July 9, 1963 L. C. LOTZ ET AL 3,097,029

BROILER DRAWER DOOR

Filed July 7, 1961

Fig. 1.

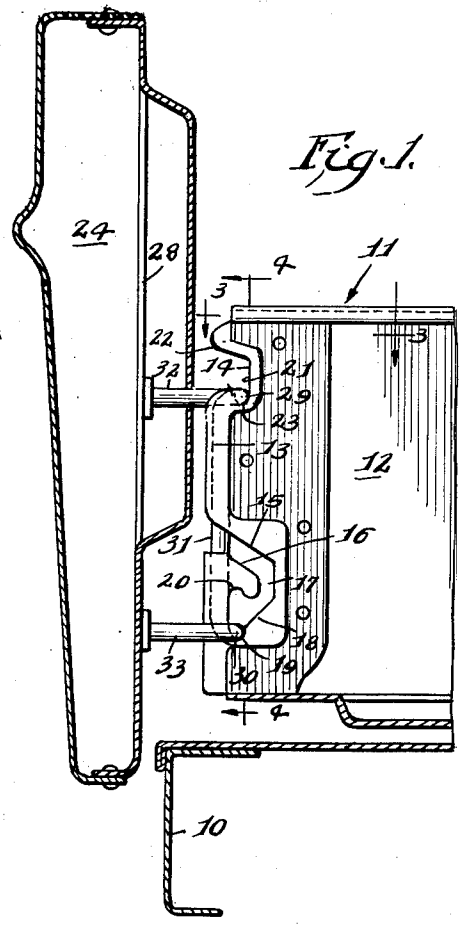


Fig. 3.

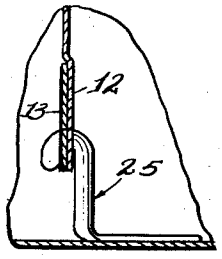


Fig. 4.

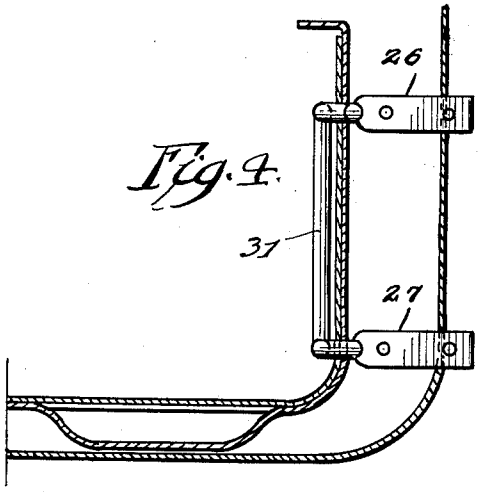
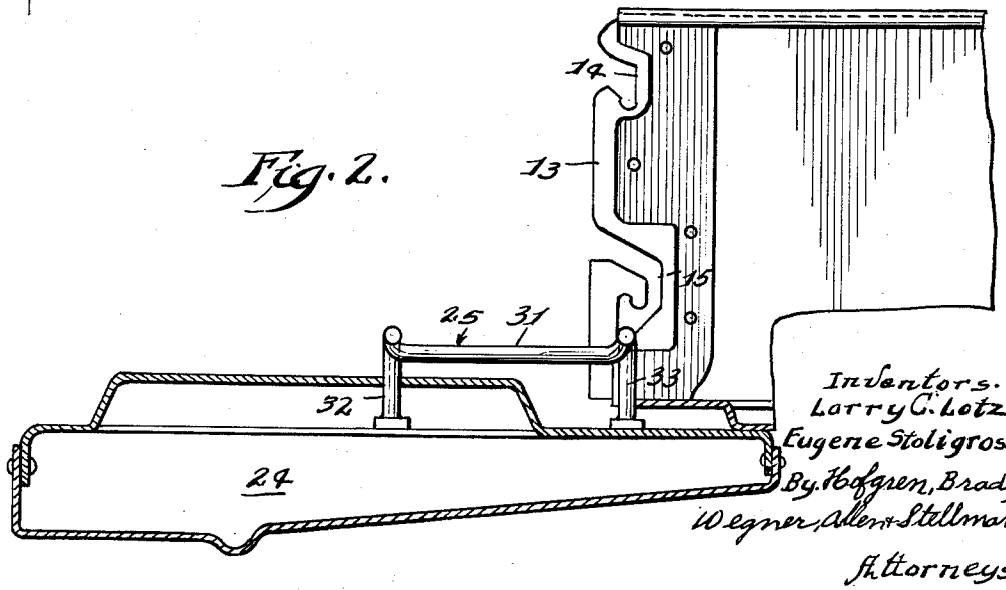


Fig. 2.



