Dec. 21, 1943. D. THOMSON ET AL 2,337,212

ELECTRIC WALL FITTING

Original Filed Jan. 29, 1941

FIG. 1.

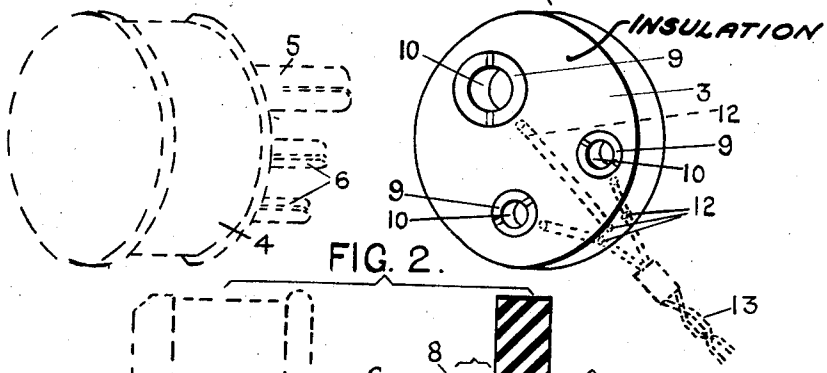
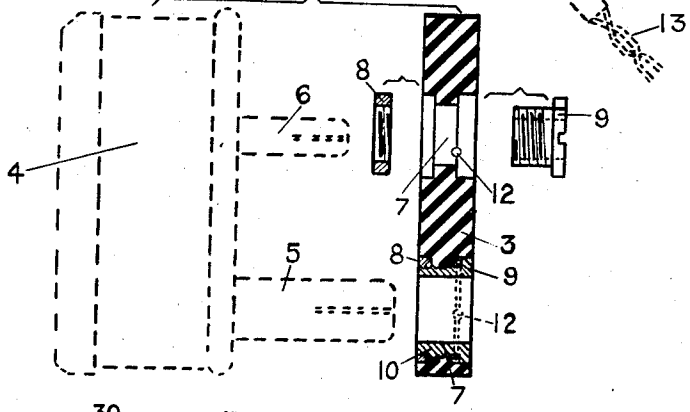


FIG. 2.



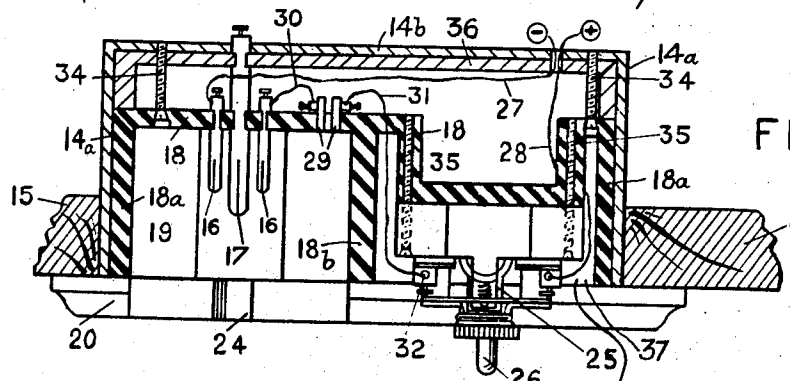


FIG. 3.

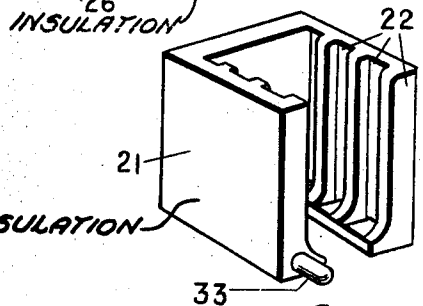


FIG. 5.

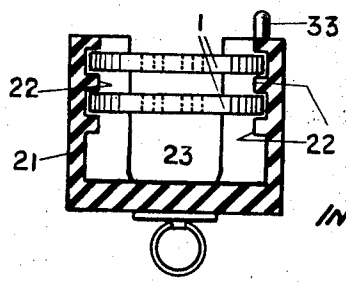


FIG. 4.

