Aug. 7, 1956 J. L. EVANS ET AL 2,758,197

ILLUMINATED OVEN

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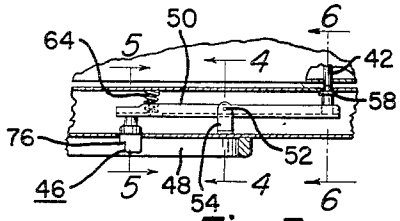


Fig. 3

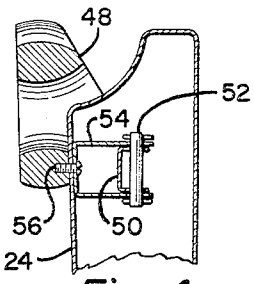


Fig. 4

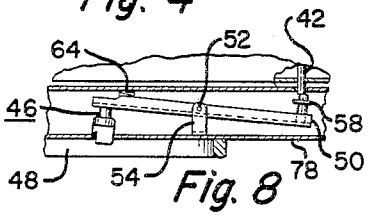


Fig. 8

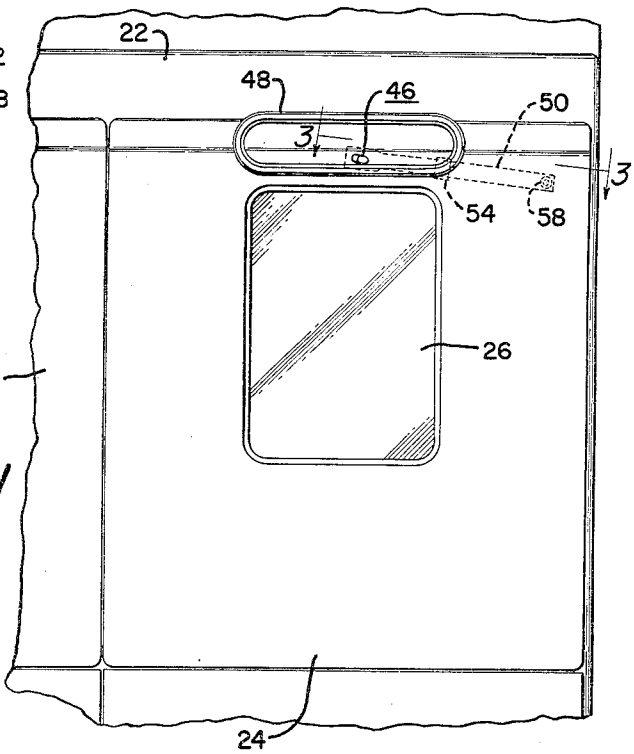


Fig. 1

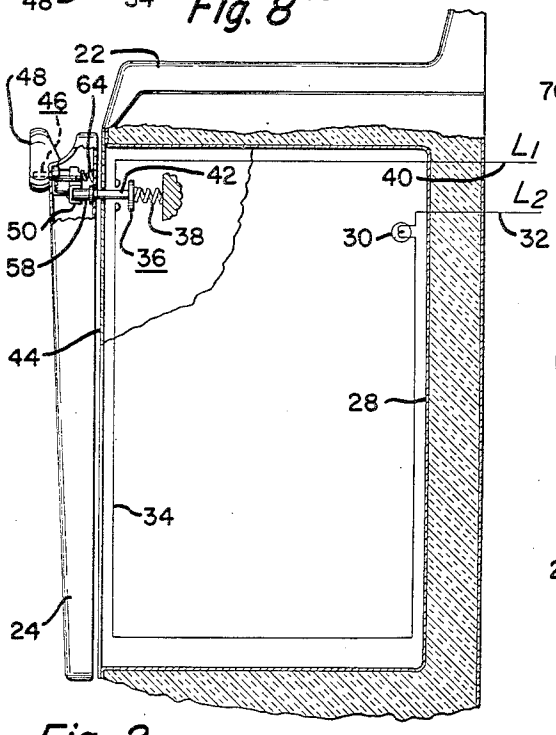


Fig. 2

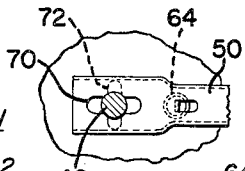


Fig. 7

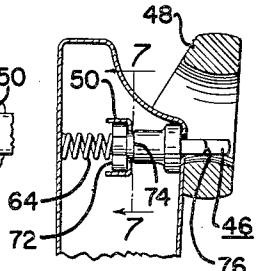


Fig. 5

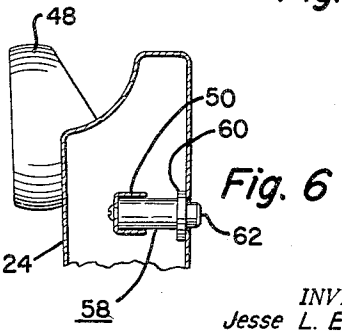


Fig. 6

INVENTORS
Jesse L. Evans and
Cecil J. Prashaw

BY R. R. Landon

Their Attorney

United States Patent Office

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ILLUMINATED OVEN

Jesse L. Evans, Tipp City, and Cecil J. Prashaw, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

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2 Claims. (Cl. 240—5)

This invention relates to a domestic appliance and more particularly to domestic ranges having an oven door provided with a window and an interior light.

Ranges are normally provided with metal doors and an interior light which is extinguished by the closing of the door and lighted by the opening of the door. Occasionally some customers desire an oven which can be looked into without opening the door.

It is an object of our invention to provide an oven door having a window capable of replacing a windowless door and to provide a simple inexpensive arrangement whereby the interior light may be lighted when the door is closed whenever desired.

It is another object of our invention to provide in cooperation with a door a simple arrangement whereby a light-controlling push member may be released whenever desired when the door is closed and also automatically when the door is opened.

It is another object of our invention to provide a lighting control upon a door which can be set and latched in the lighting position and released whenever desired.

These objects are attained in the form shown by providing a window type oven door which is interchangeable with the customary all metal door. Adjacent the door handle is a push button which connects to a lever having a projection normally held by a spring against the push rod which protrudes from the door jamb. When the push rod is pushed in, the interior light in the oven is extinguished but when it is released either by opening the door or by pushing in the push button, the light will be lighted so that the interior of the oven is illuminated when it is desired to inspect the interior.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings, wherein a preferred form of the present invention is clearly shown.