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BROILER DRAWER DOOR

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This invention relates to an apparatus including a compartment defining means having a forwardly extending access opening, a movable door and latch means for retaining the door in open or closed position. The invention particularly relates to a movable broiler drawer in a household cooking range or the like including a door for this drawer and latch means for retaining the door either in closed or in open position.

In the ordinary kitchen range, whether heated with gas or electricity, there is ordinarily provided a broiler section including a drawer that can be pulled forwardly to extend from the range or can be pushed rearwardly into normal broiling position. This drawer customarily carries on its forward end a door which is movable from an upwardly extending, normally closed position to a forward extending, bottom open position. Latch means are provided for retaining the door in these two positions.

One of the features of this invention is to provide an improved latch means for the movable door normally closing the forward extending access opening across a compartment.

A specific feature of the invention is to provide latch means for the door of a forwardly and rearwardly movable broiler drawer of a household range.

Other features and advantages of the invention will be apparent from the following description of one embodiment thereof taken in conjunction with the accompanying drawings. Of the drawings:

FIGURE 1 is a fragmentary side elevational view partially in section of the forward end of a broiler drawer and a movable door therefor in combination with one embodiment of the latch means of this invention.

FIGURE 2 is a view similar to FIGURE 1 but with the drawer in forwardly extending position and with the door in lowered open position.

FIGURE 3 is a fragmentary section taken substantially along line 3—3 of FIGURE 1 and turned 90°.

FIGURE 4 is an elevational view of the wire latch and associated structure taken substantially along line 4—4 of FIGURE 1.

In the embodiment illustrated in the drawings only a portion of the range **10** is illustrated. This range includes a broiler drawer **11** of the customary type having a pair of sides **12** of which only one is illustrated. Each of these sides on its forward edge is provided with a catch member **13** extending forwardly beyond the edge of the drawer side **12** and attached thereto as by spot welding.

The forwardly projecting portion of the catch member **13** is provided with a top catch receiving passage **14** and a bottom catch receiving passage **15**.

The bottom catch receiving passage **15** is provided with a downwardly and rearwardly sloped top portion **16**, then a substantially vertical downwardly sloped section **17** and at the bottom of this a forwardly and downwardly sloped section **18**. At the bottom of this section **18** there is provided a vertically downwardly extending catch section **19** while immediately above this section **19** is a stop portion **20** that is upwardly concave. As can be seen from FIGURES 1 and 2, the passage sections **16—20** define a serpentine path.

The top passage **14** includes an inwardly recessed section **21** with a relatively wide mouth **22** opening forwardly at the bottom of this section **21**. There is a downwardly extending catch section **23** similar to the

catch section **19** in the bottom passage **15**. The top passage **14** is shallower in a vertical direction than is the bottom passage **15**.

A door **24** is provided that is movable between closed position as shown in FIGURE 1 and open position as shown in FIGURE 2. This door is mounted on the opposite sides of the drawer **11** by means of a wire catch member **25** having upper **26** and lower **27** ends flattened and attached to the inner surface **28** of the door **24** as by spot welding. The catch member is bent to provide top **29** and bottom **30** catch means. These catch means are formed by bent portions in the wire which include a normally vertical section **31** and normally upper **32** and lower **33** legs extending rearwardly from the door **24** when the door is in closed position as shown in FIGURE 1. The catch means **29** and **30** are at the areas of intersection of the vertical section **31** and upper and lower normally horizontal sections **32** and **33** of the catch member.