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Patented Dec. 21, 1943 2,337,212

UNITED STATES PATENT OFFICE

2,337,212

ELECTRIC WALL FITTING

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Original application January 29, 1941, Serial No. 376,480. Divided and this application June 23, 1941, Serial No. 399,260. In Great Britain February 8, 1940

8 Claims. (Cl. 200—51)

This invention which relates to subject-matter divided out of co-pending application for Letters Patent Serial No. 376,480, filed January 29, 1941, relates to electric couplings of the plug-and-socket type as fitted to walls, skirting boards or other parts of buildings for enabling current to be supplied to a plurality of current consumption apparatus such as, for example, electric portable lamps, electric heaters, electric irons, or wireless receiving apparatus.

The object of the present invention is to provide an improved electric wall fitting adapted for use in conjunction with a cable terminal or adapter having conductively-lined apertures adapted to be threaded upon the pins of a plug-and-socket coupling.

It is a further object of the invention to provide an electric wall fitting having the pins of the plug-and-socket coupling fixed in position on the wall or other surface of the building and to enable a cable terminal or adapter as aforesaid or a plurality thereof to be readily threaded upon the fixed pins.

A still further object of the invention is to provide an improved wall fitting comprising a combined electric wall switch and plug-and-socket coupling, whereof the latter is adapted for use with a cable terminal or adapter having the characteristics aforesaid.

The electric wall fitting forming the subject of the present invention is especially adapted for use with the improved cable terminal or adapter forming the subject of our co-pending patent application Serial No. 376,480 filed January 29, 1941.

According to our present invention a wall fitting secured or adapted to be secured to the wall or other surface of a building is provided with a drawer slidable through an opening in the face plate of the wall fitting, the said opening being in front of conducting pins secured in the wall fitting, and the said drawer is provided internally with means for supporting one or more cable terminals or adapters of the character aforesaid in such a position that, when the drawer is inserted into the wall fitting, the terminals or adapters will be threaded upon the pins of the wall fitting. Conversely, on withdrawing the drawer, the terminals or adapters are withdrawn with the drawer.

The wall fitting, which may be adapted to be accommodated in a recess in the wall, may incorporate an electric switch, in which case the switch may be connected to the conducting pins of the wall fitting through a make-and-break contact, this contact being made by insertion of the drawer and broken by withdrawing the drawer, so that no current will be supplied to the conducting pins when the drawer is removed, even when the switch is in the "on" position.

Other objects and advantages of the present invention will appear on reference to the accompanying drawing whereon Figs. 1 and 2 illustrate the improved cable terminal or adapter forming the subject of our aforesaid copending patent application and herein illustrated and described for the purpose of enabling our present invention to be more readily understood.

In Fig. 1 the cable terminal or adapter is shown in perspective view, the cable leads thereto being shown in broken lines. Adjacent the adapter and also shown in broken lines is an ordinary plug member in perspective view. Fig. 2 shows the cable terminal or adapter of our copending patent application in cross-sectional view with parts of one of the metallic linings separated from the adapter, and also shown in broken lines in side view is an ordinary plug member.

Figs. 3, 4 and 5 illustrate an electric wall fitting according to the present invention, Fig. 3 being a sectional plan view of the wall fitting without the drawer, which is shown separately in sectional plan view in Fig. 4. Fig. 5 is a perspective view of the drawer.

The terminal or adapter which is shown in full lines in Figs. 1 and 2 and which forms the subject of our copending patent application comprises a disc 3 of insulating material adapted for use with a standard electric plug member shown in broken lines at 4, the one illustrated being a three-pin plug member having an earthing pin 5 and current-conducting pins 6. The disc 3 has three apertures, each aperture 7 having its ends enlarged to receive a ring 8 and the head 9 of a tubular screw 10. The ring 8 is internally screw-threaded to fit the externally screw-threaded hollow shank of the screw 10. The disc 3 is formed internally with passages 12 which lead from the apertures 7 to the edge of the disc 3, so that the usual conducting leads 13 can be threaded through the passages 12 and can be conductively connected to the screw 10.

