

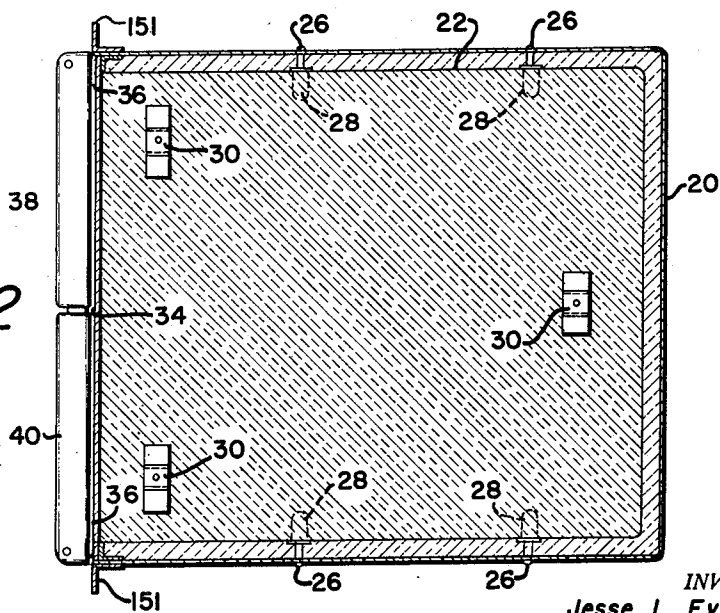
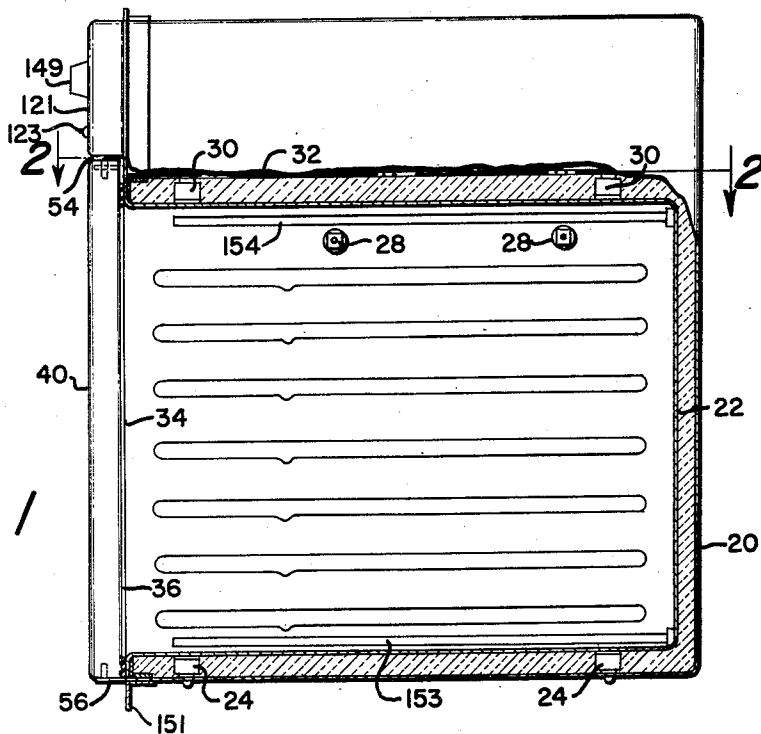
Feb. 18, 1958

