Jan. 26, 1954 C. A. LINDEMAN, JR 2,667,547

ELECTRICAL FUSE WALL OUTLET

Filed May 31, 1952

FIG. 1

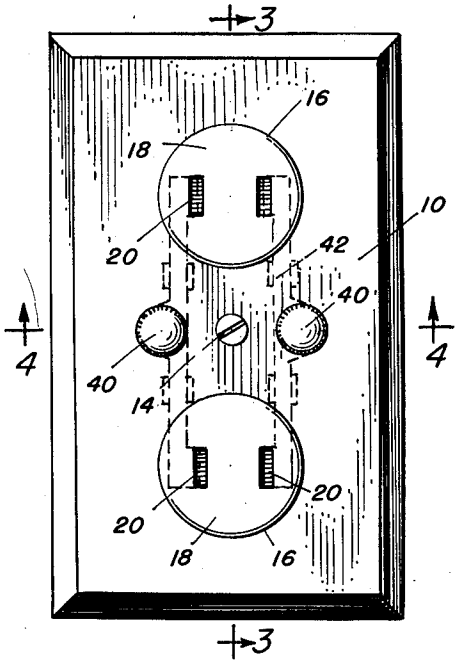


FIG. 2

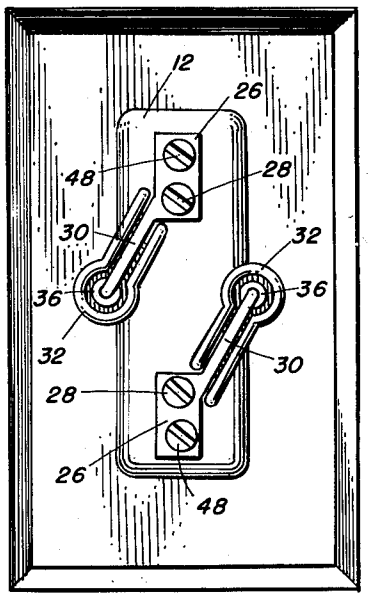


FIG. 3

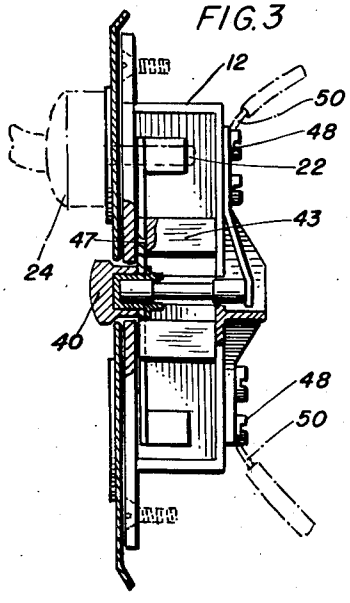


FIG. 4

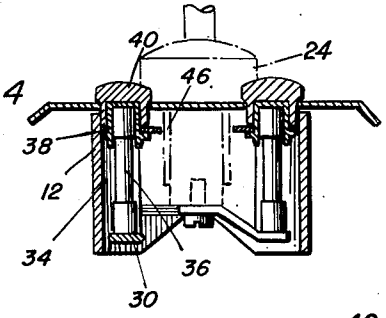
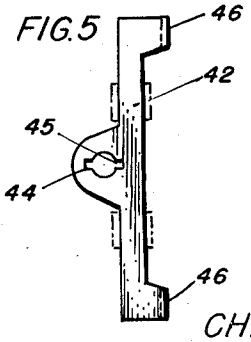


FIG. 5



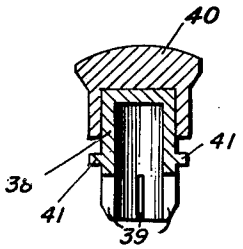


FIG. 6

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ELECTRICAL FUSE WALL OUTLET

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5 Claims. (Cl. 200—115.5)

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This invention relates in general to an electrical outlet box and receptacle and more particularly to a fuse arrangement in connection therewith.

An important object of the invention is to provide means for ready access to fuses disposed in the wall receptacles and removable directly therefrom for replacement.

A further object of the invention is to provide a simple construction and arrangement of fuses in an electric wall receptacle which will occupy a minimum of space and in which each receptacle will hold its own fuse making it unnecessary to locate the proper fuse in a remote panel where a number of other fuses are contained.

A still further object of the invention is to provide a new and improved wall fuse receptacle adapted to be made of light plastic material and to be substituted for ordinary outlet receptacles now commonly used.

Other objects of the invention will appear in the specification and will be apparent from the accompanying drawings in which,

Fig. 1 is a front elevation of the exposed plate of a wall outlet receptacle for a pair of connector plugs and with fuse holding knobs at each side of the center thereof.

Fig. 2 is a rear elevation of the construction shown in Fig. 1.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is a perspective view of one of the blade connectors; and

Fig. 6 is an enlarged detail of one of the fuse holders.

Main and auxiliary fuses are now commonly mounted in a main switch or a fuse box in the basement or some other remote location so that if a short circuit occurs in any part of the system, it is necessary for a person to go to the switch box and sometimes to laboriously locate the switch which is blown in order to renew the circuit.

The present invention locates the fuses directly in the outlet box which is being used and if an electrical device which is plugged in a particular receptacle becomes inoperative, it is the fuse for that particular circuit which would be blown, it is necessary only to remove the defective fuse and to replace it with a good one and the circuit is then restored.

Referring now more particularly to the drawings, a wall plate 10 is secured to a wall receptacle 12 in any well known manner as by a screw 14 and extending through openings, in the plate 16. In the plate are insulated plug receptacles 18 having spaced openings 20 for blades 22 of an electric plug 24.

