April 7, 1964 H. E. MILLS 3,127,890

OVEN CLOSURE CONSTRUCTION

Original Filed Sept. 23, 1960

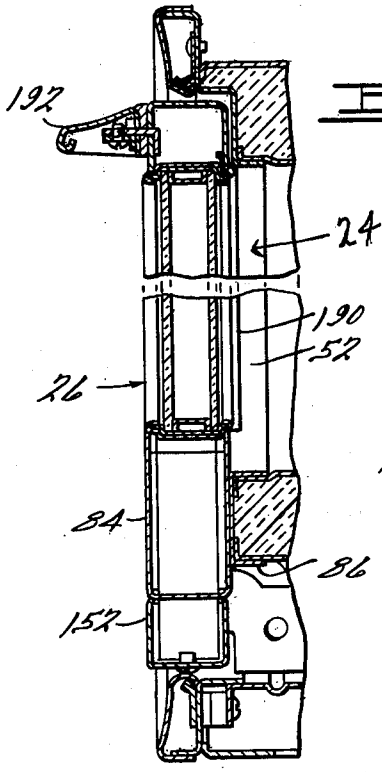


FIG. 1.

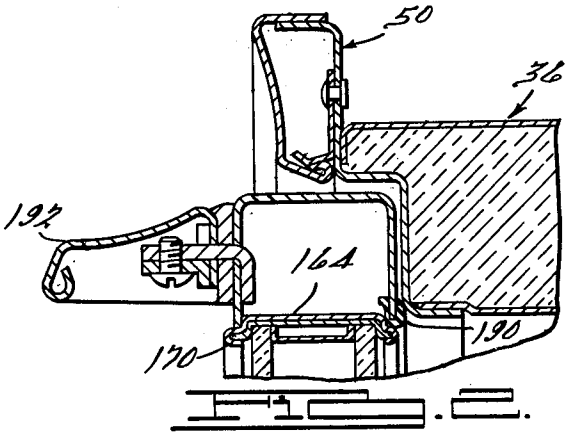


FIG. 2.

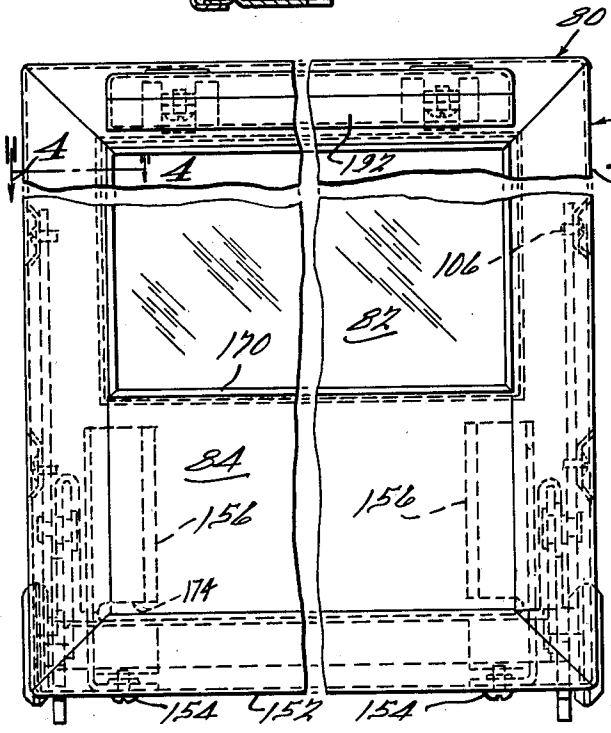


FIG. 3.

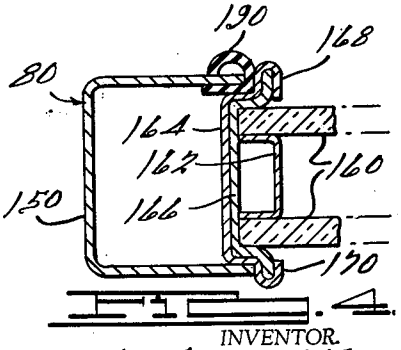


FIG. 4.

