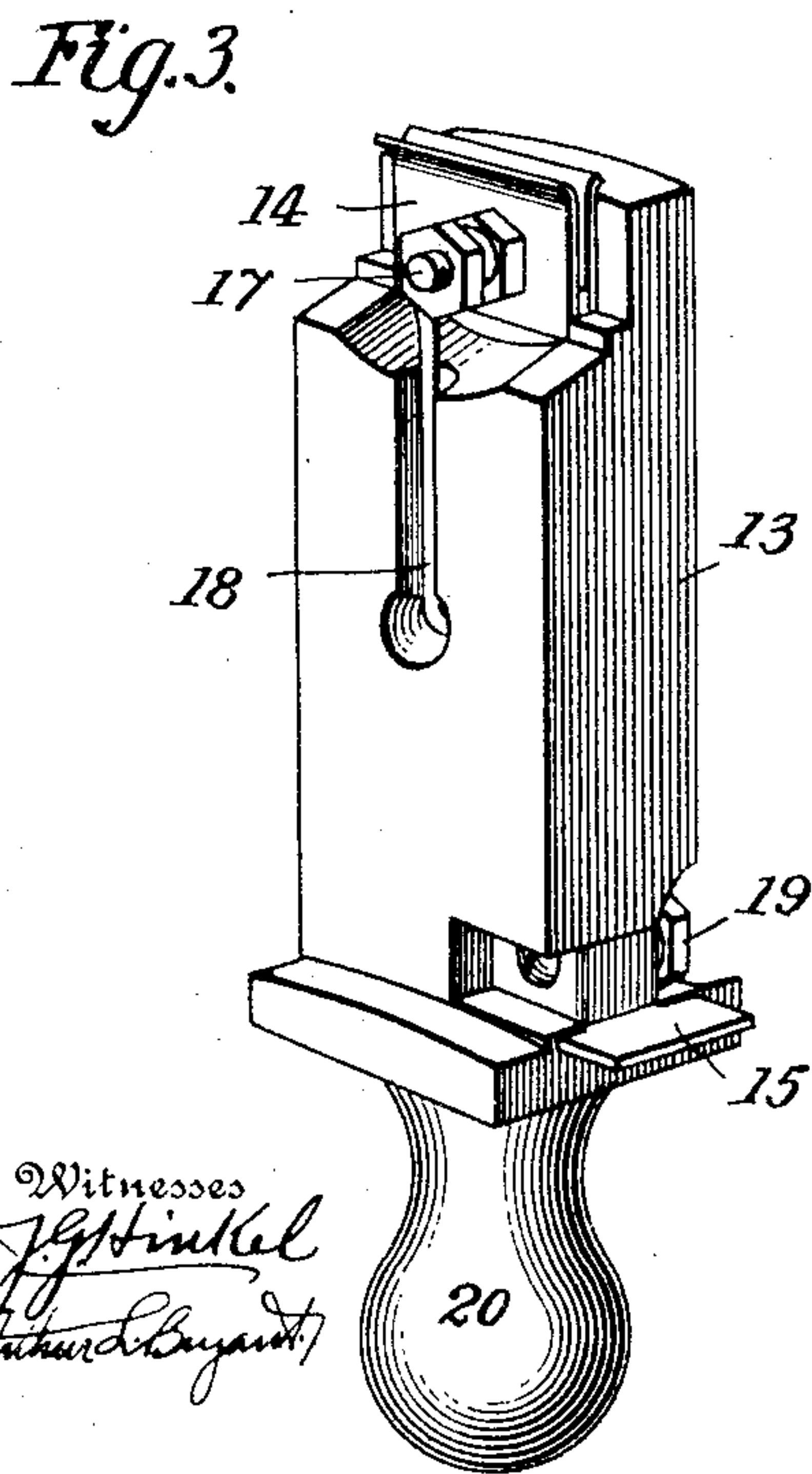
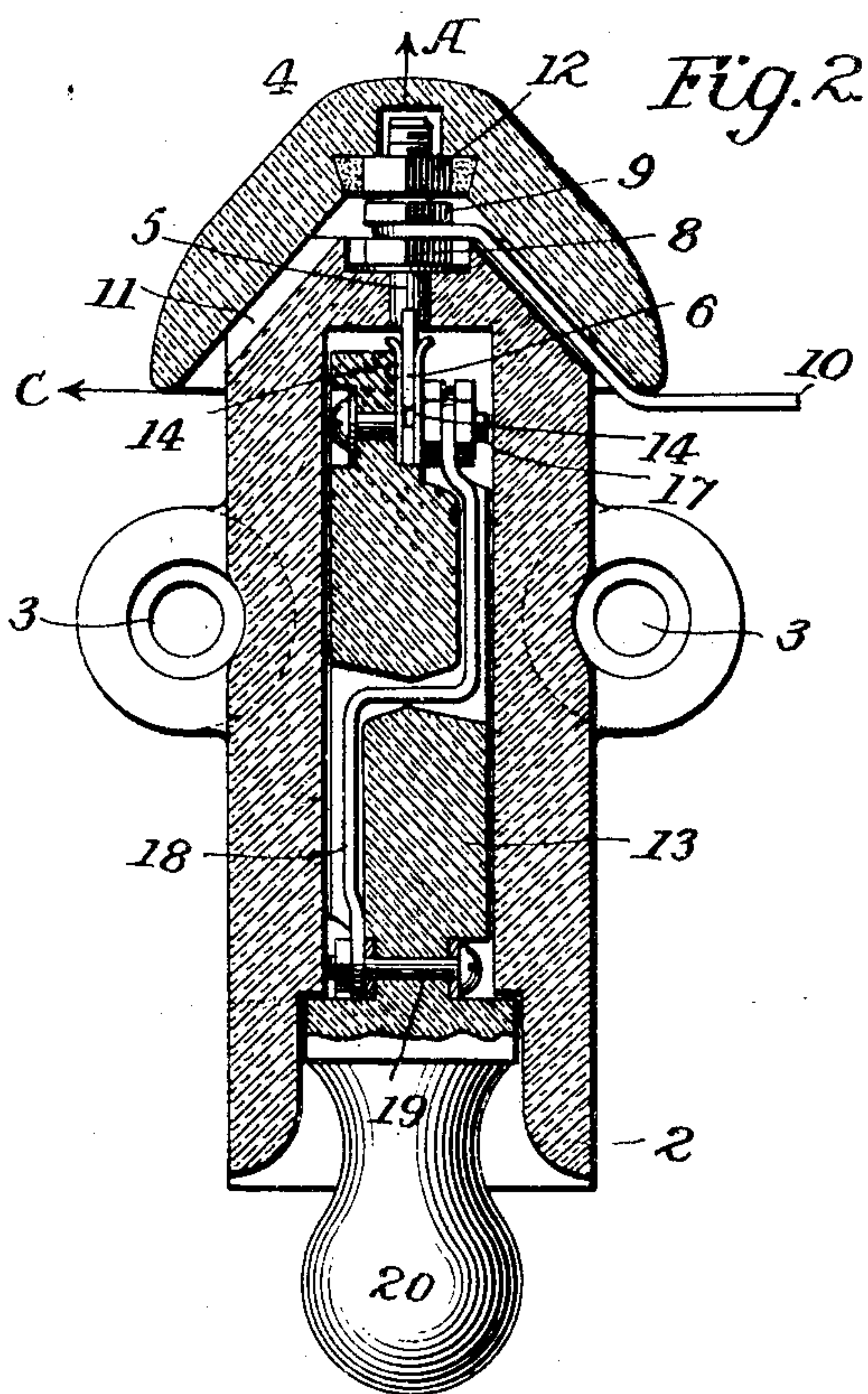
