

June 29, 1937.

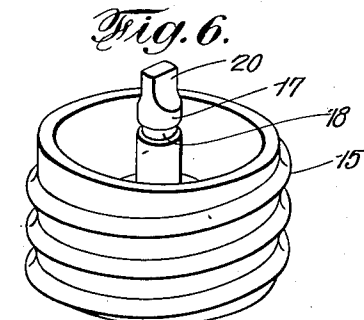
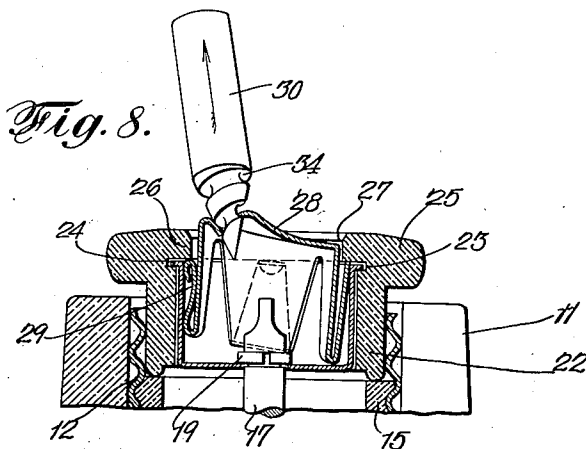
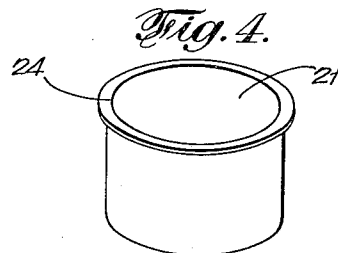
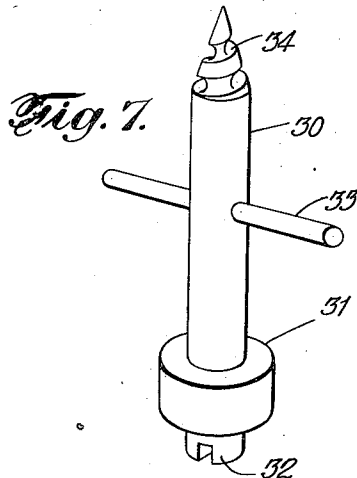
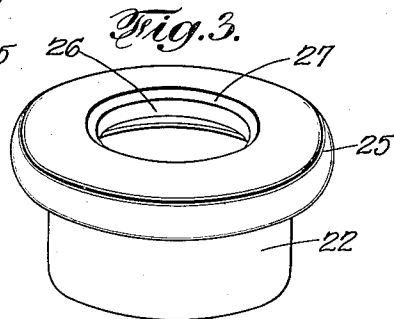
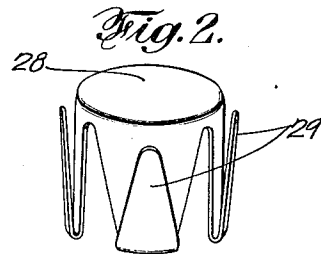
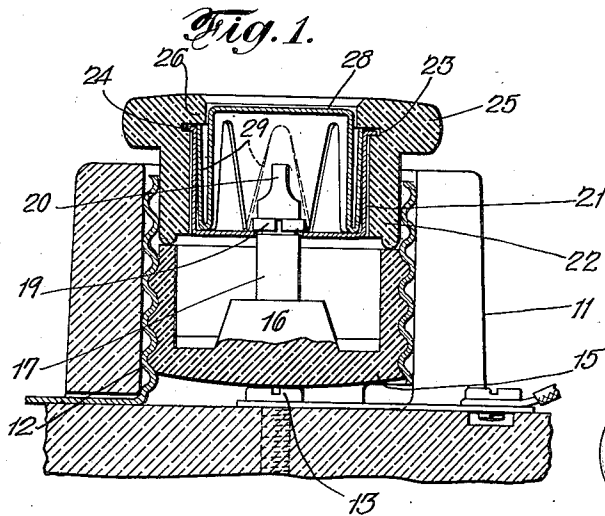
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2,085,399