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The receptacle 12 may be made of ceramic or other plastic materials as now commonly used and at the bottom of the receptacle are conductor plates 26 secured thereto at opposite ends by fastening screws 28 or other suitable means. Each conductor plate has a tongue 30 projecting angularly therefrom and adapted to be seated in an open surrounding wall 32 formed as a part and extension of the receptacle.

Each wall has a rounded projection near the longitudinal center of the receptacle 12 and extending at the side of the receptacle is a rounded extension 34 for seating a fuse 36 therein, one end of the fuse being located upon one extremity of one of the tongues 30 and making electrical contact therewith.

The other end of each fuse engages within a sleeve 38 of electrical conducting material which is tightly secured to a cap 40 having a knurled top and projecting through the plate 16 to the upper side thereof, one fuse and its mounting being located at each side of the center of the plate for a double plug receptacle.. The lower end of the sleeve has a number of slits 39 extending inwardly from the edge thereof, and midway at the opposite sides of the sleeve are projections 41 for locking the fuses in place.

A conductor blade 42 has a lateral projection intermediate its ends with an opening 44 having opposite slots 45 adapted to permit the projections 41 of the fuse cap assembly to be inserted therethrough, the fuse cap slightly rotated and the projections 41 engaging at the under side of the blade. This blade is of sufficient length to span the spaced openings 20 for the similar sides of opposite plugs 18, and the opposite extremities 46 of the blade are turned at an angle to extend substantially parallel with the openings 20 to be resiliently engaged by the blades of a plug 24 inserted in the down openings of a plug. Each of the blades 42 is supported by a partition 43 extending upwardly from the bottom of the receptacle 12 at opposite sides of the blades and having a shallow seat 47 at the top in which the blades are held against the top of the receptacle.

Each cap assembly is thereby engaged below one of the blades 42 by the bayonet joint consisting of the projections 41 of the sleeve 38 and the recesses 45 in the blades so that the cap is easily removed from the outside of the plate, and the

removal of the cap causes the fuse to be pushed slightly outward by the resilience of its tongue **30** whereby it may be grasped between the fingers and removed, a new fuse inserted and the cap replaced.

To connect the opposite contact plates with a source of current supply, additional end screws **48** are inserted into the plates **46** for engaging conductors **50** by which connection is made through conduits or in any well known manner to any suitable source of current connection.

With this construction, each plug is connected to the source of current supply through both of the fuses **36**, one connected to each of the blades **42** for both of the plug terminals. A similar construction may be employed for each single receptacle plug or for a receptacle for more than two outlet plugs without materially changing the construction.

The fuses are thus easily accessible for removal and replacement, no extra tools are required, a fuse plug for each receptacle is located in the receptacle itself so that anyone using the receptacle and having the current cut off will know precisely which fuse or fuses to replace without going to a remote main fuse box.

While the preferred construction has been described in some detail, it should be regarded as an illustration or an example rather than as a limitation or restriction of the invention, since various changes in the construction, combination, and arrangement of the parts may be made without departing from the spirit and scope of the invention.

I claim:

1. An electrical outlet box comprising a receptable having a pair of electrical plug receivers with slots therein for spaced blades of an electric connector plug, a pair of electrical fuses, means for mounting the fuses in the outlet box to extend centrally on opposite sides between the outlet plugs, a conductor blade having a perforated central portion connected to one terminal of each fuse and having bent extremities disposed in the slots of the opposite plug connectors, a spring tongue at the bottom of the receptacle to engage one end of each fuse, means for making an electrical connection with the tongue, a conductor sleeve at the upper end of each fuse extending through the perforation in its blade and to which the blade is electrically connected, and a cap projecting through the top of the receptacle and attached to the sleeve for removing it from the outside of the receptacle to renew a fuse.

2. An electrical fused outlet box, in accordance with claim 1, in which each blade within the box is supported at opposite sides of its mid-portion by a partition having a recess at its outer end in which the blade is freely seated.

3. An electrical fuse outlet, in accordance with claim 1, in which the inner end of each fuse is engaged by one end of a flat spring tongue electrical conductor and the other end of the conductor having means for securing it to the bottom of the box with an enclosing wall in which the movable tongue portion is seated for protecting it during its resilient movement.

4. An electrical fused outlet box, comprising a receptacle having spaced plug connector outlets and fuse openings at the sides of the center between the plug connectors, a fuse for each of the fuse openings, a sleeve for engaging one end of each fuse, a cap engaging the sleeve and extending outwardly from the box for engaging one end of the fuse, a conductor blade for each fuse having an offset central portion with a perforation therethrough for receiving the fuse sleeve therethrough and with opposite slots in said opening, projections from the sides of the sleeve insertable through the openings to make a bayonet joint connection with the corresponding blade, means within the box for seating intermediate portions of the blades therein, the extremities of the blades having bent portions located in the corresponding openings for the opposite receptacle plugs at one side of the center between them, a spring tongue conductor secured at the bottom of the receptacle and forming an electrical conductor attachment at one end, the other end of the spring tongue connector extending opposite the corresponding end of the fuse for holding it resiliently in the box so that the fuse and the sleeve with the attached cap at the other end are pressed from the box when the projections of the sleeve are moved by the cap to register with the recesses in the opening of the blade.

5. An electrical fuse outlet in accordance with claim 3, in which two spring tongue conductors extend angularly outward from the ends of the bottom of the receptacle to opposite ends thereof where the ends of the fuses are resiliently engaged.

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