

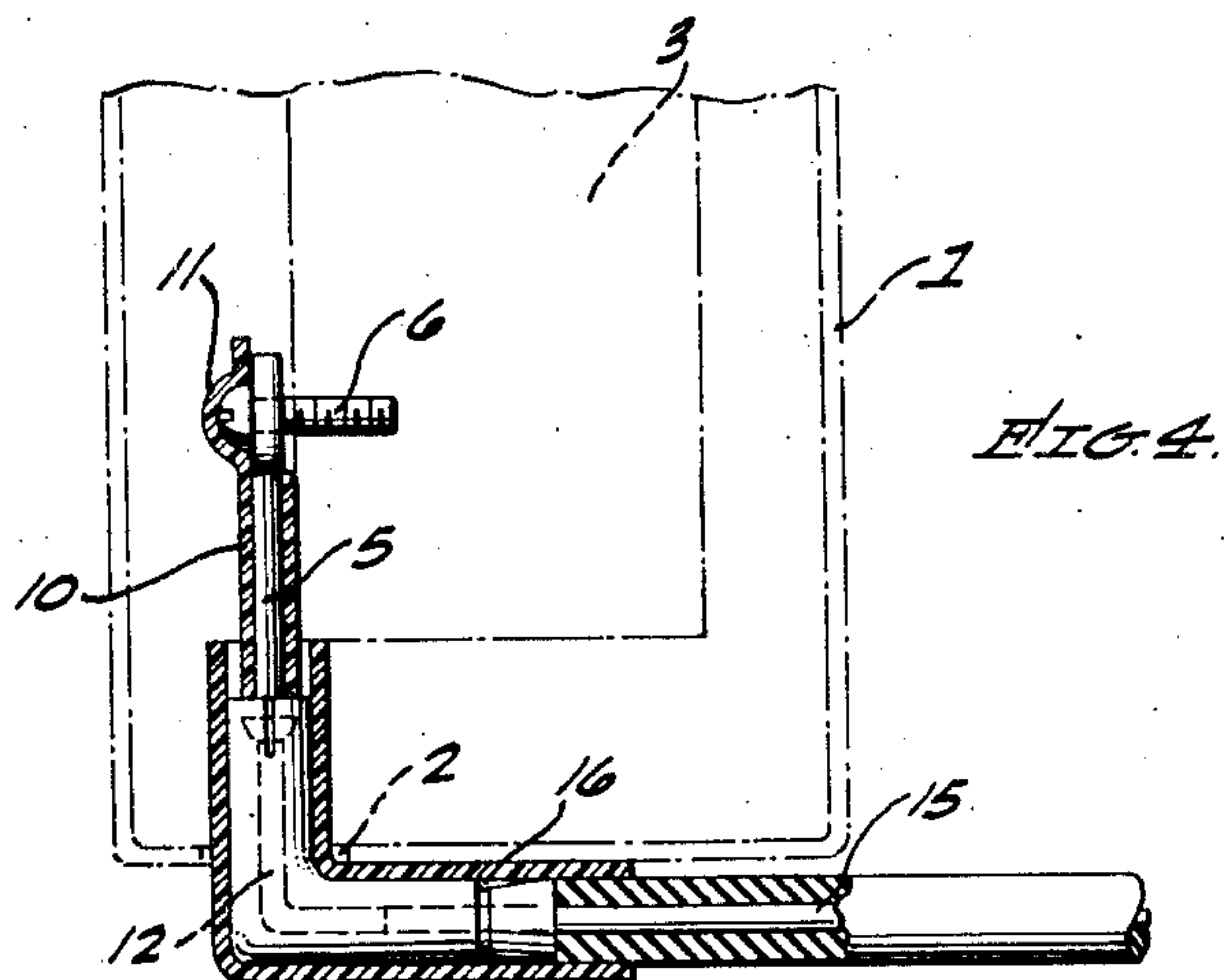