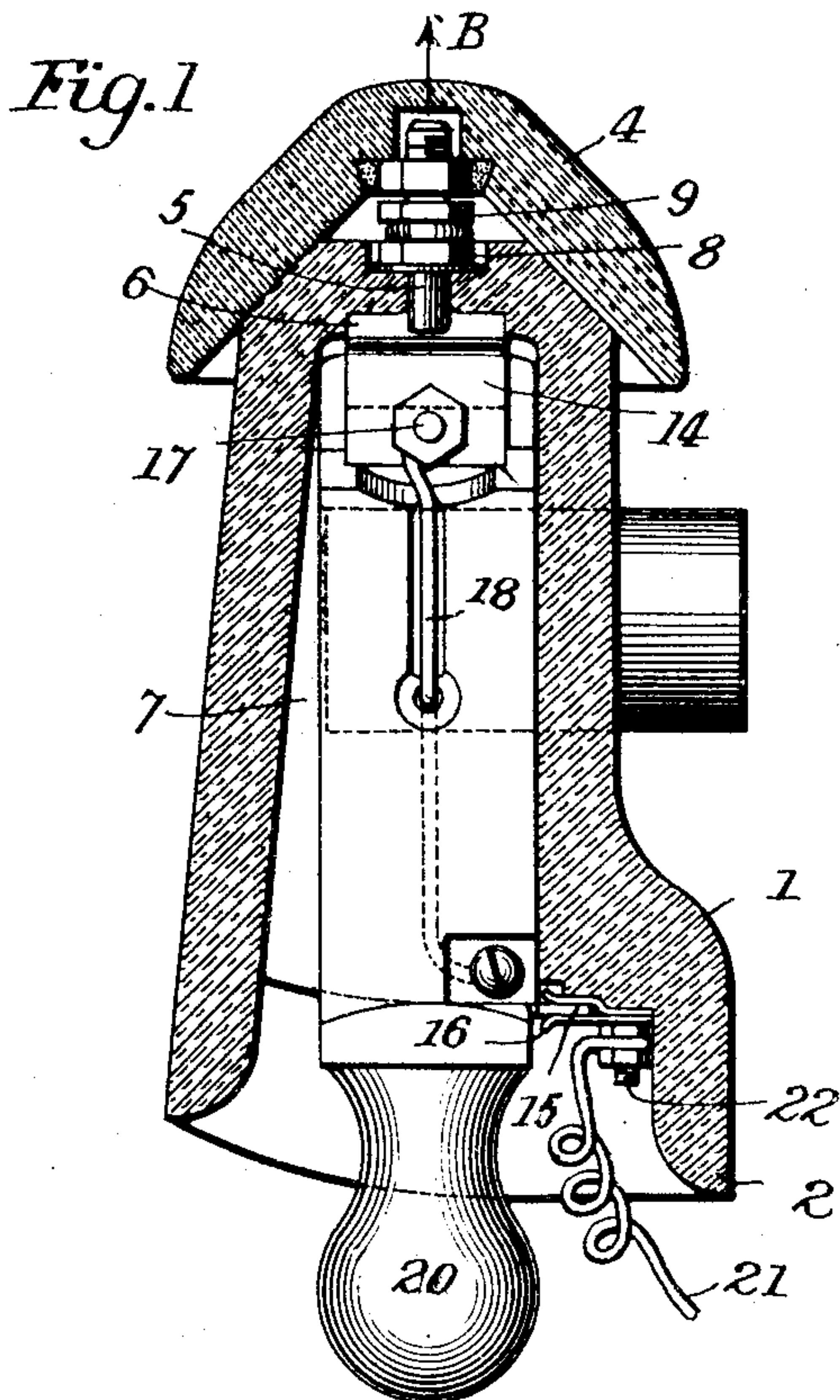