J. L. EVANS ET AL
DOMESTIC APPLIANCE

2,823,664

Filed Oct. 20, 1954

3 Sheets-Sheet 1



6 INVENTOR.
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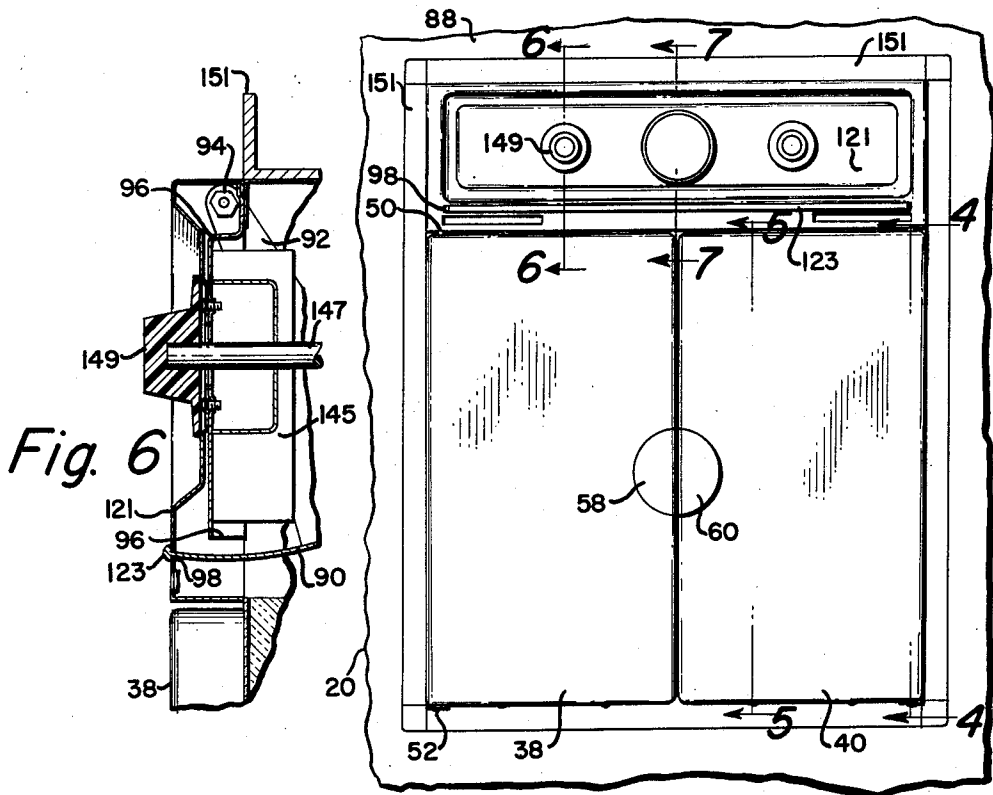


Fig. 3

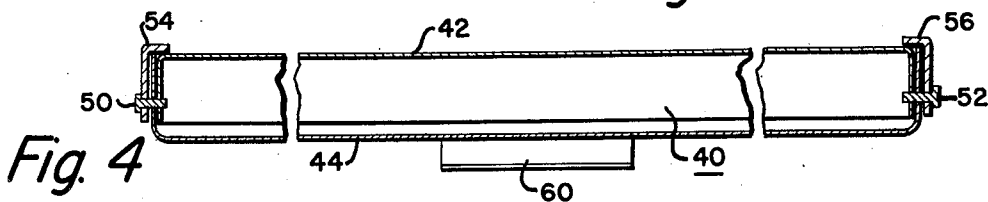


Fig. 4

