

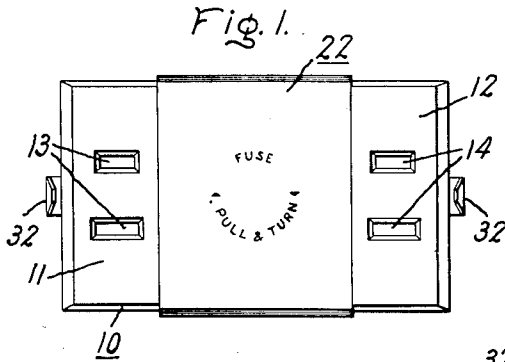
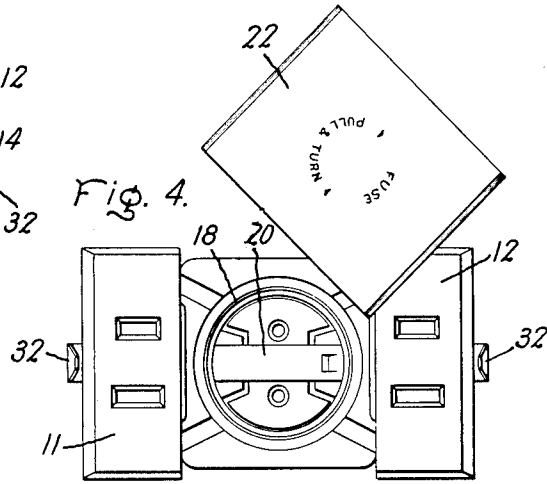
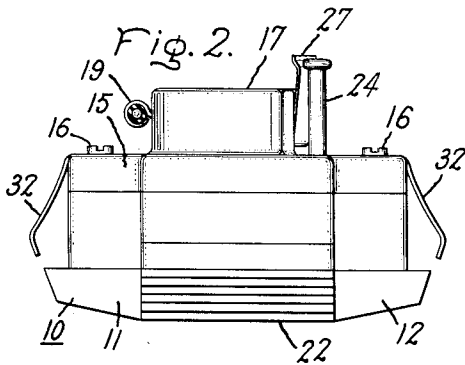
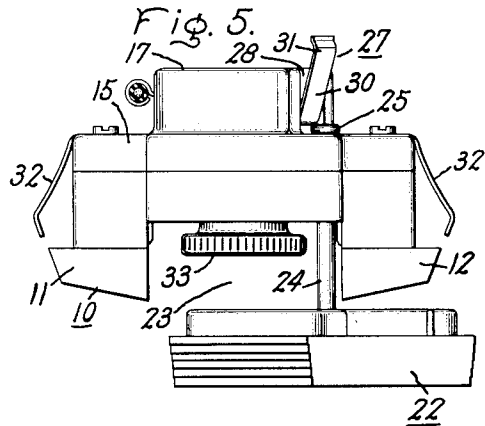
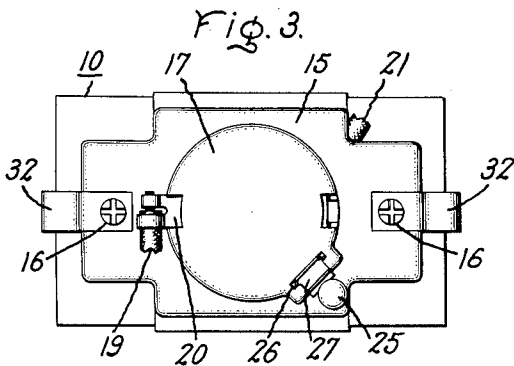
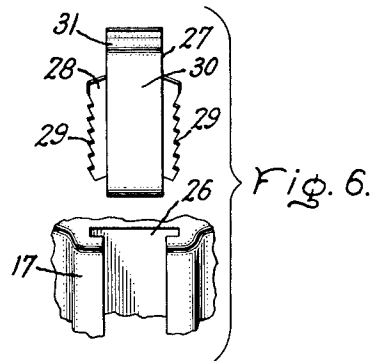
July 24, 1956

G. B. BENANDER

2,756,401

COMBINED APPLIANCE OUTLET AND FUSE HOLDER

Filed Oct. 29, 1953



Inventor:
George B. Benander,
by *Attkisson*
His Attorney.

1

2,756,401

COMBINED APPLIANCE OUTLET AND FUSE HOLDER

George B. Benander, Oaklawn, R. I., assignor to General Electric Company, a corporation of New York

Application October 29, 1953, Serial No. 388,944

4 Claims. (Cl. 339—36)

The present invention relates to a combined appliance outlet and fuse holder for use on electric ranges or other electrical apparatus.