DUMMY PLUG OR SEAL FOR FUSE SOCKETS

Filed Feb. 25, 1933

2 Sheets-Sheet 1



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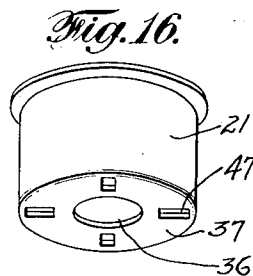
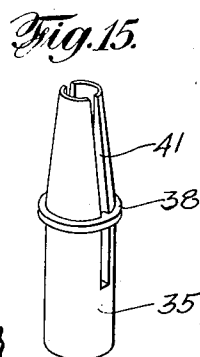
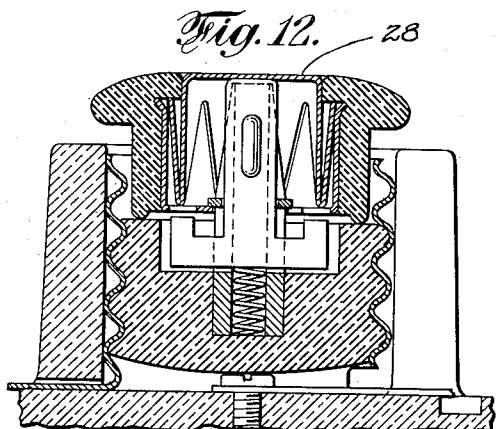
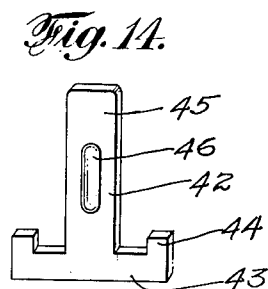
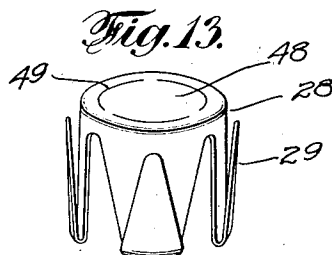
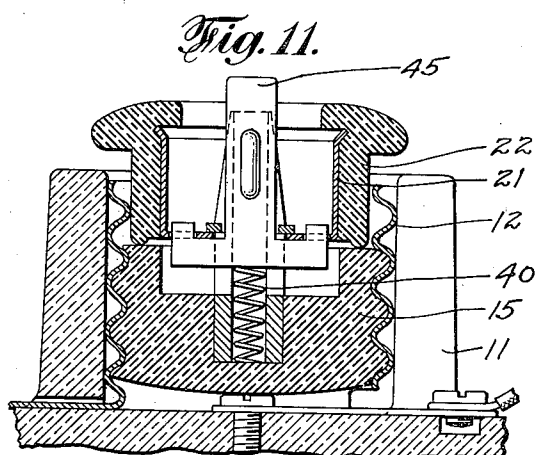
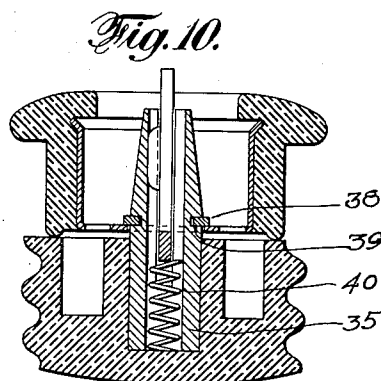
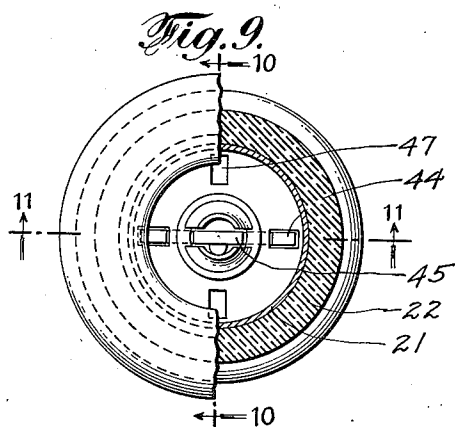
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DUMMY PLUG OR SEAL FOR FUSE SOCKETS