In the drawing:

Figure 1 is a front view of a part of a domestic range illustrating an oven arrangement embodying one form of our invention;

Figure 2 is a diagrammatic view in elevation and partly in section of the range shown in Figure 1;

Figure 3 is a fragmentary top sectional view of the oven door taken substantially along the line 3—3 of Figure 1;

Figure 4 is a fragmentary sectional view taken along the line 4—4 of Figure 3;

Figure 5 is a fragmentary sectional view taken along the line 5—5 of Figure 3;

Figure 6 is a fragmentary sectional view taken along the line 6—6 of Figure 3;

Figure 7 is a fragmentary sectional view taken substantially on the line 7—7 of Figure 5; and

Figure 8 is a sectional view similar to Figure 3 but showing the push button pushed in and locked in the lighting position.

Referring now to the drawings and more particularly to Figure 1, there is shown a domestic electric range 20 provided with a range top 22 and an oven door 24 beneath

the range top. The oven door 24 is provided with a window 26 for viewing the interior of the oven when the door 24 is closed. The interior of the oven is surrounded by a liner 28 provided with an electric light 30 for illumination. This electric light may be located wherever it provides the most satisfactory illumination.

The light 30 is connected to a supply conductor 32 and is also connected by the conductor 34 to a switch 36 which may be moved to the closed position by the spring 38. The switch 36 is connected to the second supply conductor 40. The switch 36 is provided with a push rod 42 propelled by the spring 38 through an aperture in the door jamb 44 at the side of the liner 28. This push rod 42 may be used with an ordinary all metal door and our invention also makes it particularly usable with the window type door. When used with an ordinary all metal door, the door in the closed position pushes the push rod 42 toward the rear of the cabinet against the force of the spring 38 so that the switch 36 is held open as shown in Figure 2. When the door is opened, the push rod 42 is released and the switch 36 moves to the closed position, lighting the light so that the interior of the oven is illuminated whenever the door is opened.