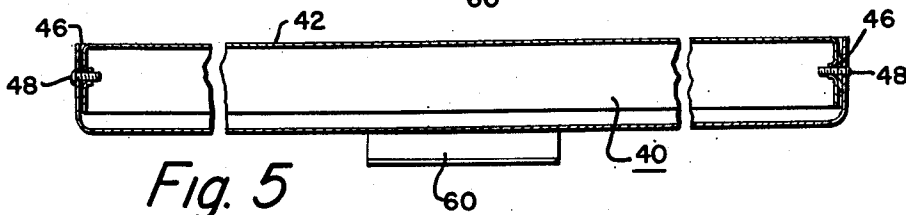


Fig. 5

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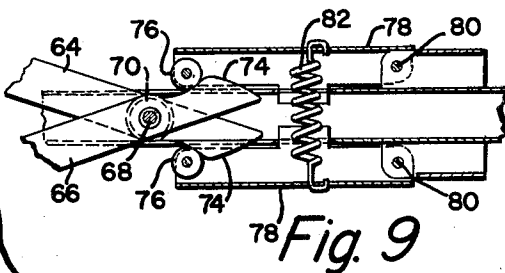
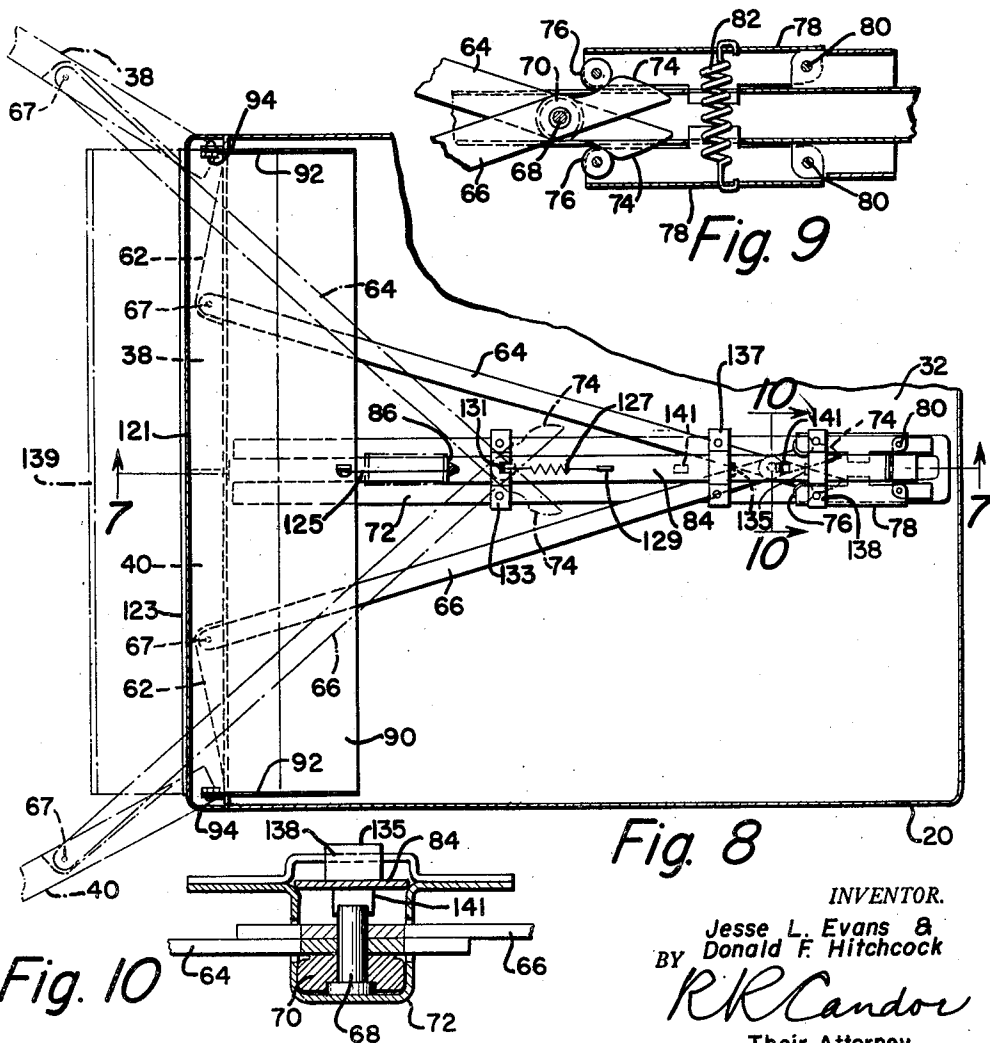
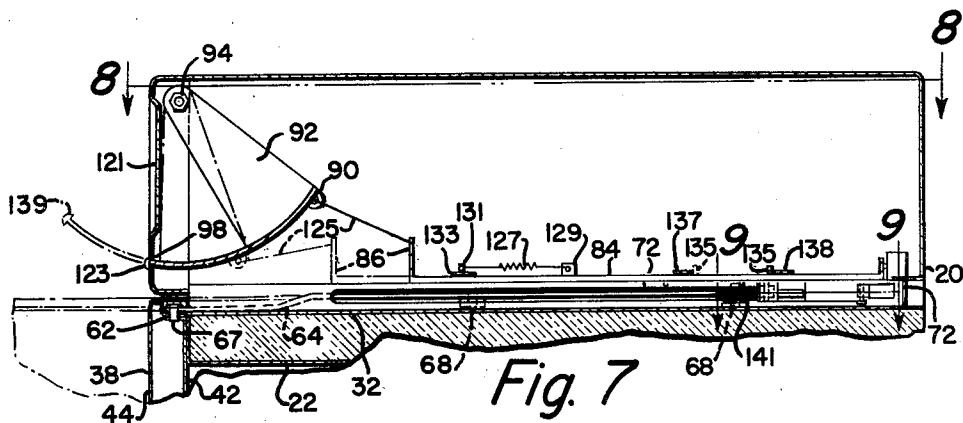
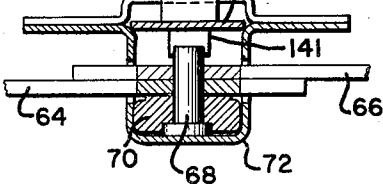