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OVEN CLOSURE CONSTRUCTION

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Original application Sept. 23, 1960, Ser. No. 57,964. Divided and this application July 28, 1961, Ser. No. 127,529

2 Claims. (Cl. 126—200)

This invention relates to stoves and has particular reference to certain new and useful improvements relating to stove ovens and closures therefor.

A principal object of the invention is to provide a new and improved construction for stove ovens and closures therefor.

Another object of the invention is to provide a new and improved closure for cooking ovens wherein the closure affords a window area substantially co-extensive with that of the access opening to the oven.

Another object of the invention is to provide a new and improved closure construction for ovens.

Another object of the invention is to provide a new and improved stove door window unit.

Other and further objects of the invention will be apparent from the following description and claims and may be understood by reference to the accompanying drawings, of which there are seven sheets, which by way of illustration show a preferred embodiment of the invention and what I now consider to be the best mode of applying the principles thereof. Other embodiments of the invention may be used without departing from the scope of the present invention as set forth in the appended claims.

In the drawings:

FIG. 1 is a fragmentary sectional view of the oven, showing the closure in its closed position;

FIG. 2 is a fragmentary vertical sectional view through a front corner of the oven and closure;

FIG. 3 is a fragmentary front elevational view of the closure in its closed position; and

FIG. 4 is a sectional view taken along the line 4—4 of FIG. 3.

As illustrated in FIGS. 1 to 4, a stove embodying my invention comprises an oven shell **36** with a closure **26** hingedly mounted thereon so as to seal the front access opening **24** of the oven when in the closed position. A description of the oven and hinge structures utilized in my oven is found in my prior copending application Serial No. 57,964, filed September 23, 1960, for "Oven, Closure and Hinge Construction." The present application is a division of the prior application.

The closure **26** is of unique construction and comprises a channel-shaped frame **80** and a window unit or section **82** carried by the frame **80**, the window unit being of an area substantially equal to the area of the access opening **24** whereby the entire interior of the oven and food therein may be easily observed without opening the closure **26**. It is customary to provide ovens with lights therein which go on automatically when the oven door is opened, and where oven doors are provided with windows it is customary to provide a manually operated switch accessible on the outside of the stove whereby the light in the oven may be turned on without opening the oven door when it is desired to observe the progress of food being cooked in the oven, and I contemplate that such a light and control therefor may be employed in the built-in oven embodying the invention. However, as the closure for the built-in oven embodying my invention is substantially co-extensive in area with the access opening to the oven, it may be practical in some cases to dispense with such an oven light in view of the fact that the closure of my invention in effect provides a window as a closure for the oven and thus will admit substantially as much light to the oven as will be admitted when the closure is in its open position.

However, the invention is not limited to using a window of an area co-extensive with that of the access opening to the oven, and as illustrated in FIG. 3 the closure **26** additionally includes a section **84** which extends below the window section **82** and covers the bottom wall of the oven when the closure is in its closed position. The section **84** essentially consists of a hollow panel, the outer exposed surface of which may be finished in any suitable way. The inside surfaces of the window section **82** and of the section **84** are substantially flat and smooth so as to form an article supporting shelf when the closure **26** is in its open position, and projecting away from the oven.

The closure **26** comprises a rectangular frame **80** of channel-shaped cross section arranged with the open side of the channel facing inwardly and forming a seat for supporting the window section **82** and the panel section **84**. As shown, the frame **80** comprises a U-shaped member **150** interconnected by frame member **152** which is bolted by means of bolts **154** to corner brackets **156** welded within the channel of the frame member **150** at the lower end thereof, as shown in FIG. 3.

