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LOCKING DEVICE FOR ELECTRIC PLUGS

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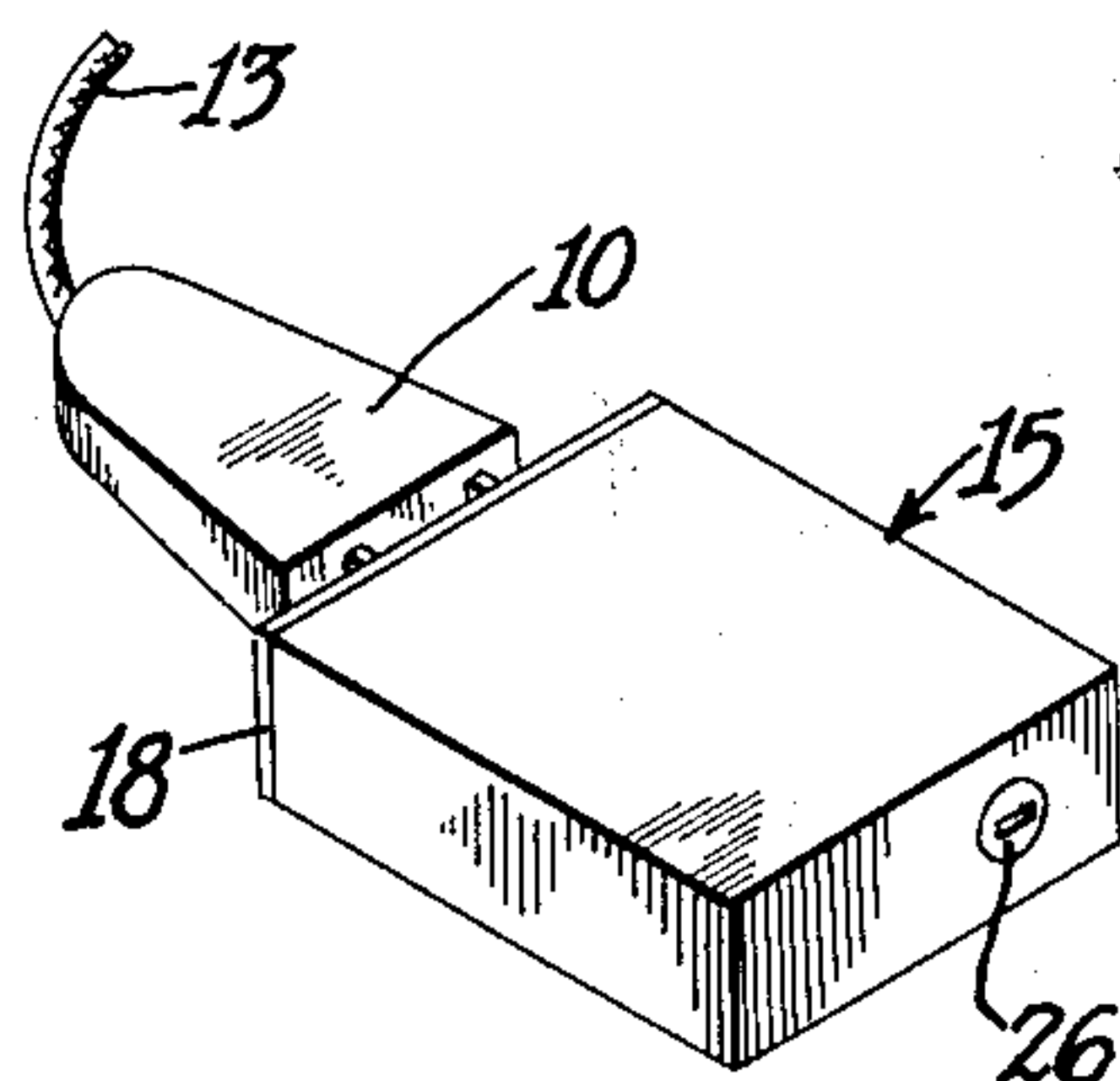