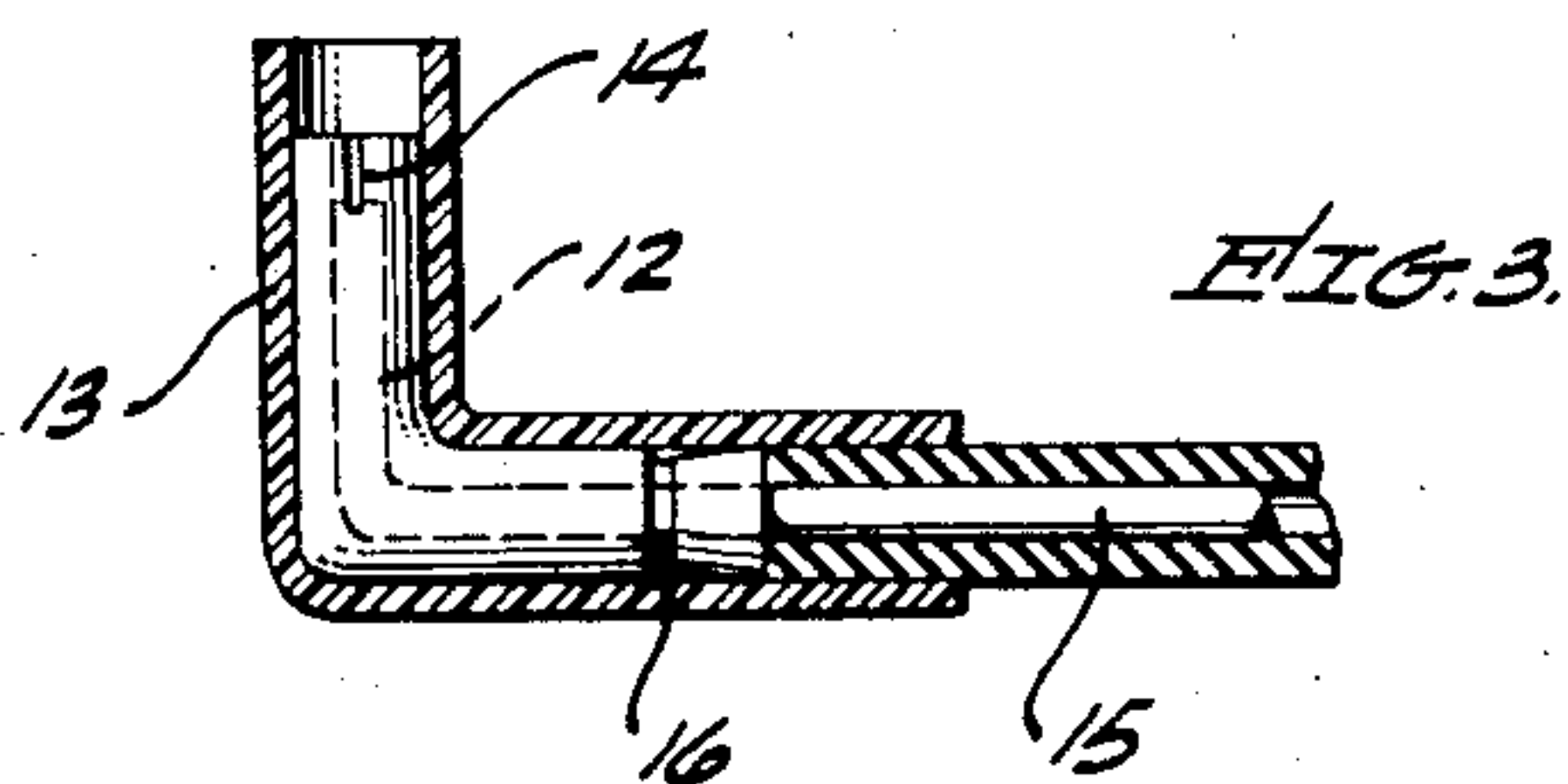
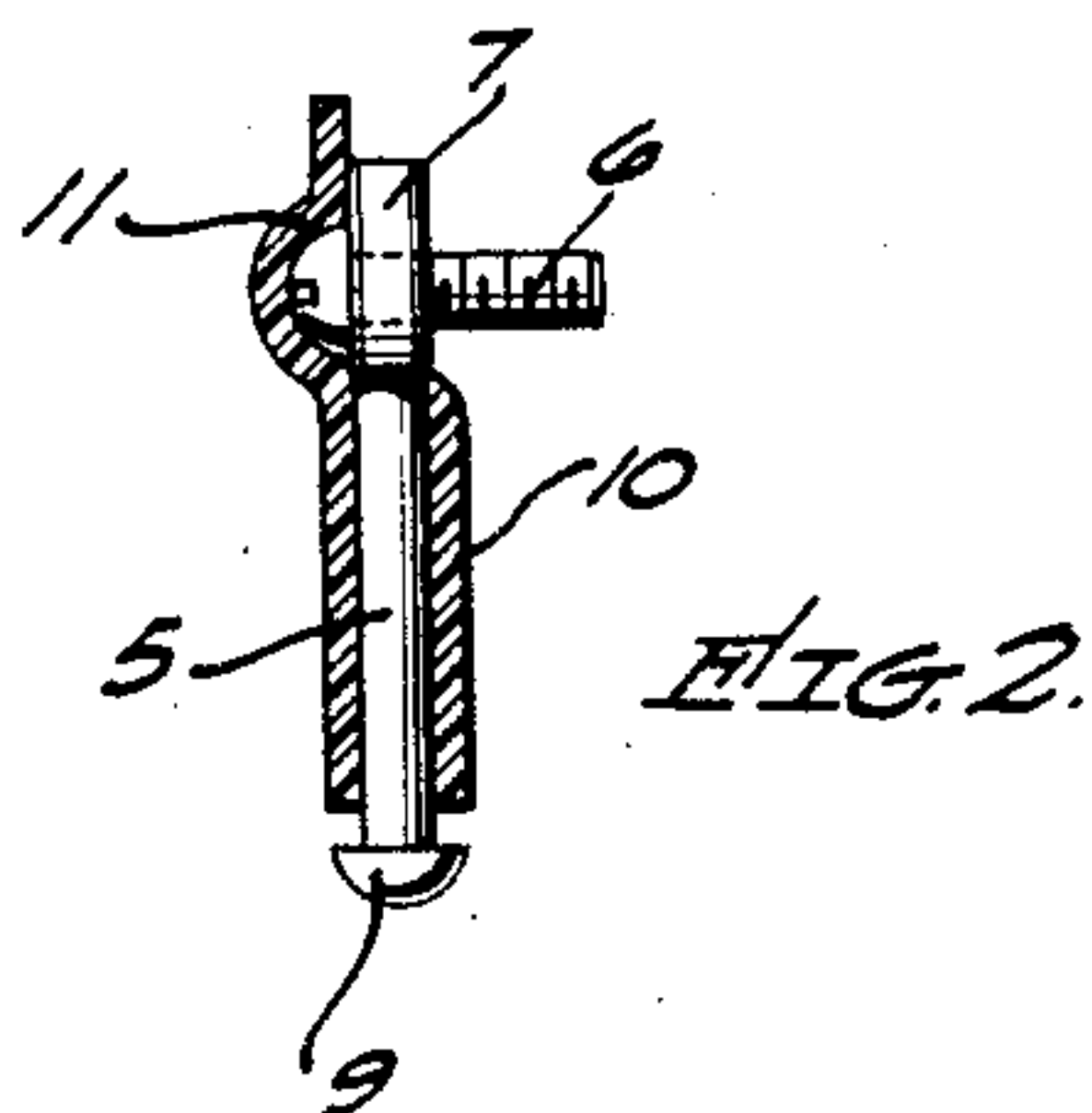