The window unit **82** comprises a pair of spaced glass panels **160** with a spacer **162** therebetween and sealingly engaging the panels around the peripheral edge thereof, and a continuous clamping and sealing frame **164** which clamps the panels **160** against the spacer **162**. The frame **164** is channel-shaped and is fitted around the peripheral edges of the panels **160** with the spacer **162** therebetween and with a strip **166** of tape, such for example as asbestos, disposed between the frame **164** and the panels **160**. The tape **166** is preassembled to the frame **164**, laterally projecting flanges of which are reversely bent as indicated at **168** and **170** for securing the tape **166** to the frame **164**. The laterally projecting flanges **168** and **170** of the frame **164** form a seat for seating on the inner edge of the frame **80** whereby the window unit **82** is located and secured relative to the frame **80**. The window unit as herein disclosed embodies the construction disclosed and claimed in my prior application Serial No. 786,139, filed January 12, 1959, for "Stove Door Window Unit," now Patent No. 3,021,832.

As shown in FIG. 3, the window unit **82** is seated against the top central portion and the two side legs of the U-shaped frame member **150**, and the panel section **84** is disposed between the lower frame member **152** and the window unit **82**.

The panel **84** comprises a section of sheet metal which is bent in the form of a U with its closed end seated on top of the U-shaped frame member **152** and with its open end forming a seat for the laterally projecting flanges **168** and **170** of frame **164** of the window unit **82** like the seat provided by the frame member **150**. The corner brackets **156** are notched as indicated at **174** to accommodate the ends of the panel **84** as shown in FIG. 4, and the sides of the corner brackets **156** which are U-shaped in cross section are telescoped between the inner and outer faces of the panel section **84** for locating the same so that the inner and outer exposed surfaces of the panel **84** are flush with the adjacent surfaces of the door frame **80**.

In assembling the closure after the frame member **150** has been bent to U-shaped form with the legs thereof flared outwardly slightly, the window unit **82** is seated against the closed end of the U-shaped frame member **150**. The panel **84** may then be positioned between the legs of the frame member **150** with the edges of the panel members seated on the frame **164** of the window unit. The legs of the frame member **150** may then be brought

toward each other so as to seat the edges of the frame member **150** on the sides of the window unit as shown in FIG. 4 and so that the corner brackets **156** will fit between the inner and outer portions of the panel **84**. Thereafter the lower frame member **152** can be assembled between the legs of the frame member **150**, and by means of the two bolts **154** the frame member **152** can be secured to the frame **150** with the panels **82** and **84** therebetween.

A gasket or seal **190** of silicone rubber may be clamped between the frame member **164** and the inner edge of the frame member **150** at the sides and across the top thereof as shown for engaging the inner periphery of the inner face **64** of the frame **50** so as to provide a seal therebetween. Below the window **82** the inner surface of the panel **84** seats against the exposed face of the frame member **86**, as shown in FIG. 1. Closure **26** is provided with a handle **192** whereby the closure may be moved from one of its positions to another.

While I have illustrated and described a preferred embodiment of my invention, it is understood that this is capable of modification, and I therefore do not wish to be limited to the precise details set forth but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

I claim:

1. A rectangular closure for the access opening of an oven including a window unit comprising a pair of spaced window panels with a spacer between and sealingly engaging said panels at the edges thereof, a continuous clamping and sealing frame for clamping said panels against said spacer comprising a channel frame fitting around the peripheral edges of said spaced window panels with said spacer therebetween; said clamping frame having integral continuous lateral projections on each side thereof, and a one-piece sheet metal outer wrap-around

closure frame of channel-shaped cross section wrapped around said window unit on at least three sides thereof, with the open side of the channel facing inwardly and seating on the lateral projections of said clamping frame to effect a nested fit around said window unit thereby locating said window unit within the closure frame, and a gasket secured between one leg of said closure frame and one of said lateral projections so as to provide a seal between the closure and the oven when the closure is in the closed position.

2. A closure for the access opening of an oven comprising a pair of spaced window panels with a continuous spacer between and sealingly engaging said panels at the edge thereof, a continuous clamping and sealing frame for clamping said panels against said spacer and comprising a channel frame fitted around the peripheral edges of said spaced window panels with said spacer therebetween, an outer wrap-around skeleton closure frame of channel-shaped cross section arranged to nest around the window unit with the open side of the channel facing inwardly and forming a seat in which three sides of said clamping frame are seated, and a panel section inserted in the space between the fourth side of said clamping frame and said closure frame.

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