When the door is in its closed position, as shown in FIGURE 1, the top catch means **29** is held in the catch section **23** of the upper passage **14** while the bottom catch means **30** is similarly held in the bottom catch section of the bottom passage **15**. Because the catch sections **19** and **23** closely embrace the catch means **29** and **30** formed of portions of the wire **25**, the drawer can be propelled forwardly and rearwardly by force applied to the door **24**. Then when the door is opened it is merely necessary to lift the door **24** until the top catch means **29** is lifted completely out of the catch section **23** and the door can then be turned to open position as shown in FIGURE 2 about the bottom catch means **30** acting as a hinge. In lifting the door the stop section **20** in the bottom passage **15** serves to prevent accidental removal of the door from the drawer. The distance between this stop section **20** and the catch section **19** is greater than the distance required to lift the top catch means **29** out of the catch section **23** of the passage **14**.

Having described our invention as related to the embodiment shown in the accompanying drawings, it is our intention that the invention be not limited by any of the details of description, unless otherwise specified, but rather be construed broadly within its spirit and scope as set out in the accompanying claims.

We claim:

1. In a structure including means defining a compartment having a forwardly extending access opening and a movable door for said opening, a latch comprising: means associated with said compartment means defining top and bottom catch receiving passages each having a catch retaining bottom and an open catch removing and inserting top; and top and bottom catch means on said door each retained on said catch retaining bottoms when the door is in closed position, said top passage being shallower than said bottom passage in order that said top catch means may be removed from said top passage without removal of the bottom catch means from the bottom passage in moving the door to open position about said bottom catch means as a hinge.

2. In a structure including means defining a compartment having a forwardly extending access opening and a movable door for said opening, a latch comprising: means defining top and bottom catch receiving passages each having a catch retaining bottom and an open catch removing and inserting top; and top and bottom catch means on said door each retained on said catch retaining bottoms when the door is in closed position, said top passage being shallower than said bottom passage in order that said top catch means may be removed from said top passage without removal of the bottom catch means from the bottom passage in moving the door to

open position about said bottom catch means as a hinge, and said bottom passage defining a serpentine path including a stop portion and a bottom portion, said stop portion being spaced above said bottom portion a distance greater than the depth of said top passage to prevent accidental removal of the bottom catch means from the bottom passage on removal of the top catch means from the top passage.

3. In a structure including means defining a compartment having a forwardly extending access opening and a movable door for said opening, a latch comprising: means associated with said compartment means defining top and bottom catch receiving passages each having a catch retaining bottom and an open catch removing and inserting top; and a continuous wire having its ends attached to said door and bent to form top and bottom catch means each retained on said catch retaining bottoms when the door is in closed position.

4. In a structure including means defining a compartment having a forwardly extending access opening and a movable door for said opening, a latch comprising: means associated with said compartment means defining top and bottom catch receiving passages each having a catch retaining bottom and an open catch removing and inserting top; and a continuous wire having its ends attached to said door and bent to form top and bottom catch means each retained on said bottoms when the door is in closed position, said top passage being shallower than said bottom passage in order that said top catch means may be removed from said top passage without removal of the bottom catch means from the bottom passage in moving the door to open position about said bottom catch means as a hinge, and said bottom passage defining a serpentine path including a stop portion and a bottom portion, said stop portion being spaced above said bottom portion a

distance greater than the depth of said top passage to prevent accidental removal of the bottom catch means from the bottom passage on removal of the top catch means from the top passage.

5. In a structure including a forwardly and rearwardly movable broiler drawer, a side member on said drawer defining one side of an access opening and a movable door for said opening, a latch comprising: means associated with said side member defining top and bottom catch receiving passages each having a catch retaining bottom and an open catch removing and inserting top; and a continuous wire having its ends attached to said door and bent to form top and bottom catch means each retained on said bottoms when the door is in closed position, said top passage being shallower than said bottom passage in order that said top catch means may be removed from said top passage without removal of the bottom catch means from the bottom passage in moving the door to open position about said bottom catch means as a hinge and said bottom passage defining a serpentine path including a stop portion and a bottom portion, said stop portion being spaced above said bottom portion a distance greater than the depth of said top passage to prevent accidental removal of the bottom catch means from the bottom passage on removal of the top catch means from the top passage, both said passages having forward and rearward wire embracing portions to transmit forward and rearward motion of said door to said drawer.

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