FIG. 1

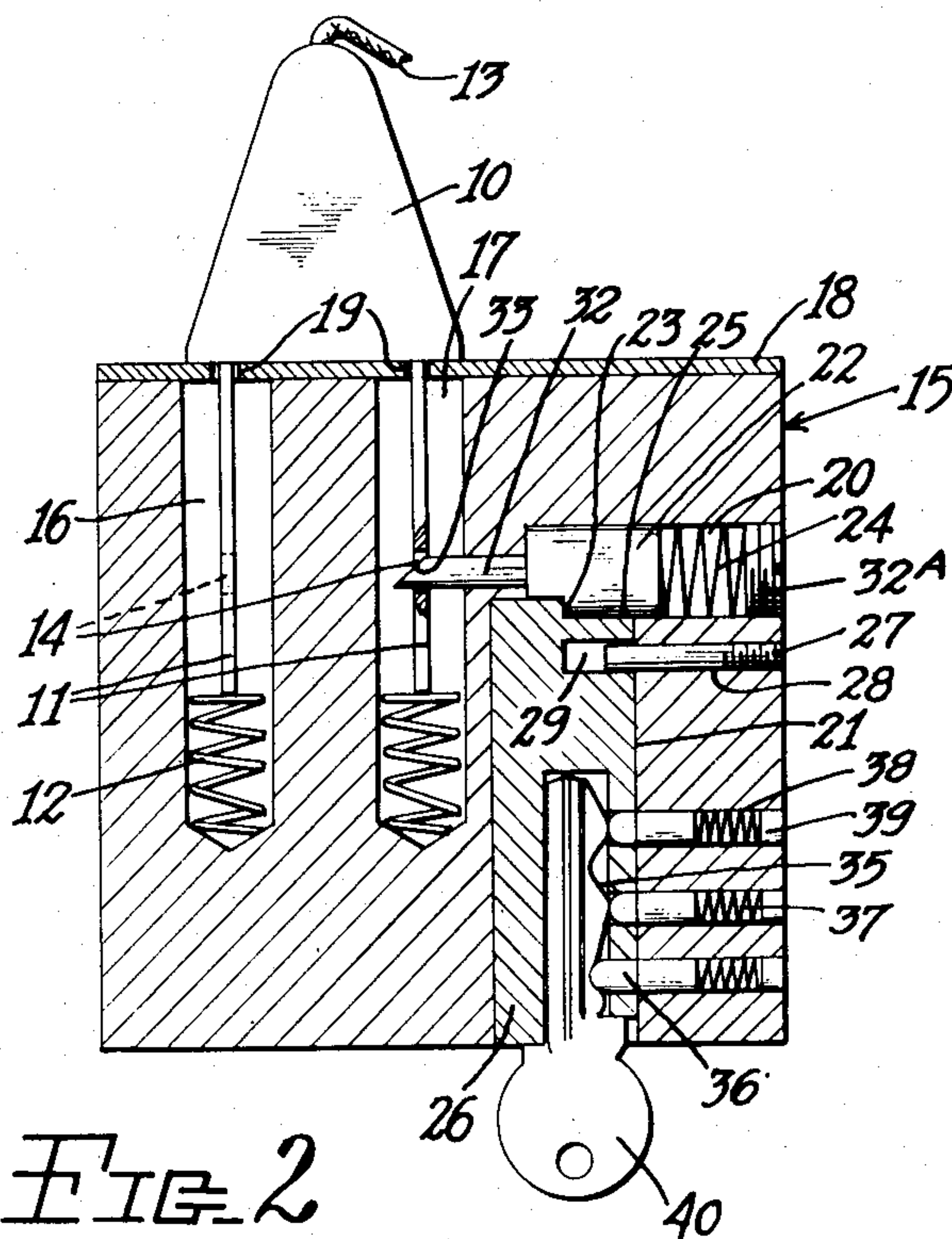


FIG. 2

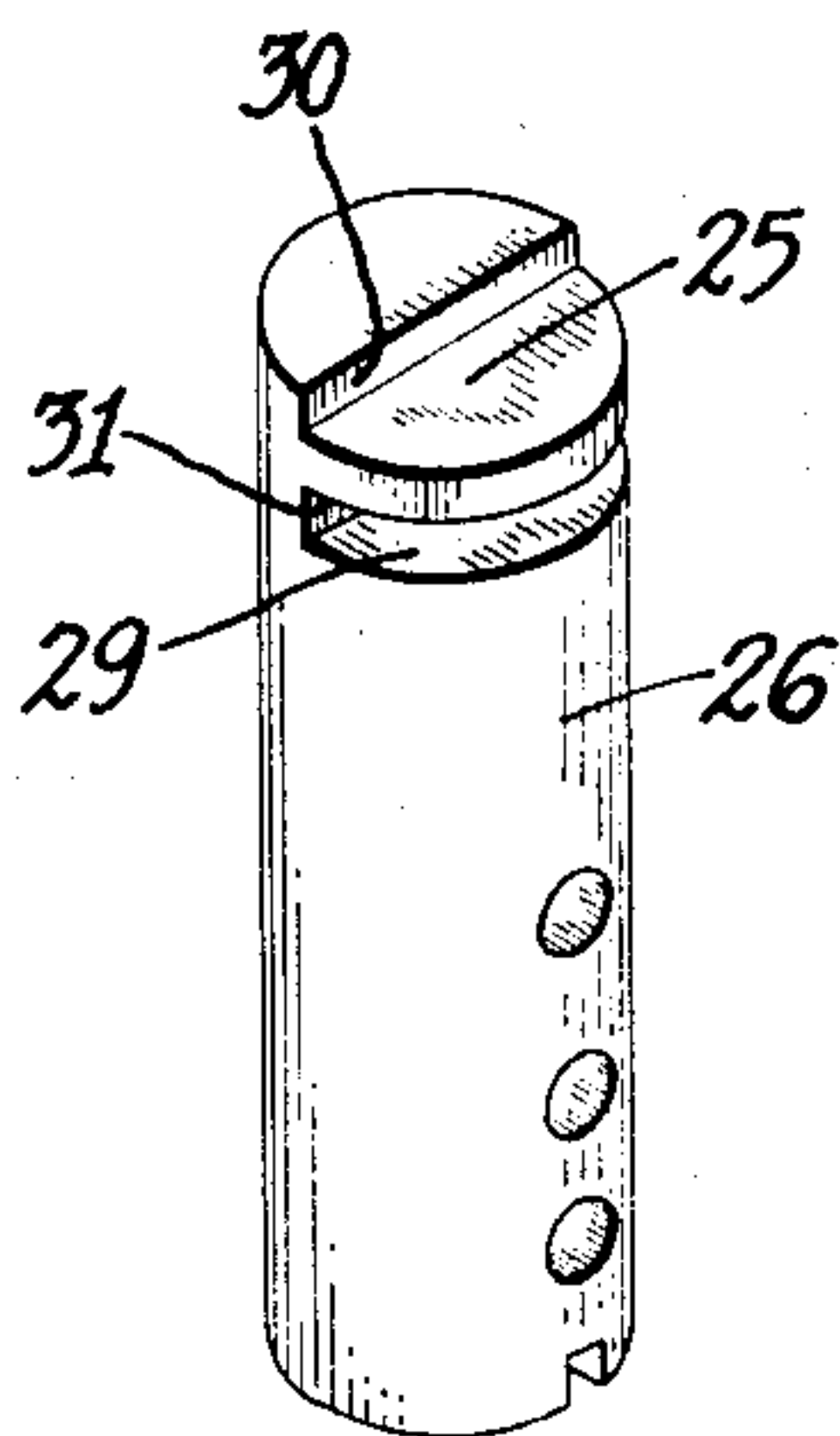


FIG. 3

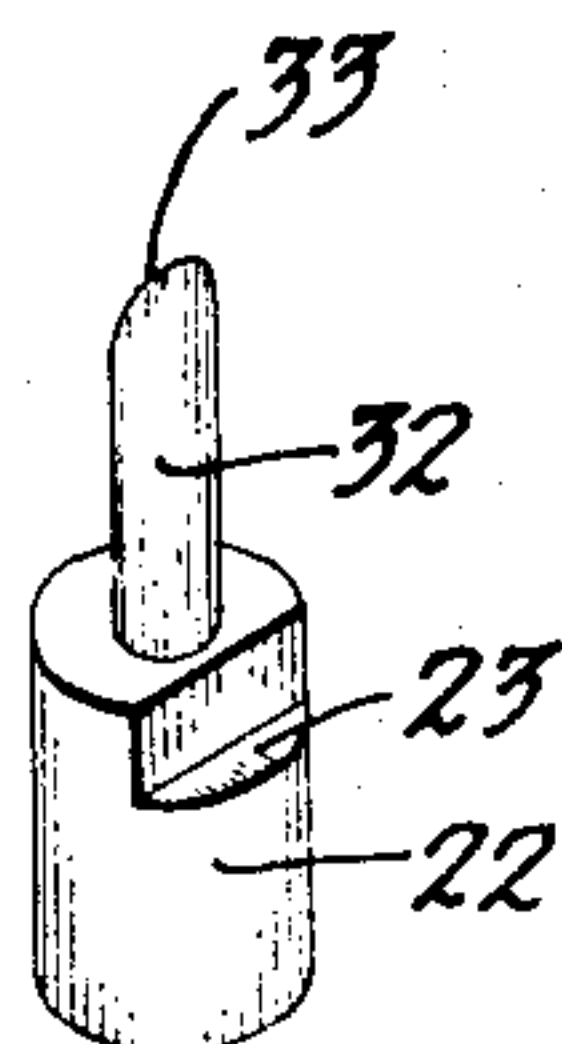


FIG. 4

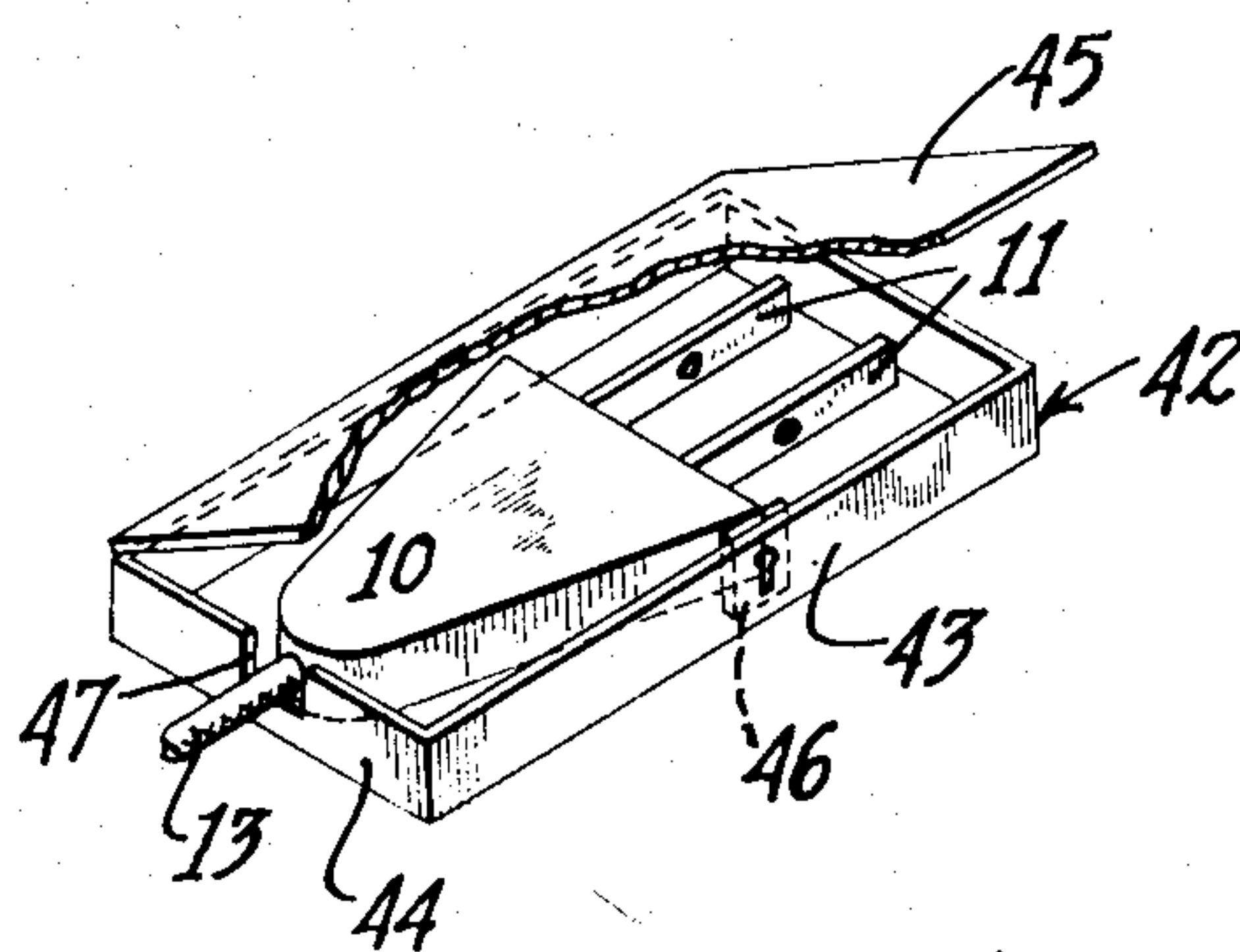


FIG. 5

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LOCKING DEVICE FOR ELECTRIC PLUGS

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3 Claims. (Cl. 339—37)

1

This invention relates to receptacles and in particular to one in which an electric circuit plug can be secured to prevent unauthorized use.

In connection with a large number of various electrically operated devices it may be desirable to prevent a person that does not have authority to operate the device from using the same and instead of applying special locks to prevent