Fig. 10



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2,823,664

DOMESTIC APPLIANCE

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Application October 20, 1954, Serial No. 463,352

5 Claims. (Cl. 126—198)

This invention relates to a domestic appliance and more particularly to domestic ovens built into a wall.

Architect planned kitchens have frequently incorporated wall type ovens to secure a distinctive arrangement and appearance and also greater convenience. Because of their confinement in a wall and their location at a higher elevation, wall ovens must be constructed differently to secure maximum advantages.

It is an object of our invention to provide a wall oven in which all parts are more conveniently accessible and removable.

During broiling it is customary to partially open the oven door or doors. This permits vaporized grease and smoke from the broiling operation to flow out of the door opening of the oven up along the wall above to condense and be deposited there.

It is another object of our invention to prevent this deposition of smoke and grease on the adjacent wall surfaces automatically in conjunction with the opening of the door or doors.

These objects are attained in the form shown in the drawings by providing the oven with vertically pivoted outwardly opening double doors and by providing a removable escutcheon cover for the controls which are mounted upon a removable support. A horizontal shield is provided outwardly by a spring when the doors are opened to prevent the vaporized grease and smoke from flowing over the control panel and adjacent to the wall surface so that deposition of smoke and grease is prevented. This shield is retracted by a mechanism operated by the doors when the doors are closed. The doors are made so that the outer panels may be removed and replaced with a minimum of difficulty.

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 invention is clearly shown.

In the drawings:

Figure 1 is a side view partly in section of a wall oven embodying one form of my invention;

Figure 2 is a horizontal sectional view taken substantially along the lines 2—2 of Figure 1;

Figure 3 is a front view of the wall oven with the doors closed;

Figure 4 is a vertical sectional view through the pivot pin of one of the doors taken substantially along the lines 4—4 of Figure 3;

Figure 5 is a vertical sectional view through another portion of the same door showing the fastening means for fastening the inner portion to the outer portion of the door taken along the lines 5—5 of Figure 3;

Figure 6 is a fragmentary vertical sectional view taken substantially along the lines 6—6 of Figure 3;

Figure 7 is a fragmentary sectional view taken substantially along the lines 7—7 of Figure 3;

2

Figure 8 is a top sectional view taken substantially along the lines 8—8 of Figure 7;

Figure 9 is a sectional view taken substantially along the lines 9—9 of Figure 7; and

Figure 10 is a fragmentary sectional view taken substantially along the lines 10—10 of Figure 8.

Referring now to the drawings and more particularly to Figures 1 to 3 there is shown an oven provided with a wall structure comprising an outer box-shaped sheet metal casing 20 and an inner liner 22 supported upon the supports 24 located between the bottoms of the casing 20 and the liner 22. The sides of the liner 22 are spaced from the casing 20 by the screws 26 passing through the casing 20 and threading into the threaded wells 28 provided in the side walls of the inner liner 22. The top of the inner liner 22 is provided with supports 30 for supporting a top sheet 32. The liner 22 is preferably completely surrounded by some suitable form of heat insulation such as glass wool.