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2 Sheets-Sheet 2



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DUMMY PLUG OR SEAL FOR FUSE SOCKETS

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Application February 25, 1933, Serial No. 658,652

13 Claims. (Cl. 173—356)

This invention relates to dummy plugs to take the place of fuse plugs in a house wiring system and thereby insure against reestablishing a connection with an outside service line when the service has been cut off. It has for its principal object a self-contained plug construction that is sealed against removal and necessitates the destruction of the seal in order to replace it by the usual fuse plug.

In general, the plug comprises a threaded body to screw into a fuse plug socket. The body is made of insulating material, such as porcelain, molded synthetic resin composition or other known compositions or materials suitable for the purpose. Rotatably attached to the threaded body is a shell preferably of insulating material to avoid establishing any electrical contacts. The shell extends sufficiently into the fuse plug socket so that external access cannot be had to the threaded body for unscrewing it when the plug is in place in the socket. In order to screw or unscrew the threaded body, the hollow shell gives internal access to a post, for rotating the threaded body or equivalent means are provided. When the plug is in place, the opening in the shell is closed by means of a self-locking sealing cap or breaking button. After the sealing cap has been applied, the dummy plug can only be removed by destroying it.

In the accompanying drawings two embodiments of the invention are illustrated. It is to be understood, however, that modifications and changes can be made in conformity with the appended claims.

In the drawings:

Fig. 1 is a vertical cross-section of a dummy plug shown with a sealing cap and in assembled relation with a fuse plug socket;

Figs. 2, 3, 4, 5 and 6 are perspective views of the several parts entering into the construction of the plug shown in Fig. 1;

Fig. 7 is a perspective view of an operating tool;

Fig. 8 is a partial cross section similar to Fig. 1 but illustrating the operation of the tool for destroying a seal;

Fig. 9 is a top view partly in section of the second embodiment of the invention;

Fig. 10 is a vertical cross section on the line 10—10 of Fig. 9;

Fig. 11 is a vertical cross section on the line 11—11 of Fig. 9 and further showing the plug in place in a fuse plug socket;

Fig. 12 is a view similar to Fig. 11 but illustrating a sealing cap in position;

Fig. 13 is a perspective view of a modified form of sealing cap; and

Figs. 14, 15 and 16 are perspective views of detailed parts entering into the construction of the plug.

Referring to the embodiment shown in Fig. 1 a fuse plug socket 11 of the usual form is illustrated enclosing a threaded metal shell 12; in the bottom of the socket is a customary central terminal 13. With the usual form of fuse plug a circuit is established between the terminal 13 and the shell 12. The dummy plug of this invention has, however, no metal parts to establish a circuit; therefore when the fuse plug is replaced by it the circuit is broken, and the circuit cannot be closed as long as the dummy plug is in place.

The dummy plug illustrated consists of two sections rotatably connected together. One of these sections is a threaded body 15 which fits in the metal shell 12; this body is made of non-conducting material as heretofore explained but preferably molded from a synthetic resin composition. The threaded body is hollow or cup shaped and encloses a boss 16 that supports a metal post 17 axially of the member 15. The post near its free end is provided with an annular groove 18 and the end 20 of the post is flattened so that it can be engaged by a suitable tool for turning. A locking collar or split ring 19 is provided for engagement with the groove 18.