No. 789,295:

PATENTED MAY 9, 1905.

W. D. PACKARD.
ELECTRICAL CUT-OUT.
APPLICATION FILED MAY 8, 1903.

2 SHEETS—SHEET 1.



Witnesses
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2 SHEETS—SHEET 2.

Fig. 5

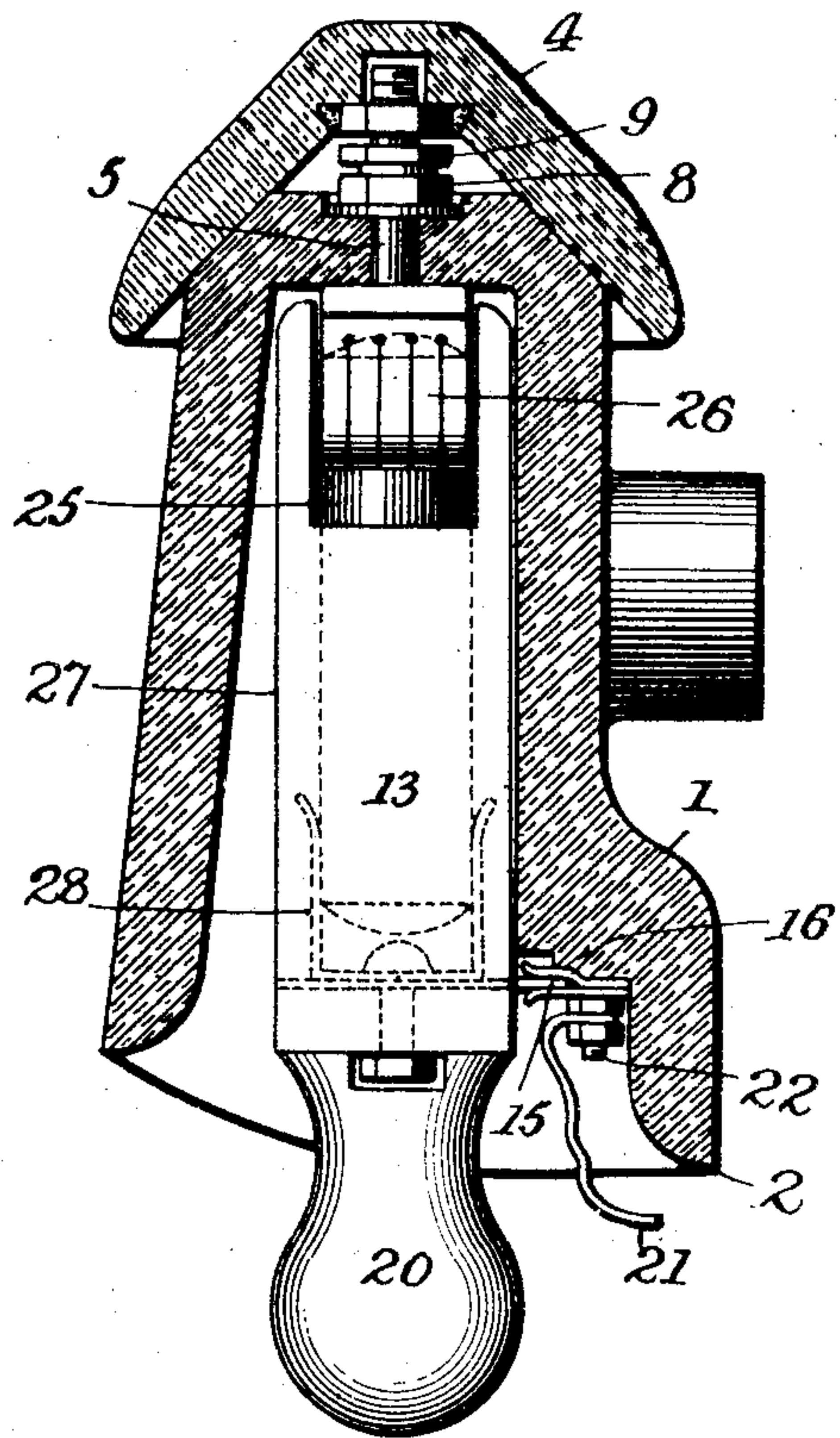
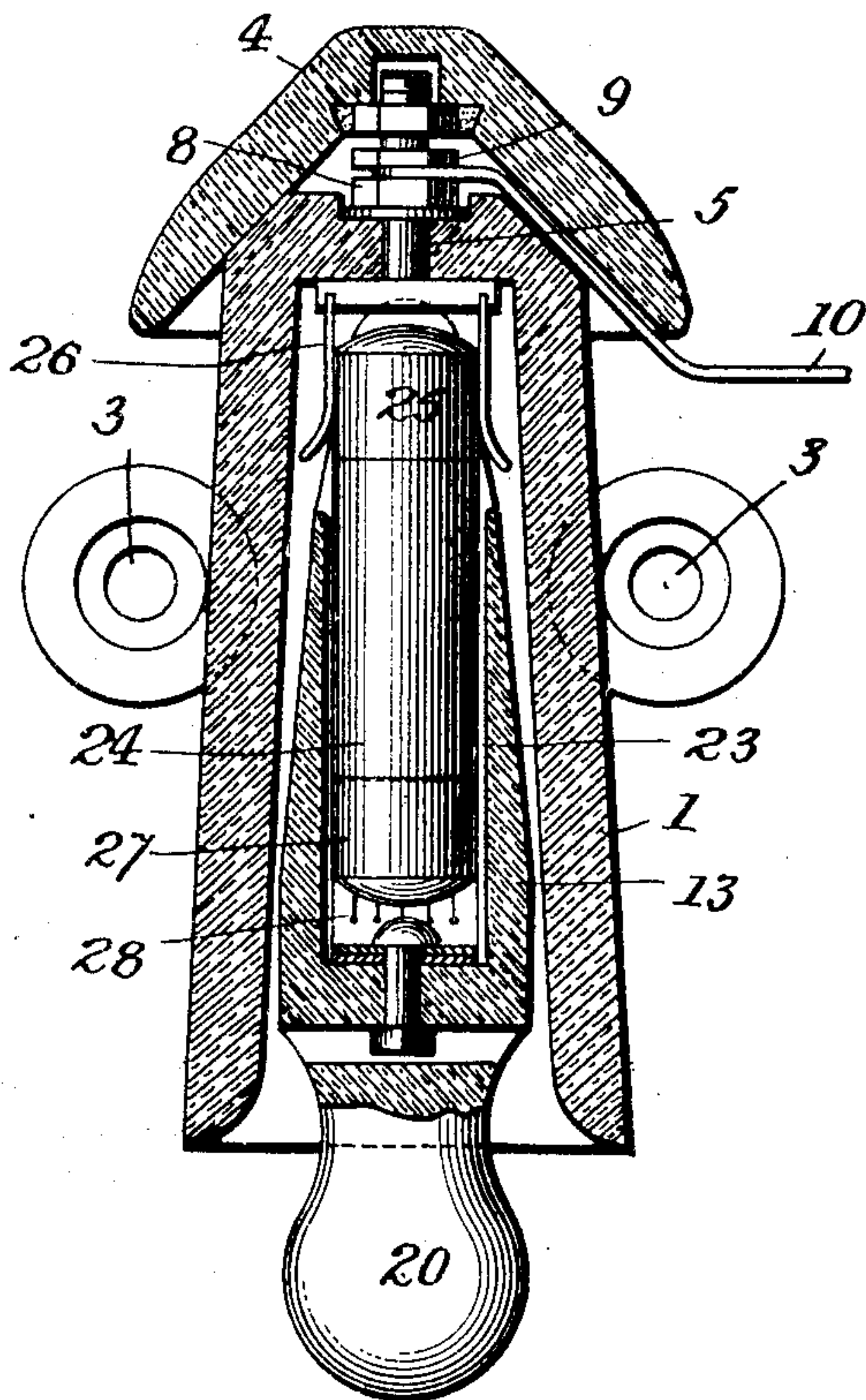


