H. R. SARGENT.

LOCKING PLUG FOR RECEPTACLES AND THE LIKE.

APPLICATION FILED DEC. 6, 1917.

1,310,138.

Patented July 15, 1919.

Fig. 1.

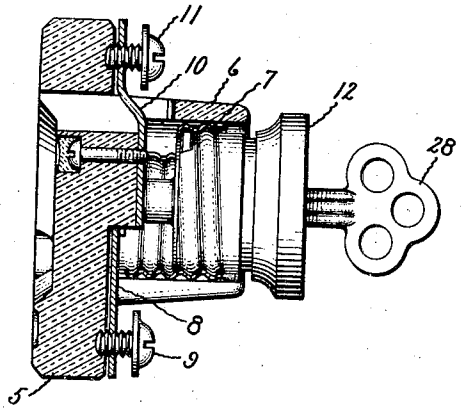



Fig. 2.

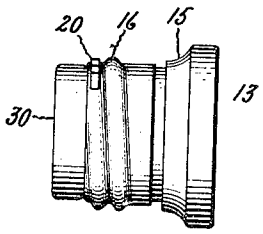



Fig. 3.

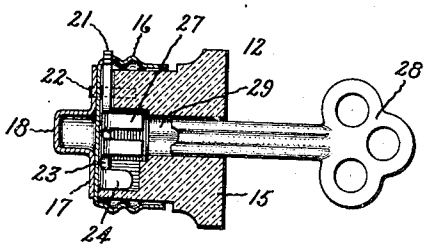



Fig. 4.

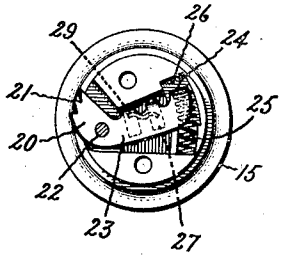
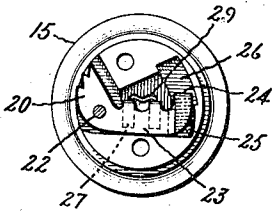



Fig. 5.




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by Munn & Davis
His Attorney.

# UNITED STATES PATENT OFFICE.

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## LOCKING-PLUG FOR RECEPTACLES AND THE LIKE.

1,310,138. Specification of Letters Patent. Patented July 15, 1919.

Application filed December 6, 1917. Serial No. 205,884.

*To all whom it may concern:*

Be it known that I, HOWARD R. SARGENT, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Locking-Plugs for Receptacles and the like, of which the following is a specification.

This invention relates to plugs for use in sockets, receptacles and cutouts serving as supply outlets for electric circuits.

The object of this invention is to provide a plug which cannot be removed from sockets, receptacles and cutouts by an unauthorized person.

A further object is to provide a plug designed for use in standard cut-out blocks for making through connections back to the power station, for instance in the neutral return.

A still further object is to design a sealing plug or "dummy" which, when inserted in a socket or cut-out block, will cut off the power from the branch served by that outlet until its removal is authorized.

Still further objects of this invention will appear and a complete understanding thereof may be had from the following detailed description when taken in connection with the accompanying drawing in which Figure 1 is a section through a cut-out block having therein a closed circuit plug constructed in accordance with this invention. Fig. 2 is a side elevation of sealing plug or "dummy" for use in the cut-out block instead of the closed circuit plug. Fig. 3 is a cross-section through the closed circuit plug shown in Fig. 1; while Figs. 4 and 5 show details of the lock construction used for preventing the unauthorized removal of a plug.

Referring now to Fig. 1, 5 denotes the base of any standard form of cut-out block which is formed of suitable insulating material such as porcelain and having thereon the annular wall 6 in which there is a screw shell 7 shown. as adapted to receive a standard Edison base.

The shell 7 is in conducting relation with metallic strip 8 which is secured to the base 5 and has the binding terminal 9. The conducting strip 10 having the binding terminal 11 is also secured to the base 5 and constitutes the central contact member for the receptacle.

In such a standard cut-out block, may be inserted a closed circuit plug 12, or the sealing plug or "dummy" 13 shown in Fig. 2 which plugs are constructed so as to prevent unauthorized removal.

The plug 12, shown in cross-section in Fig. 3, consists in an insulating base 15 having a conducting screw shell 16 mounted on one end thereof. Over the end of the shell 16 is the conducting cap 17 having a central protuberance 18 adapted to engage with the contact strip 10 in the cut-out block.