At the front of the inner liner 22 there is provided a door opening 34. Surrounding this door opening 34 and between the front edges of the outer casing 20 and the inner liner 22 is a gasket type seal 36 of silicone rubber. This seals the door opening 34 when the doors are closed. The door opening 34 is closed by the double doors 38 and 40. As shown best in Figures 4 and 5 these doors include an inner flanged pan 42 and an outer flanged rectangular sheet metal pan 44. The flanges of these pans are turned toward each other and are spaced by suitable washers 46 of heat insulating material which may be held in place by the threaded fastenings 48 which thread through both flanges as well as the washers 46 as shown in Figure 5. The doors 38 and 40 are pivotally mounted on upper and lower pivoted pins 50 and 52 supported by upper and lower brackets 54 and 56 connected to the adjacent portions of the outer shell. The doors 38 and 40 are provided with suitable ornamental handles 58 and 60.

The doors are provided with a mechanism making possible the opening of the doors simultaneously by pulling on only one of the door handles. This is accomplished by extending the doors slightly above the top sheet 32 of the oven as shown in Figure 7. The inner pan 42 of each of the doors has a depressed portion 62 providing a space between this portion 62 and the top flange of the outer pan 44 as shown in Figure 7. The front end of each of the long links 64 and 66 extends into such a recess and is pivotally connected to the door by one of the pivot pins 67. In this way the pivotal connection with the door is made in a very simple manner and yet is concealed and secure.

The inner ends of the links 64 and 66 are pivotally connected by a pivot pin 68 extending through a roller traveler 70 which rolls within an inverted U-shaped track 72. The track 72 has longitudinal slots in both sides through which extend the links 64 and 66. The pivotal connection of the inner ends of the links 64 and 66 and their guides by the roller traveler 70 in the track 72 makes it necessary that both doors move simultaneously in their opening and closing movements. The doors 38 and 40 are resiliently held closed by the cam surfaces 74 on the inner ends of the links 64 and 66. These cam surfaces cooperate with cam roller followers 76 provided upon the adjacent ends of the channel-shaped links 78 pivotally connected by the pins 80 at their opposite ends to the flanges of the guide member 72. The arms or links 78 are resiliently pulled together by a tension coil spring 82 extending between the arms or links as shown in Figure 9. This provides a force tending to cause the roller followers 76 to press and apply an inward force on the inner ends of the links 64 and 66 to provide a resilient

latching arrangement capable of firmly holding the doors 38 and 40 in the closed position shown in Figures 2, 3 and 8.

At the top of the guide member 72 there is provided a slidable metal strip 84 having its front end 86 turned upwardly. To prevent the smoke and vaporized grease from flowing upwardly along the wall surface 88 above the oven there is provided a horizontal arc-shaped metal shield 90 having arms 92 provided with a pivotal connection 94 with the removable bracket 96 as shown in Figure 6. The shield 90 is shaped in the form of an arc having its center of curvature at the pivotal connection 94. The shield 90 extends through a horizontal slot 98 in the escutcheon plate 121 of the control panel located above the doors 28 and 40 beneath the bracket 96. The front edge of the shield 90 is formed into a bead 123 on the outside of the escutcheon plate 121 as shown in Figure 6 so that it serves as a stop to limit the inward movement of the shield 90. The shield 90 is connected by a wire link 125 with the upper portion of the turned up front end 86 of the strip 84. The shield 90 is projected forwardly or outwardly by a tension type coil spring 127 having one end connected to an upturned ear 129 upon the strip 84 and having its other end connected to an upturned lip 131 upon the stationary cross member 133. The strip 84 has a second upturned lip 135 which serves as a stop by engaging the stationary cross piece 137 as shown in Figures 7 and 8 to limit the outward movement of the strip 84 in order to limit the outward movement of the shield 90. The U-shaped track 72 has a rear cross member 138.

In Figures 7 and 8 the positions of the parts when the doors are closed and the shield is retracted are shown in full lines but the parts are also shown in dot and dash outline in the positions they assume when the doors are open. The tension spring 127 will pull the slide 84 forward until the projection 135 engages the stationary cross piece 137. The slide 84 through the rigid link 125 thereby will move the shield 90 to its outermost position designated by the reference character 139 in Figures 7 and 8. The shield 90 is retracted by causing the upper end of the pivot pin 68 near the end of its rearward movement to engage a turned down lip 141 upon the slide 84 to push the slide 84 rearwardly during the latter portion of the closing movement of the doors 38 and 40. The pin 68 in its foremost position is a considerable distance away from the former position of the downwardly turned tongue or projection 141 as shown in Figures 7 and 8. The pin 68 moves more than two-thirds its complete rearward movement before it engages the projection 141 and moves it rearwardly to retract the shield 90. This insures that the shield 90 will be fully projected even though the doors are kept open only a small amount. This is important because many people prefer to do their broiling with the doors almost closed.