Fig. 6



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UNITED STATES PATENT OFFICE.

WILLIAM D. PACKARD, OF WARREN, OHIO.

ELECTRICAL CUT-OUT.

SPECIFICATION forming part of Letters Patent No. 789,295, dated May 9, 1905.

Application filed May 8, 1903. Serial No. 156,287.

To all whom it may concern:

Be it known that I, WILLIAM D. PACKARD, a citizen of the United States of America, and a resident of Warren, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Electrical Cut-Outs, of which the following is a specification.

The present invention is particularly applicable for use with transformers for high-tension currents, although certain of its features may be used in other classes of switches and cut-outs.

The invention will be described in detail in connection with the accompanying drawings, in which—

Figure 1 is a vertical section on the line A of Fig. 2. Fig. 2 is a similar section on the line B of Fig. 1. Fig. 3 is a perspective view of the switch-lever removed from its casing, and Fig. 4 is a section on the line C of Fig. 2. Figs. 5 and 6 are views similar to Figs. 1 and 2, showing a different form of switch-lever.

The particular form of switch or cut-out illustrated in the drawings is designed for outdoor use, provision being made for keeping out rain and for connecting it to poles or buildings.

The parts are connected to a casing or body 1, which is preferably constructed of porcelain or other durable non-conducting material. The body is generally bell shape, being closed at the top and provided with a skirt 2, extending below the electrical connections to prevent access of water to them. It is provided with suitable openings 3 for supporting-screws. A circular cap 4 is connected to the body, the rim or skirt of the cap extending beyond the body to shed water. The upper end of the body is partially tapered or conical, and the cap has a conical recess on the under side in which the body fits. A plug or stem 5 of conducting material extends through a central vertical opening in the top of the body, the upper end of the stem being threaded, while the lower end is in the form of a flat blade 6, extending into the central opening 7. The stem 5 is connected to the body by a nut 8, and a second nut 9 is provided for clamping the incoming

conductor 10 to the stem. The conical top of the body is provided with one or more grooves 11 to receive the conductor. The cap 4, which is also formed of porcelain or other durable non-conducting material, is provided with a threaded opening adapted to engage with the spindle 5. As shown, a nut 12 is embedded or cemented in the cap for this purpose.