The other section of the dummy plug consists of a member 22 preferably molded from a synthetic resin composition which encloses a cup shaped metal shell 21. The member 22 is provided with a groove 23 in which fits a flange 24 formed on the metal shell 21. The molded member also has an outer projecting flange 25 extending over the socket 11. There is likewise an inwardly projecting flange 26 formed on the member 22 leaving a central opening 27 to permit access to the post 17. The bottom of the member 22 is formed with a rounded edge so as to have as little frictional contact as possible with the other section 15. The metal shell 21 is centrally perforated to receive the post 17 and when the locking collar 19 is snapped in place on the post it engages the bottom of the shell 21 and prevents the separation of the two sections.

The foregoing describes the dummy plug construction as it is supplied to the trade for insertion in a fuse plug socket. Together with the plug there is supplied a seal such as a button or cap 28. U-shaped prongs 29 extend from the disc portion of the button. When the plug is in position in a socket the button 28 is inserted through

the opening 27 and the prongs 29 have sufficient spring to engage the flange 26 and thereby prevent the withdrawal of the button. In other words the button is self-locking and can only be removed by destroying it. The button is made of metal soft enough so that it can be punctured with a suitable tool and upon withdrawal of the tool the prongs crumple out of shape.

For turning the member 15 into the socket there is provided a suitable tool such as illustrated in Fig. 7. This tool consists of a shank 33 having one end 32 slotted to engage the flattened end 20 of the post 17. An enlarged guide 31 on the shank aids in positioning the tool in the plug. A cross pin 33 is provided for turning the shank. The other end of the shank 34 is formed into a gimlet that can be forced through the button 23 and upon turning has sufficient hold upon the button so that it can be withdrawn by pulling the tool. This is illustrated in Fig. 8. Preferably the tool is inserted near one edge of the button so that upon pulling the nearest prong 29 is crumpled and the button thereby removed.

The second embodiment disclosed differs from the one previously described in the means provided for rotating the section 15. As shown in Figs. 9 to 12 inclusive, it consists of a threaded body 15 and a molded member 22 in rotatable contact therewith. The member 22 encloses a cup shaped metal shell 21 as in the preceding construction, and a post 35 is embedded axially in the molded member 15 to project upwardly through an opening 36 in the bottom 37 of the shell 21. A locking collar 38 carried in a groove 39 of the post engages the bottom 37 of the shell and thereby prevents separation of the two sections. The post 35 is hollow and encloses a spring 40. The post is likewise provided with slits 41 which serve as guides for a latch 42 of inverted T-shape having a shank 45 and wings 43 with upstanding lugs 44 on the ends of the wings. The shank 45 of the latch is formed with an extrusion 46 engaging the interior of the hollow post that thereby serves as a guide.

The metal shell 21 is provided with slots 47 in the bottom 37 for engagement by the lugs 44 of the latch 42. The spring 40 mentioned above serves to hold the lugs in engagement with the slots. Consequently with the construction thus far described the two sections 15 and 22 are caused to rotate together by the latch engaging the shell 21 when the member 22 is turned.

For disengaging the latch and holding it disengaged, the sealing button or cap 28 as previously described is inserted in the member 22. This is accomplished by making the shank 45 of the latch of sufficient length so as to engage the button 28 when the latter is in place and hold the lugs 44 out of engagement with the slots 47.

A modified form of sealing button 28 is shown in Fig. 13. This modification consists in forming the disk portion 48 with lines of weakness or rupture 49. The metal of the button is thereby sufficiently weakened so as to be broken without necessitating the use of a special tool and the button can thereupon be withdrawn. When the button is withdrawn the latch springs into operation locking the sections 15 and 22 together so that the whole plug rotates by turning the member 22.

I claim:

1. A plug comprising in combination a non-conducting body for insertion in an electrical socket, a cup-shaped shell in axial alignment with said body, a post projecting axially from said

body and through an opening in the shell bottom, means for locking the shell against axial movement on the post, a spring pressed latch supported by said post and rotatable therewith, and means on said shell for engagement by said latch.

2. A plug comprising in combination a non-conducting body for insertion in an electrical socket, a cup-shaped shell in axial alignment with said body, a post projecting axially from said body and through an opening in the shell bottom, means for locking the shell against axial movement on the post, and means associated with the post for rotating the body.