When an electric range for use in the home is designed to operate on 230 volts at maximum heat, a separate 3-wire circuit and a service entrance switch rated to at least 60 amperes is usually provided for its operation. Today it is common practice to provide an appliance outlet, rated at 115 volts and 15 amperes, on the backsplash of the range to permit a small appliance such as a toaster, coffee maker, or waffle iron to draw its power from the range circuit. Since the outlet circuit operates at a lower voltage than the range circuit, a separate fusing means must be provided for each circuit.

One object of my invention is to provide an improved construction and arrangement wherein a fuse holder is combined with an appliance outlet into a unitary structure which may be mounted on the front surface of the backsplash of an electric range, whereby a fuse may be easily inspected and replaced, if necessary, without the use of any tools or the dismantling of any part of the range.

A further object is to provide a simple cover means which is adapted to conceal the fuse in its mounted position and one which may be easily moved out of the way to gain access to the fuse.

According to my invention, a fuse is inserted in series with an appliance outlet having one or more outlet branches each with a pair of slots for receiving the contact prongs of an attachment plug. A screw shell is provided in the front wall of the outlet to receive a plug fuse. In order to meet the requirements of the Underwriters' Laboratories Inc., it is necessary to provide a cover which overlies the fuse so that in the event of a short circuit or an overload, a defective fuse cannot explode into the room or otherwise cause a fire hazard.

My invention, therefore, is particularly concerned with a combined appliance outlet and fuse holder with a novel cover plate structure for overlying the fuse.

My invention will be better understood from the following description taken in connection with the accompanying drawing, and its scope will be pointed out in the appended claims.

In the drawing:

Fig. 1 is a front elevational view of a combined appliance outlet and fuse holder embodying the invention.

Fig. 2 is a top plan view of the outlet of Fig. 1.

Fig. 3 is a back elevational view of my outlet with the top wall of the outlet faced down.

Fig. 4 is a front elevational view similar to the showing in Fig. 1, with the cover member in the open position to expose the fuse holder.

Fig. 5 is a top plan view of Fig. 4, with a plug fuse mounted in its holder.

Fig. 6 is a fragmentary view of the back portion of my outlet showing the stud locking spring and a portion of the slot in which it is to be mounted.

Referring in detail to the drawing, the combined ap-

2

pliance outlet and fuse holder embodying the invention comprises a hollow housing formed in part by a recessed body member 10 which may be made of molded urea or other suitable insulating material. The body member 10 is provided at its front portion with one or more branch outlets 11 and 12 each having a pair of spaced slots 13 and 14 for receiving the contact prongs of attachment plugs. The back portion of the recessed body member 10 is closed by a recessed back member 15 of a molded phenolic or other suitable insulating material which forms the remaining portion of the housing. The back member 15 is held to the body member 10 by a pair of screws 16 which extend through apertures in the back member 15 and are threaded into the walls of the body member 10. A screw shell structure 18 is located within a cup-like extension 17 of the back member 15. This screw shell serves as the mounting means for a plug fuse 33. A center contact 20 is seated on the bottom wall of the screw shell 18 and is insulated therefrom. An end of said center contact extends through an aperture in the cup-like extension 17 whereby an ungrounded conductor 19 is connected to the said end of said center contact 20 as is seen in Fig. 3. An ungrounded contact strip (not shown) is connected to the outer surface of the screw shell 18, with one end of said contact strip being located within a prong-receiving slot 13 and the other end of said strip being located within a prong-receiving slot 14. One end of a grounded contact strip (not shown) is located within the remaining slot 13 and the other end of said strip is located within the remaining slot 14. A neutral or ground wire 21 extends into an aperture in the bottom wall of the outlet and is connected to the said grounded contact strip (not shown).

From the above it will be understood that I have provided a fuse in series with a pair of branch outlets 11 and 12 of a duplex appliance outlet.

The open end of the screw shell 18 faces outwardly toward the front of the outlet and is located between the branch outlets 11 and 12 as is seen in Fig. 4. The screw shell structure is disposed to the rear of the branch outlets 11 and 12 so that there is formed between said branches a depressed or cut-out portion 23. A recessed cover plate 22 is dimensioned to fit into the depressed portion 23 so as to completely overlie the fuse 33 mounted in the screw shell 18. Support for the cover plate 22 is provided by a stud 24 which is fixedly mounted in the back wall of the cover plate 22, for example, as being driven into a suitably dimensioned hole near a corner thereof. The outer end of said stud is provided with an enlarged head 25. When the outlet is assembled, the stud 24 extends through aligned apertures formed in the body member 10 and the back member 15. When so assembled, the head 25 serves to prevent the complete removal of the cover plate 22 from the outlet.

The stud member 24 is, however, of such a length as to allow the recessed cover plate 22 to be pulled out of the depressed portion 23 so that, as is seen in Fig. 5, it is displaced from the branch outlets 11 and 12 so that the cover plate may be rotated to a position shown in Fig. 4, which exposes to view the fuse holder and the fuse 33 mounted therein.