Referring now to Figs. 3, 4 and 5, the wall fitting there shown comprises a box 14 adapted to be accommodated in a recess in the wall, the skirting board of which is marked 15 on the drawing. This box is closed at the sides 14a and back 14b and part of the sides 14a of the box are lined with insulating material 36. In-

serted into the box is a moulded insertion 18 of insulating material, secured to the back of the box 14 by screws 34. This insertion is moulded to form a lining 18a for the sides 14a of the box and a partition 18b which separates the front portion of the box into a drawer compartment 19 and a switch compartment 37. That part of the insertion 18 which forms the back of the compartment 19 supports a fixed plug member which comprises a pair of conducting pins 16 and an earthing pin 17 of conventional type. A removable face plate 20 is provided for closing the front of the box 14 and this face plate has an opening in it for the insertion of a drawer 21 shown in perspective in Fig. 5. The drawer 21 has internal vertical ribs or guides 22 for supporting one or more terminals or adapters 1 preferably of the form shown in Figs. 1 and 2, the terminals or adapters being supported in a vertical position in the drawer 21 and in such a position that, when the drawer 21 is inserted into the compartment 19, the apertures in the terminals or adapters register with and slide upon the pins 16 and 17. When the drawer 21 is abstracted, the terminals or adapters move with the drawer and slide off the pins 16 and 17. The drawer 21 has an open top for the insertion of the terminals or adapters which are held in spaced relationship in the drawer by the internal vertical ribs 22, and the back and bottom of the drawer are suitably apertured or cut away at 23 to allow for the passage of the current leads or cables to the ends of which the terminals or adapters 1 are fitted, these leads or cables passing out through the front of the box 14 through an opening 24 in the face plate 20 below the drawer opening. The back of the drawer 21 is also open or cut away to permit the pins 16 and 17 to pass into the drawer and through the terminals or adapters therein when the drawer is closed.

It is explained that the terminals or adapters 1 are connected to the flexible leads or cables of current consuming apparatus such as portable electric lamps, heaters, radio receiving sets or electric irons. In Fig. 4 we have shown two adapters 1 inserted in the drawer 21, each being assumed to be connected to its own current consuming apparatus, for example, one being connected to a radio-receiving set and the other to a portable electric lamp, so that, by inserting the adapters 1 in the drawer 21 as shown in Fig. 4, and by inserting the drawer 21 in the compartment 19 shown in Fig. 3, electric current may be supplied by the two pins 16 simultaneously to both a radio receiving set and a portable lamp, the current consuming apparatus being earthed through the pins 17. By withdrawing the drawer, and removing one of the adapters 1, either the radio receiving set or the portable lamp can be disconnected from the drawer 21, since the opening 23 in the bottom and back of the drawer allows the flexible connections from the adapters 1 to the radio receiving set or the portable lamp to pass out of the drawer 21 when the adapter 1 is removed from the drawer. Obviously the drawer 21 may have a sufficient number of ribs 22 to receive and support three or more adapters 1 if it is desired that the wall fitting shall be capable of supplying current to three or more current consuming devices.

The terminals or adapters 1 may be of such shape or outline that, when they are placed in the drawer 21, the apertures in the terminals or adapters will correctly register with the pins 16 and 17 and the terminals or adapters may be of such shape or outline that they will be prevented from turning out of register with the pins 16 and 17.

The wall fitting shown incorporates an electric switch 25 of any conventional type mounted in the compartment 37 with the switch lever or handle 26 protruding through a hole in the face plate 20. The main current leads 27 and 28 to the wall fitting pass into the box 14 through an opening in the back thereof and the switch 25 may be interposed in known manner between the main current leads 27 and 28 and the pins 16, but we prefer to provide a make-and-break contact between the switch 25 and the pins 16 and for this purpose a two-part or divided socket 29 is fitted in the back of the compartment 19, one half of the socket 29 being connected by a lead 30 to one of the pins 16 and the other half of the socket 29 being connected by a lead 31 to one of the switch contacts 32. The main leads 27 and 28 pass one to the switch and the other to one of the pins 16 as shown. The divided socket 29 is adapted to receive a contact pin 33 carried by the drawer 21, the arrangement being such that, when the drawer is closed, the contact pin 33 completes the connection between the leads 30 and 31 and when the drawer is pulled out contact through the socket 29 is broken by withdrawal of the pin 33 from the socket 29. Consequently the switch is ineffective except when the drawer 21 is in place in the box.

The moulded insertion 18 also serves as a base for the switch 25 which is secured in place by screws 35. The drawer 21 is preferably made of insulating material.

We claim:

1. An electric wall fitting comprising a casing having a drawer compartment therein open at the front, a drawer slidable in said compartment, conducting pins secured in said compartment to project towards the open front thereof, said drawer being so constructed that said conducting pins will project into the interior thereof when said drawer is inserted into said compartment, and means in said drawer for positioning therein an adapter having conductively-lined apertures adapted to be threaded upon the said pins by insertion of the drawer, and to be withdrawn from the said pins when the drawer is opened.