3. A plug comprising in combination a non-conducting body for insertion into an electrical socket, a hollow member rotatably connected with said body, means enclosed by said member for turning said body, and a destructible self-locking seal for said member to prevent the operation of said turning means.

4. In a plug comprising in combination two sections rotatably connected together, a latch carried by one of said sections, spring means for causing said latch to engage the other section, and a sealing cap carried by the plug in contact with said latch to prevent engagement of the latch.

5. In a plug comprising in combination two sections rotatably connected together, means for rotating one of said sections by the other of said sections, and a self-locking cap carried by the other of said sections for preventing the rotation of said first-named section.

6. In a plug comprising in combination two sections rotatably connected together, means for rotating one of said sections, and a self-locking cap carried by the other of said sections for barring the rotation of said first-named section.

7. A plug comprising in combination a non-conducting body for insertion into an electrical socket, means carried by said body for turning it, and self-contained means connectively associated with said body for sealing said turning means against operation.

8. A circuit isolating plug comprising an inner externally screw-threaded insulating section and an outer insulating section that is free from screw-threads, means rotatably connecting said two sections in axial alignment, said inner section having a polygonal section-rotating stem which said outer section overlies and said outer section having a passage leading from said end face to said stem into which passage a suitable tool can be inserted to engage said stem and rotate said inner section.

9. A circuit isolating plug having an inner externally screw-threaded section and an outer section having a cylindrical body the diameter of which is not greater than the root diameter of the screw-threads of said inner section, said outer section also having a peripherally outstanding annular shoulder and a dome-shaped end face, said inner section having a section-rotating stem which said outer section overlies and said outer section having a passage leading from its end face to said stem, and means rotatably connecting said sections together and holding said sections in axially aligned relation.

10. A circuit isolating plug comprising an inner externally screw-threaded section and an outer section that has a rotatable connection with said inner section, said inner section having a forwardly extended stem and said outer section having a passage therein in which said stem is located,

5 said stem constituting the means by which said inner section can be rotated and said stem being polygonal in cross-section and the width of its flat faces being so small that it inhibits sufficiently
10 firm engagement by a make-shift tool inserted in said passage to rotate said inner section when it is screwed into a socket.

11. A circuit isolating plug comprising an inner
15 externally screw-threaded insulating section and an outer section aligned with and having a freely rotatable connection with said inner section, said inner section having a forwardly extended hub on
20 which said outer section is rotatable and held against detachment and said hub having a forwardly extended axial stem by which said inner section is adapted to be rotated, said outer section having a passage leading from its end face to said stem, and said stem being of non-circular cross-sectional area and being so small in its cross-sectional dimensions that it inhibits sufficiently
25 firm engagement by a make-shift key that can be inserted through said passage in said outer section to cause said inner section to be unscrewed from a socket in which it is seated.

12. A circuit isolating plug comprising an inner externally screw-threaded insulating section, and axially aligned therewith an outer section having a freely rotatable non-detachable connection with

said inner section, said inner section having a forwardly projecting axially located stem which said outer section overlies and by which said inner section is adapted to be rotated, said outer section having an axially directed passage leading
5 from its end face to said stem, said stem comprising a rod of metal of polygonal cross-section that is embedded in said inner section and is so small in its cross-sectional dimensions that it inhibits sufficiently firm engagement by a make-shift tool that can be inserted through the passage in said outer section to unscrew said inner section from a socket in which it is seated.

13. A circuit isolating plug comprising axially aligned inner and outer sections, said outer section having a recess and said inner section having external screw-threads and a forwardly-extended axially-disposed hub that is located in said recess, said outer section having means that project into said recess and loosely engage said hub
15 and hold said sections rotatably and against detachment, said hub having a forwardly-extended metal stem of polygonal cross section and small cross-sectional dimensions, and said outer section having a passage for a stem engaging inner-section rotating tool that leads from the end face thereof to said stem.
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