A switch-lever 13, which is formed of porcelain, fiber, or other suitable non-conducting material, is provided with clips 14 at its upper end which receive between them the blade 6, and at its lower end it is provided with a blade 15, which coöperates with clips 16 on the body. The clips 14 are of spring material and are provided with a binding-post 17, from which a conducting-wire 18 extends to a second binding-post 19, connected with the blade 15. The parts 6 and 14 form a "knife-switch" and have a sufficient frictional engagement to sustain the lever in its working position in the cut-out and also to hold it in any position it may be placed—that is, either with the circuit open or closed. The knife-switch 15 16 is arranged at right angles to the switch 5 14, and the latter forms the pivotal point about which the lever works to open and close the former. In both cases we have a rubbing contact which keeps the parts in good working order. The lever can be removed by simply opening the switch 15 16 and then pulling it out of the casing, thus providing for inspection or repairs and also providing for permanently breaking the circuit when it is desired to do so. The switch-lever is provided with a suitable handle 20, extending below the skirt of the casing. The terminal 21 of the line-circuit is connected to a binding-post 22, attached to the clips 16. Referring to Figs. 5 and 6, the lever therein shown has a socket 23 for receiving an inclosed plug-fuse 24, which serves as a conductor and a fuse in the usual manner. This plug-fuse has a metal cap 25 at its upper end which is engaged by spring-fingers 26, connected to a head on the stem 5. The frictional contact between the head 25 and said fingers is sufficient to hold the switch-lever in place. Said parts also form a pivot about

which the switch-lever turns. A metal cap 27 on the lower end of the plug-fuse is engaged between spring-fingers 28, similar to the spring-fingers 26. These latter spring-fingers are rigidly anchored in the switch-lever 13, and they are connected electrically with the plate 15, which coöperates with the clips 16.

The operation of the switch shown in Figs. 5 and 6 is practically the same as of the switch previously described. It will be noted, however, that it also includes the plug-fuse and that said fuse may be quickly removed and replaced, being held only by frictional contact with the clips or spring-fingers 26 28.

It will be noted that in both forms of switch shown a switch-lever is held in place frictionally and may be readily withdrawn from its housing and that it turns about the point of frictional engagement with the fixed clips in the housing.

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

1. An electrical cut-out comprising a hollow body open only at its lower end, and a switch-lever adapted to be inserted and withdrawn at the lower end of the body, a switch for connecting the upper end of the lever to the body electrically and mechanically, and a second switch adapted to be opened and closed by the swinging of the lever about said first-named switch.

2. An electrical cut-out comprising a hollow body of non-conducting material open only at its lower end, an electrical connection between the interior and exterior at the upper end, a switch-lever within the body and in contact with said connection, and a cap of non-conducting material removably secured to the upper end of the body and adapted to protect the electrical connections.

3. An electrical cut-out comprising a hollow non-conducting body open at its lower end and having a conical upper end with one or more exterior grooves therein to receive an electrical terminal, a cap having a conical recess in its lower side adapted to fit closely

over the body, and means for connecting the cap to the body.

4. An electrical cut-out comprising a switch-lever and two fixed terminals, said switch-lever having a knife-switch at one end connecting with one terminal and a knife-switch at the other end at right angles to the first-named knife-switch and adapted to connect with the other terminal whereby said switch-lever is provided with rubbing contacts and is readily removable.

5. An electrical cut-out comprising a body, a lever within the body, a detachable plug-fuse located within the lever, contact plates or fingers connected with the lever and engaging said plug-fuse to hold the same within the lever, and contact plates or fingers connected with the body and arranged to engage the opposite end of said plug-fuse and to hold the lever removable within the body.

6. An electrical cut-out comprising a hollow body of non-conducting material open at its lower end, an electrical connection passing through the upper end of said body, contact plates or fingers in the upper end of the body, a lever within the body having similar contact plates or fingers, a removable plug-fuse connecting the contact plates or fingers on the lever with the contact plates or fingers on the body, and a knife-switch adapted to connect the lever at the terminal at the lower end of the body.

7. An electrical cut-out comprising a hollow body of non-conducting material open at its lower end, two contacts within said body adapted to have the terminals of an electric circuit connected therewith, and a switch-lever adapted to electrically connect said contacts and to successively break the circuit at said contacts as it is moved first laterally and then longitudinally.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM D. PACKARD.

Witnesses:

G. B. POST,
F. C. MARCH.