2. An electric wall fitting comprising a casing having a drawer compartment therein open at the front, a drawer slidable into and out of the said compartment, a coupling plug member secured in said casing with the pins of said plug member projecting into and towards the front of said compartment and through an opening in the back of said drawer, means in said drawer for receiving and supporting a plurality of adapters in spaced parallel relationship therein, and contact means associated with apertures in each of said adapters to engage the pins of said plug member when the drawer is inserted and to be disengaged from the said pins when the drawer is opened.

3. In combination, a casing having an open front, a drawer adapted to slide in said casing, electrical conducting pins secured in said casing to project towards the front thereof through an opening in the back of the drawer, vertical guides on the inner sides of said drawer, and a plurality of adapters receivable between said guides, each of said adapters having conductively-lined apertures to enable said adapters to be threaded upon

the conducting pins when the drawer is closed, and said guides effecting the withdrawal of the adapters from said pins when the drawer is opened.

4. An electric wall fitting comprising a casing open at the front, a drawer compartment in said casing, a switch mounted in said casing at one side of said compartment, a drawer slidable in said compartment, electrical plug pins secured in the rear of said compartment to project forwards through an opening in the back of the drawer, means in said drawer for positioning therein an adapter adapted to be threaded upon the said pins when the drawer is inserted and to be withdrawn from the said pins when the drawer is opened, an electrical connection between one contact of the switch and one of the plug pins, a circuit-breaker in said electrical connection, and a contact element on the drawer, said contact element being adapted to cooperate with the circuit-breaker to complete the said electrical connection when the drawer is closed and to permit said circuit breaker to break the said electrical connection when the drawer is pulled out.

5. An electric wall fitting comprising a casing open at the front, a drawer compartment in said casing, a switch mounted in said casing at one side of said compartment, a drawer slidable in said compartment, electrical plug pins secured in the rear of said compartment to project forwards through an opening in the back of the drawer, means in said drawer for positioning therein an adapter adapted to be threaded upon the said pins when the drawer is inserted and to be withdrawn from the said pins when the drawer is opened, an electrical connection between one contact of the switch and one of the plug pins, a divided socket secured in the rear of said compartment and interposed in said electrical connection to break the said connection, and a contact pin projecting from the back of the drawer and adapted to enter said socket to complete the said electrical connection when the drawer is closed.

6. An electric wall fitting comprising a casing having an open front, an insulator therein dividing said casing into a drawer compartment and a switch compartment each open to the front of said casing, a drawer slidable in said drawer compartment, a switch mounted in the switch compartment, a face plate closing the front of said casing and having openings in it for the drawer and the switch lever, electrical plug pins secured in the rear of the drawer compartment to project through an opening in the back of the drawer, means in said drawer for positioning therein an adapter having conductively-lined apertures adapted to register with said pins, openings in the bottom of the drawer and in the face plate for the passage of electric cable leads connected to said adapter, a circuit-breaker between one of said pins and one of the switch contacts, and a contact element carried by the drawer and adapted to cooperate with said circuit-breaker to complete the circuit therethrough when the drawer is closed and to break the said circuit when the drawer is opened.

7. An electric wall fitting comprising a casing having a drawer compartment therein open at the front, a drawer provided with internally disposed positioning means and adapted to slidably fit into said compartment, conducting pins secured in said compartment projecting outwardly toward the front thereof, said drawer being so constructed that said conducting pins will project into the interior thereof when said drawer is inserted into said compartment, means for supplying electrical energy to said pins, and an adapter having a plurality of conductively lined apertures adapted to be held in place by said positioning means, whereby said apertures will slide along and frictionally engage said pins when and only when the drawer is moved inwardly toward the rear of said compartment.

8. An electric wall fitting comprising a casing having a drawer compartment therein open at the front, a drawer provided with internally disposed positioning means and adapted to slidably fit into said compartment, conducting pins secured in said compartment and projecting outwardly toward the front thereof, said drawer being so constructed that said conducting pins will project into the interior thereof when said drawer is inserted into said compartment, means for supplying electrical energy to said pins, means including a switch for controlling the supply of electrical energy to said pins, and an adapter having a plurality of conductively lined apertures adapted to be held in place by said positioning means whereby said apertures will slide along and frictionally engage said pins when and only when the drawer is moved inwardly toward the rear of said compartment.

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