manipulation of the control knobs and levers the present invention contemplates the use of a receptacle that can be attached to the plug so that addition of a lock or other preventative means need not be built into the device whose unauthorized use is to be prevented.

It is an important object of my invention to provide a lock receptacle or shield into which the electric plug can be inserted so that the plug cannot be used in a socket to close an electric circuit.

A further object of the invention is to provide a device to be associated with the plug in any manner so that the prongs of the plug will be covered and cannot be inserted into the usual socket to complete a circuit.

A still further object of the invention is to provide a receptacle for association with an electric circuit plug to which the plug can be held by latching means controlled by a key actuated lock so that once the receptacle is in proper association with the plug the latter can only be freed by someone having a key to release the plug.

Still further objects of my invention are to provide a simple locking means which can be latch fastened and key released in connection with a plug so that the latter cannot be put into a socket. To provide such a device that is tamper proof and one which is compact, can be fixed to the plug without the use of a key, one which will prevent unauthorized use of the device served by the plug and one which can be made at small cost.

With these and other objects in view, the invention comprises certain construction hereinafter described and then particularly pointed out in the claims and a preferred embodiment of my invention is illustrated in the accompanying drawing in which:

Figure 1 is a view in perspective of a receptacle shown in attaching relation with an electric circuit plug,

Figure 2 is an enlarged view in section taken through the receptacle shown in Figure 1,

Figure 3 is an enlarged view in perspective of a barrel forming part of the locking mechanism of the receptacle,

2

Figure 4 is an enlarged view in perspective of a latch pin used in the locking mechanism of the receptacle, and

Figure 5 is a view in perspective of a receptacle of different form than that shown in Figure 1 and illustrating the enclosure of the prongs of the plug.