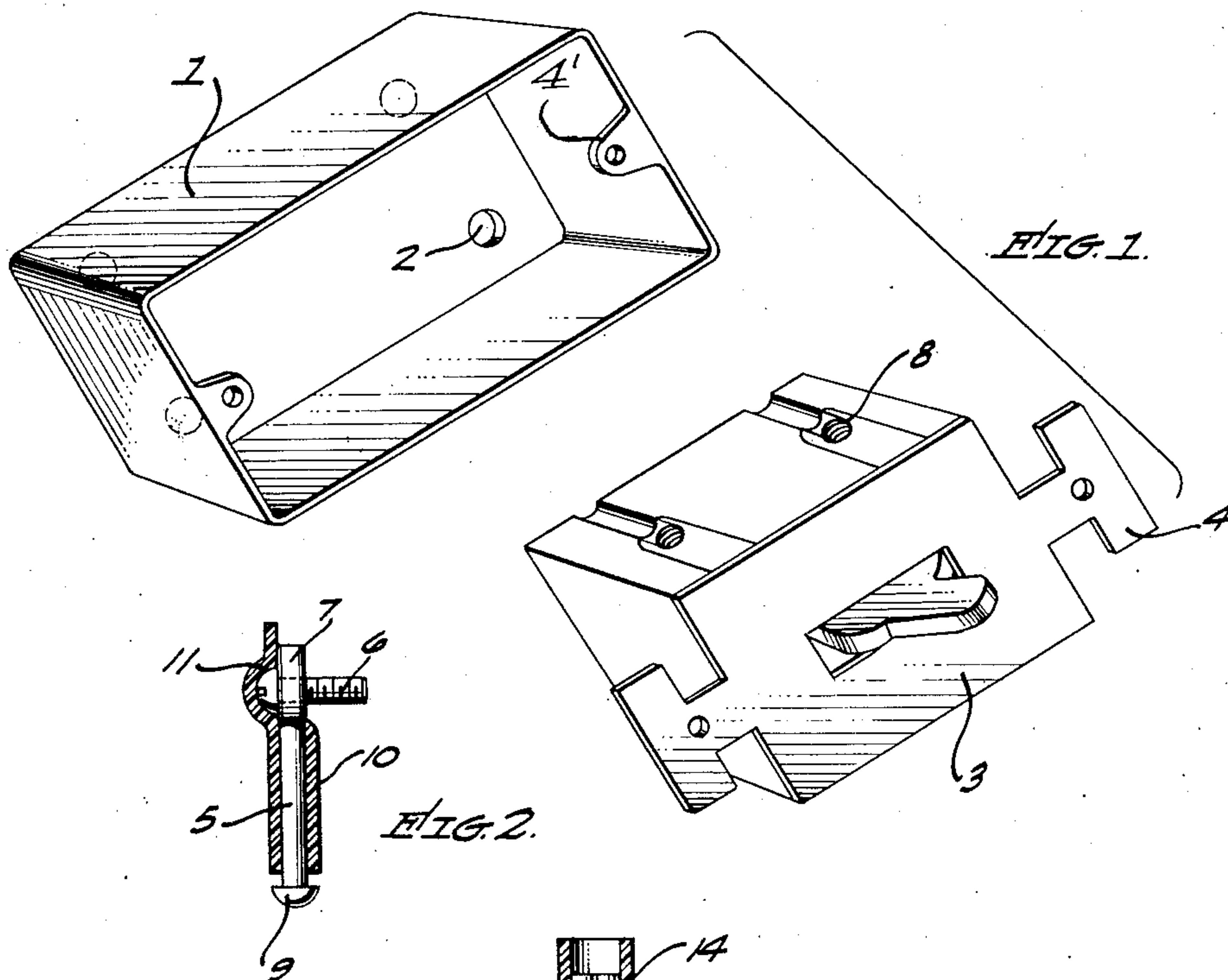
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ELECTRICAL WIRE CONNECTOR