I will now describe the construction employed to prevent the unauthorized removal of plugs, the details of which construction are shown in connection with plug 12.

This construction consists in a locking device such as arm 20 having teeth 21 on its outer end normally adapted to engage with and grip the shell 7 when an attempt is made to unscrew the plug, but so inclined that they slide smoothly on the sides of shell 7 without gripping it when the plug is being screwed into the shell. The arm 20 is pivoted at 22 in the base 15 and has a rearwardly extending portion or member 23 provided with an upstanding lug 24 engaged by a compressed spring 25, so that the outer end of the arm 20 projects beyond the rim of shell 16, and is contained in recess 26 formed therein.

On the member 23 there are formed also the upstanding and sloping prongs 27 arranged to be engaged by a suitable key 28 when inserted in a slot or key hole 29 formed in the end of base 15 to admit such key.

The prongs 27 are inclined to the member 23 so that when the key 28 is pressed into engagement with these prongs, it meets them obliquely so that a cam action ensues and the member 23 is displaced laterally about the pivot 22 against the pressure of the spring 25 whereby the toothed end 21 is moved inwardly and out of engagement with shell 7 if the plug be in place in the cut-out block.

The sealing plug or "dummy" 13 is formed similar to the closed circuit plug 12 having a base 15 with a shell 16 mounted on one end in which there is a pivoted arm 20 leaving a serrated end to prevent unauthorized removal of the plug. In place of a conducting cap on the end of shell 16, the plug 13 has an insulating disk or cap 30 secured thereto.

It is thus seen that where it is desirable to make closed circuit connections to a power

station, such as a solid netural return, a plug of the type shown at 12 would be inserted in any standard cut-out block which plug would make the desired solid connections between the terminals in the block and could not be removed by reason of the gripping action of the serrated arm 20 which is resiliently held in engagement with the shell 7 of the cut-out block.

When the removal of the plug 12 is desired the insertion of the key 28 in the plug is required to move the end 21 out of engagement with the shell 7 whereby the plug 12 may be removed without further resistance.

When it is desired to permanently cut out any branch circuit, for instance, cutting out the electric service to a house or apartment without the removal of the meter, a plug of the type shown at 13 would be inserted in the cut-out block. This will keep the circuit open by reason of the interposition of the insulating disk 30 on the end of the plug 13 between the terminals on the block, until the authorized removal of the plug is accomplished by the insertion of a key 28 in the plug.

It is obvious from the foregoing that plugs constructed as above described, while here disclosed as used only in connection with cut-out blocks, are adapted to be inserted in any socket or the like having a receptacle adapted to receive their form of base.

While I have described in detail the best means at present known to me for carrying out an embodiment of my inventive idea, I would have it understood that this is merely illustrative and that I do not mean to be limited to the exact details shown nor in the choice of equivalents except as set forth in my claims hereunto appended.

What I claim as new and desire to secure by Letters Patent of the United States, is:—

1. A screw plug provided with a gripping arm pivoted therein and resiliently pressed outwardly therefrom, a cam member on said arm, said plug formed with an axial slot to admit a key to engage with said cam member to retract said arm.

2. A screw plug provided with a clutch lever pivoted therein having a spring pressed arm formed with an inclined surface thereon; said plug having an axial slot formed to admit a key for engagement with the inclined surface of said arm.

3. The combination with a receptacle having service terminals and a conducting shell therein, of a plug provided with a cooperating shell and a cap thereon for maintaining a desired relation between said terminals, a serrated arm pivoted in said plug, a spring arranged to hold said arm in engagement with the first mentioned shell; said plug being formed with a slot to receive a key for moving said arm out of engagement with the first mentioned shell.

4. The combination with a base having a screw shell on one end, of a cap therefor, a lever having a serrated end, operatively disposed in said base, a spring bearing against said lever so that its end projects beyond the rim of said shell, a cam portion on said lever; said base having a slot to admit a key to engage said cam portion to move said end inwardly.

5. The combination with a base having a screw shell on one end, of a cap therefor, a lever having a serrated end, pivoted in said base, said lever having an inner arm with an obliquely disposed surface thereon and a spring bearing against said inner arm so that the serrated end projects beyond the rim of said shell; said base being formed with a slot in its other end to admit a key to engage said oblique surface to move said serrated end inwardly.

In witness whereof, I have hereunto set my hand this 5th day of Dec. 1917.

HOWARD R. SARGENT.