Referring to the drawing in detail 10 indicates the conventional form of electric plug, the prongs 11 of which, with the wire 13 coact with the usual electrical circuit socket, not shown, to carry current to any device such as a radio, television set or other electrically operated appliance.

In order to render the plug inoperative as a circuit connecting member the prongs 11, provided with holes 14, must be concealed or bridged to prevent unauthorized insertion into the socket means. As illustrated in Figures 1 to 4 use is made of a receptacle 15 comprising a block of material having twin prong bores 16 and 17 housing coil springs 12 and covered with a top or cover plate 18 which is slotted as at 19 in axial alignment with said bores 16 and 17 to serve as guides for the prongs of the plug, and secured in any well known manner to the block of the receptacle 15.

The block is further drilled or formed to provide contiguous bores 20 and 21 in the former of which is disposed a latch plug 22 having a shoulder 23 urged by a spring 24 into contact with a shoulder 30 formed in the adjacent end of a lock barrel. The latter is revolvably mounted in the bore 21 and retained therein against axial displacement by a limit pin 27 threaded or force fitted into a bore 28 and having an end extending into a groove 29 in the barrel 26. The segment 25 and the groove 29 of the barrel are bounded respectively by the diametrically disposed shoulder wall 30 and the slot wall 31 so that revolving movement of the barrel is limited by contact of slot wall 31 with the pin 27 and the latch plug 22 is retracted against the resistance of its spring 24 by action of the shoulder wall 30 on the shoulder 23. The spring 24 is imprisoned by a plug 32A and the plug 22 carries an integral latch pin 32 bevelled at its outer end as at 33 for snap engagement with the hole 14 of the adjacent prong 11. The shoulder 23 of plug 22 rests on the flat end of the barrel 26 so that the bevel 33 of the latch pin is retained in proper position to permit ready insertion of the plug prong and latching engagement thereof by the pin 32.

The barrel 26 is provided with a key-slot 35 in which seat the outer sections of pin tumblers 36

3

spring urged as at 37 and imprisoned in the bores 38 by plugs 39. The key 40 operates in the usual manner to align the tumblers so that the barrel can be revolved to retract the latch pin 32 and free the plug 10 from the receptacle 15.

In the form of my invention shown in Figure 5 a rectangular receptacle 42, having side and end walls 43 and 44 respectively, is provided with a cover 45 hinged thereto and arranged to be locked in closed position by a latch lock 46 secured in the box and adapted to be opened by use of a suitable key. An end wall 44 of the box or receptacle is notched as at 47 so that the wire 13 extending from plug 10 will not interfere with the closing of the cover which snap-locks to closed position to encase the plug and hence prevent its being put into an electric socket.

It is evident that I have provided in combination with a standard electric plug a receptacle that prevents insertion of the plug into an electric socket and hence prevents unauthorized use of an appliance to the plug of which my novel receptacle is attached.

My invention is not to be restricted to the precise details of construction shown since various changes and modifications may be made therein without departing from the scope of the invention or sacrificing the advantages to be derived from its use.

What I claim is:

1. The combination with an electric circuit plug having perforated prongs; of a receptacle means, twin bores extending inwardly from one end of said receptacle means in which said prongs are housed, a latch pin in the receptacle extend-

4

ing laterally to said bores for yieldable engagement with a hole in one of said prongs for preventing separation of the receptacle means and the plug, and a key controlled locking mechanism revoluble to withdraw said latch pin to release the prong for separation of said lock means from the plug and a spring for urging said latch pin into engagement with said prong.

2. The combination as set forth in claim 1 including spring means in each bore arranged to be placed under tension by insertion of the prongs into said bores and said spring means acting to forcibly eject the plug from said lock means when the latch is withdrawn.

3. The combination as set forth in claim 1 including a cover plate for the receptacle means extending across the open end of said bores and said plate being slotted diametrically of each bore to provide a guide for insertion of the prongs of the plug into said lock means.

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