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ELECTRICAL WIRE CONNECTOR

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2 Claims. (Cl. 174-53)

This invention relates to an electrical receptacle connection which is adapted to receive an electrical switch or terminal plug, and the prime object of my invention is to provide a novel and safe means of removing and reinstalling a switch, terminal plug, or the like, without first disconnecting the main switch to a building.

Another object of my invention is to provide a novel electrical receptacle and switch wherein the wire connection to the switch or terminal plug is in the nature of a slip connection which can be readily connected and disconnected, and which is effectively insulated to eliminate danger of electrical shock.

Another object of my invention is to provide a novel electrical connection between the main lead in wires and a switch or terminal plug wherein the one part of a slip connection is fixedly attached to the switch or plug, and the other portion of the slip connection is fixedly attached to the incoming electrical wires.

A feature of my invention resides in the fact that neither the electrical receptacle or box, or the switch or terminal plug need be altered from their present construction, since my safety connection can be utilized with the present structures as commonly used in building or factory electrical construction.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claims.

In the drawing:

FIGURE 1 is a disassembled perspective view of an electrical receptacle and a switch.

FIGURE 2 is a vertical sectional view of one portion of a slip connection which is attached to the switch.

FIGURE 3 is a vertical sectional view of a portion of the slip connection which is attached to the lead in wire.

FIGURE 4 is a vertical sectional view showing the two portions of the slip connection attached together and in position in the receptacle.

Referring more particularly to the drawing, the numeral 1 indicates a receptacle or junction box as commonly used in electrical construction. The receptacle is provided with a plurality of holes 2 in the bottom thereof through which the electrical wire extends, as will be subsequently described. A switch or terminal plug 3, of usual and well known construction, is mounted in the receptacle 1 by suitable means, such as the lugs 4 on the switch which are attached to ears 4' on the receptacle by means of suitable screws or bolts, all of which is usual and well known in the art. At times it is necessary to remove or replace the switch 3, and it is the purpose of my invention to enable a workman to remove the switch 3 and replace it without first opening the main switch to the building, and also without danger of electrical shock.

The connection between the terminals of the switch 3 and the lead in electrical wires is as follows: A metal pin 5 is attached to a screw 6 by suitable means, such as an eye 7 which is formed on the upper end of the pin. The screw 6 extends into the threaded holes 8 in the metal terminals of the switch 3. This method of at-

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taching the electrical wires to the switch is usual and well known in present switch constructions, and the same screw and terminals of the switch are used in my construction as was heretofore used to attach the electrical wires. The lower end of the pin 5 may be formed with a head or enlargement 9, the purpose of which will be further described. A sleeve or tube of insulating material 10 surrounds the pin 5 and the upper end of this insulating tube is formed with a flap 11 which covers the head of the screw 6. Thus the pin 5, as well as the head of the screw 6, is insulated and accidental electrical shock by touching these parts is eliminated.

The complementary part of the switch connection consists of a metal tube 12, which is preferably bent into a right-angle shape. The tube 12 is covered with an insulating sleeve 13, and this sleeve extends somewhat beyond both ends of the tube. The upper end of the tube 12 is slotted, as shown at 14, to provide a spring connection and to grasp the head 9 of the pin 5 and to make a tight electrical connection. The projecting end of the insulation 13 will prevent accidental contact with the metal tube 12, and also will cover the juncture of the tube 12 and pin 5. The electrical wire 15 extends into the other end of the tube 12 and the tube is crimped, as shown at 16, to hold the electrical wire in place. The projecting end of the insulation 13 at the outer end of the tube 12 will also cover and inclose the bare end of the wire 15, if any; thus preventing accidental contact with a live electrical wire. The tube 12 is bent in the shape of a right-angle as described, and this insulated tube is pushed through one of the holes 2 in the receptacle 1, so that the complementary contacting pin 5 can be pushed into the upper end of the tube 12 to form the electrical connection between the incoming wire 15 and the switch or terminal plug 3.

The pin 5 is fixedly secured to each electrical connection of the switch 3 and will remain attached to the switch as long as it is in use. If it is desired to remove the switch for repair or replacement the connecting screws which attach the ears 4 to the lugs 4' are removed and thereafter the switch can be pulled out of the receptacle 1, since the pin 5 can be easily disengaged from the slotted end of the tube 12. This can be done without danger of electrical shock and without the necessity of opening the main switch to the building. To remount the switch or plug 3 it is only necessary to press the pins 5 into the complementary tubes 12 and the switch is again ready for use.

Having described my invention, I claim:

1. An electrical receptacle connection for a switch, said electrical connection within the receptacle comprising; a metallic contact pin, means detachably securing said pin to an electrical connection of the switch, an electrical conductor tube, an insulating sleeve covering the conductor tube, said receptacle having a hole in the wall thereof through which said tube extends, means on one end of said tube connecting said tube to an electrical wire, the end of said tube opposite the electrical wire being shaped to slidably and removably receive said contact pin.

2. An electrical receptacle connection for a switch, said electrical connection comprising; a metallic contact pin, a screw extending from said contact pin and threaded into an electrical connection of the switch, an electrical conductor tube, an insulating sleeve covering the conductor tube, said receptacle having a hole in a wall there-

of through which said tube extends, means on one end of said tube connecting said tube to an electrical wire, the end of said tube opposite the electrical wire being shaped to slidably and removably receive one end of said contact pin.

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