According to our invention, we also provide means for lighting the light 30 whenever desired even though the door 24 remains closed. For the purpose we provide a push button 46 projecting from the outer face of the oven door 24 directly adjacent the ornamental handle 48 so that it may be readily pushed in by the thumb or one of the fingers. This push button 46 is connected to one end of a simple lever 50 preferably made of an angle iron or a channel-shaped member. This lever 50 is pivoted to a pivot pin 52 mounted in a U-shaped bracket 54 and fastened to the outer wall of the door by the screw 56 which threads through the outer wall of the door 24 into the handle 48. The opposite end of the lever 50 is provided with a stud 58 having a flange 60 normally resting against the inner wall of the door 24 as shown in Figure 6. The stud 58 is also provided with a projection 62 which projects through an aperture in the rear wall of the door 24 directly opposite the push rod 42 as shown in Figure 2.

The lever 50 is provided with a coil spring 64 which normally keeps the flange 60 in contact with the rear wall of the door 24 as shown in Figures 2, 3 and 6. The spring 64 is made stronger than the spring 38 so that when the door 24 is closed, the projection 62 will push the push rod 42 and the switch 36 rearwardly to open the switch 36 and extinguish the light 30. However, when it is desired to light the light 30 when the door is closed, the push button 46 is manually pushed inwardly to pivot the lever 50 in the clockwise direction about the pivot pin 52 to retract the projection 62 against the force of the spring 64 to allow the push rod 42 and the switch 36 to move outwardly to closed position under the force of the spring 38 to light the light 30. The light 30 will remain lighted as long as the push button 36 is depressed. Whenever the push button 46 is released, the light 30 will be extinguished.

The push button 46 is connected to the lever 50 by a bayonet slot arrangement. For this purpose, the lever 50 is provided with a longitudinal slot 70. The innermost part of the push button 46 is provided with a pair of diametrically extending projections 72 just small enough to pass through the slot 70. The portion of the push button which is lodged in the slot 70 is cylindrical. This cylindrical portion is flanked by a shoulder 74. The projections 72 of the push button 46 are passed through the slot 70 and the push button 46 turned 90° when the shoulder 74 engages the lever 50 so that the projections 72 are held by the lever as illustrated in Figures 5 and 7. This bayonet slot connection allows a limited rocking of the push button 46 relative to the lever 50. The push button 46 is provided with a latching shoulder 76. The rocking

connection makes it possible to push the push button **46** in and move the shoulder **76** into latching position behind the front panel **78** of the door **24** as shown in Figure 8. This portion of the front panel **78** serves as a keeper to hold push button **46** in the lighting position as long as desired. It may be unlatched merely by pushing the push button **46** away from the shoulder **76** to release the shoulder **76** from engagement with the front panel **78**.

Through this arrangement anyone desiring a door with a window in it can readily substitute such a door without any additional change in the range. A simple provision is made for lighting the oven light whenever desired even though the door is closed. Also the light may be left on by having a notch in the push button **46** engage the side of the panel opening if desired.

While the form of embodiment of the invention as herein disclosed constitutes a preferred form, it is to be understood that other forms might be adopted as may come within the scope of the claims which follow.

What is claimed is as follows:

1. An oven including top, bottom, side and rear walls enclosing an oven compartment; a light supported by one of said walls arranged to illuminate said compartment, a light control means mounted upon one of said walls operatively connected to said light for controlling said light, a door for closing the front of said oven, said light control means being provided with an operating push projection at the front of the oven, said projection having a spring for propelling it into the path of movement of the door, said door being provided with a manually operable retracting means having a portion in alignment with said push projection located to depress said push projection when the door is closed, said retracting means including a manually operated handle located on the door for moving said aligning portion away from said push projection to release said push projection.

2. An oven including top, bottom, side and rear walls enclosing an oven compartment; a light supported by one of said walls arranged to illuminate said compartment, a light control means mounted upon one of said walls operatively connected to said light for controlling said light, a door for closing the front of said oven, said light control means being provided with an operating push projection at the front of the oven, said projection having a spring for propelling it into the path of movement of the door, said door being provided with a manually operable retracting means having a portion in alignment with said push projection located to depress said push projection when the door is closed, said retracting means including a manually operated handle located on the door for moving said aligning portion away from said push projection to release said push projection, said handle being mounted for movement in two directions and being provided with a latching shoulder, said door being provided with a keeper cooperating with said latching shoulder.

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