The removable control panel support 96 has removably mounted thereon the thermostatic control and switch means 145 which may be adjusted by the shaft 147 extending through the bracket 96 and the escutcheon plate 121 and the knob 149. This control and switch mechanism controls the broil electric heater 154 indicated diametrically in top of the oven compartment within the liner 22 and the lower back electric heater 153 in the bottom of the oven compartment within the liner 22.

The outer casing 20 is provided with outwardly extending angle-shaped flanges 151 extending outwardly to cover the opening in the wall 88 into which is set the outer casing 20.

In accordance with the provisions of Rule 78a, reference is made to the following prior filed applications: S. N. 325,248, filed December 11, 1952; S. N. 365,142, filed June 30, 1953, now Patent No. 2,751,486; S. N. 389,741, filed November 2, 1953.

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 a wall structure enclosing an oven compartment, door means operably connected to said wall structure for closing said oven compartment, said wall structure including a control panel above the door means, said control panel having in its lower portion a horizontal slot, heating means for said oven compartment, said control panel being provided with control means for said heating means, said control means being located above said horizontal slot, a shield means located in and protruding from said horizontal slot, and means including interacting means extending between the door means and said shield means for projecting said shield means forwardly beyond the control panel out of said slot when the door means is opened to protect the control means and panel from the vapors from the oven compartment.
2. An oven including a wall structure enclosing an oven compartment, door means operably connected to said wall structure for closing said oven compartment, said wall structure including a control panel above the door means, said control panel having in its lower portion a horizontal slot, heating means for said oven compartment, said control panel being provided with control means for said heating means, said control means being located above said horizontal slot, a shield means located in and protruding from said horizontal slot, the front edge of said shield being provided with an enlargement larger than said slot to prevent the front edge from passing rearwardly through said slot, and means including interacting means extending between the door means and said shield means for projecting said shield means forwardly beyond the control panel out of said slot when the door means is opened to protect the control means and panel from the vapors from the oven compartment.
3. An oven including a wall structure enclosing an oven compartment, door means operably connected to said wall structure for closing said oven compartment, said wall structure including a control panel above the door means, said control panel having in its lower portion a horizontal slot, heating means for said oven compartment, said control panel being provided with control means for said heating means, said control means being located above said horizontal slot, a shield means located in and protruding from said horizontal slot, a pivotal mounting for said shield means having a pivoting axis adjacent the upper portion of said control panel, said shield means being curved with the concave side facing upwardly, and means including interacting means extending between the door means and said shield means for projecting said shield means forwardly beyond the control panel out of said slot when the door means is opened to protect the control means and panel from the vapors from the oven compartment.
4. An oven including a wall structure enclosing an oven compartment, double doors operably connected to said wall structure for closing said oven compartment, said wall structure including a control panel above the doors, said control panel having in its lower portion a horizontal slot, heating means for said oven compartment, said control panel being provided with control means for said heating means, said control means being located above said horizontal slot, a shield means located in and protruding from said horizontal slot, a traveler, links connecting each of the doors with the traveler, stationary guide means for said traveler, spring means for projecting said shield means forwardly from said control panel out of said slot, and means engaged by said traveler coincidentally with the closing movement of said doors for retracting said shield means rearwardly into said slot.
5. An oven including a wall structure enclosing an oven compartment, door means operably connected to

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said wall structure for closing said oven compartment, said wall structure including a control panel above the door means, said control panel having pivotally connected to it a horizontal shield means, heating means for said oven compartment, said control panel being provided with control means for said heating means, said shield means extending transversely across the control panel beneath said control means, and means including interacting means extending between the door means and said shield means for pivoting said shield means forwardly from the control panel when the door means is opened to protect the control means and panel from the vapors of the oven compartment and for pivoting said shield means rearwardly when the door means is closed.

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