I have provided a T-shaped slot 26 on the outer surface of the cup-like extension 17 and extending longitudinally thereof. A stud locking spring 27 of generally V-shape with legs of different sizes is adapted to be mounted in said slot. As is seen in Fig. 6, the short leg 28 of the spring 27 is provided with serrated edge portions 29 which are inclined forwardly to engage the walls of the T-shaped slot. The longer leg 30 of the spring 27 is of narrower width and is provided with a curved end face or latch portion 31. The spring member 27 is mounted in the T-shaped slot 26 by inserting the short leg 28 of the

3

spring member into the open end of the slot with the free end of the longer leg 30 extending outwardly from the main portion of the outlet. The curved end face 31 of the spring 27 is positioned to interfere with the free movement of the enlarged head 25 of the stud 24. When the cover plate 22 is rotated into alignment with the depressed portion 23, the cover plate may be pushed closed whereby the head 25 of the stud member deflects the spring leg 30 to the side until the head 25 passes beyond the curved end face of the spring. When the spring leg 30 snaps behind the head 25, a slight locking pressure is exerted against outward movement of the stud which will normally hold the cover plate in a closed position, as illustrated in Figs. 1 and 2.

To inspect or replace the fuse, it is merely necessary to pull the cover plate 22 outwardly in order to disengage the spring leg 30 from behind the head of the stud 24. When the cover plate 22 is completely removed from the depressed portion 23, it is rotated upwardly so as to uncover the fuse mounted thereunder.

Spring clips 32 of well-known construction are mounted under the heads of the screws 16 at either side of the outlet. To mount my outlet in the backplasher of an electric range, an opening is provided in the backplasher to receive the back portion of my outlet. To install the outlet, it is merely necessary to press the outlet through the opening from the front of the range as far as it will go. The spring clips 32 are tensioned by this action to spring behind the edges of the opening so that the outlet in its mounted position may not be removed until the springs 32 are again depressed, this time from behind the backplasher of the range.

Consequently, having described my invention of a combined appliance outlet and fuse holder, it will be readily apparent to those skilled in the art that I have provided a fused outlet which is simple in design as well as easy to manufacture. At the same time, I have provided a fused outlet wherein it is easy to inspect as well as to replace the fuse without the use of tools and without dismantling any part of the range. I have further provided a cover plate for the fuse of a unique design which safely prevents damage due to defective fuses which fail to operate properly during a short circuit or overload condition.

Modifications of this invention will occur to those skilled in the art, and it is to be understood, therefore, that this invention is not limited to the particular embodiment disclosed, but that it is intended to cover all modifications which are within the true spirit and scope of this invention.

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

1. A combined appliance outlet and fuse holder comprising an insulating hollow housing having a front wall, spaced slots in said front wall for receiving the prongs of attachment plugs, a fuse holder located in a depressed por-

4

tion of the front wall of said housing, and a cover plate arranged to overlie the said holder, said cover plate having at its edge an integral stud which extends through the said housing and has on its free end an enlarged head, a resilient latch means mounted on the back wall of said housing in the path of movement of the stud but separate therefrom whereby the cover plate is held in a closed position when the enlarged head of the stud is engaged behind the said latch means, while the cover plate may be moved to an open position by disengaging the head of the stud from the latch means so that the cover plate is free to be pulled away from the front wall of said housing and then to be pivoted about the axis of the stud member to uncover the fuse holder.

2. A combined appliance outlet and fuse holder comprising an insulating hollow housing, a fuse holder mounted with an opening at the front of said outlet, a branch outlet located at either side of said fuse holder and positioned outwardly thereof, a recessed cover plate when in its closed position arranged to extend between said branch outlets and to overlie the said fuse holder, said cover plate having at its edge an integral stud member which protrudes through the housing and has an enlarged head on its distal end, a spring means mounted on the back wall of said housing in the path of movement of the stud but separate therefrom for engagement behind the said enlarged head of the stud to hold the cover plate in a closed position whereby the cover plate may be moved to uncover the said fuse holder by pulling the cover plate from between the said branch outlets and thereby disengaging the head of the stud from the said spring means so that the cover plate is free to be pivoted about the longitudinal axis of the stud.

3. A combined appliance outlet and fuse holder as is recited in claim 2 wherein the said spring means is of thin sheet material which normally blocks the free movement of the stud and is provided at its free end with a curved latch portion which cooperates with the said enlarged head of the stud to form the locking means for holding the cover plate in a closed position.

4. A device as recited in claim 3 wherein the said sheet spring is of generally V-shape having one leg portion mounted on the back wall of the housing while the free end of the remaining leg of said spring extends outwardly therefrom to lie within the path of movement of the said stud member.

References Cited in the file of this patent

UNITED STATES PATENTS

2,437,802	Adler	Mar. 16, 1948
2,667,547	Lindeman	Jan. 26, 1954

OTHER REFERENCES

Kenmore Stove Model No. 101.984950, sold by Sears, Roebuck and Co.
--