

July 21, 1936.

H. W. CABLE ET AL

2,048,102

ADJUSTABLE BROILER

Filed Jan. 11, 1932

2 Sheets-Sheet 1

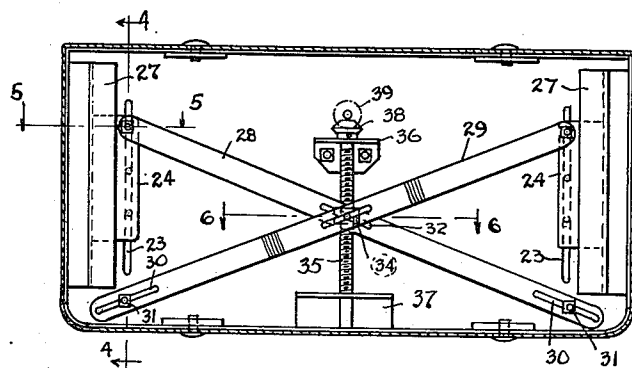


Fig. 2

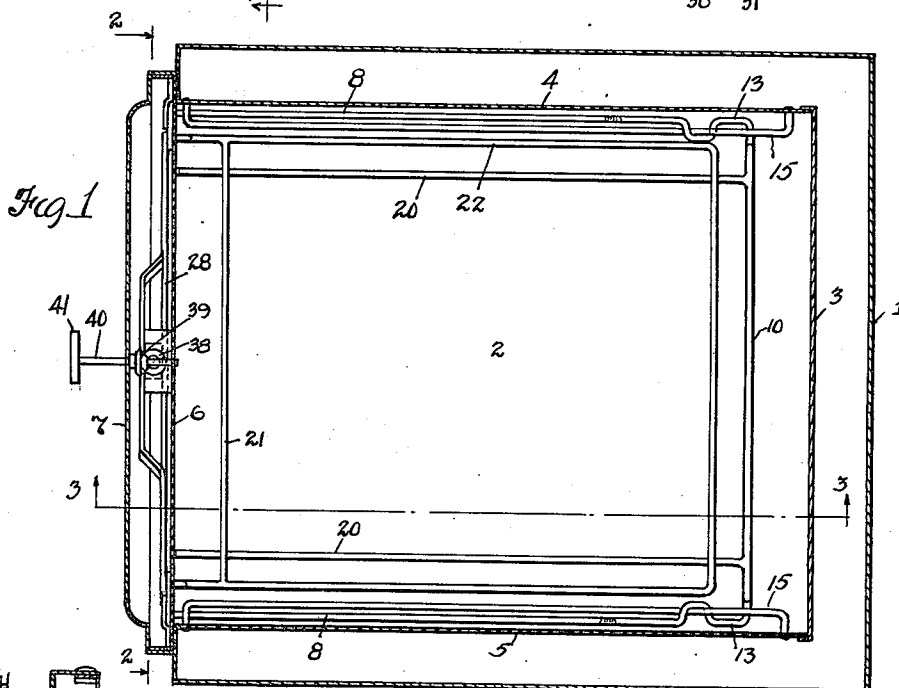


Fig. 1

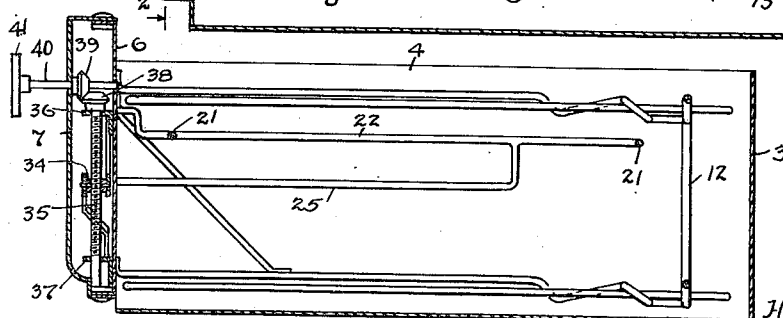


Fig. 3

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2 Sheets-Sheet 2

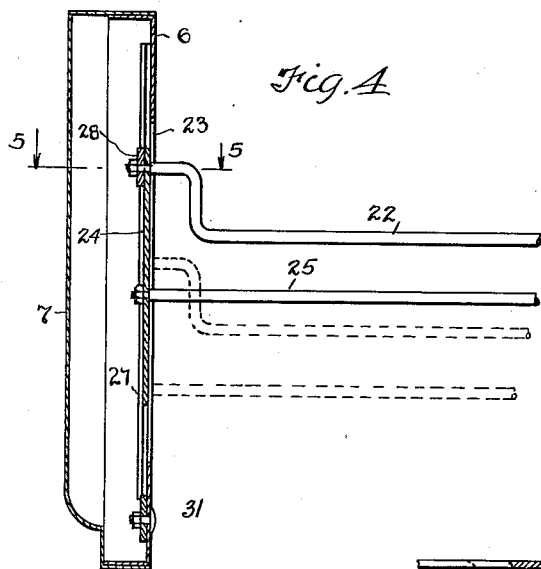


Fig. 4

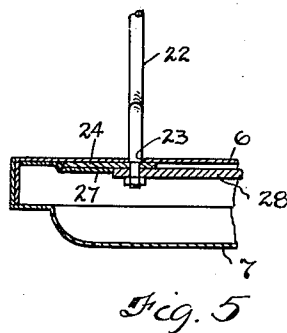


Fig. 5

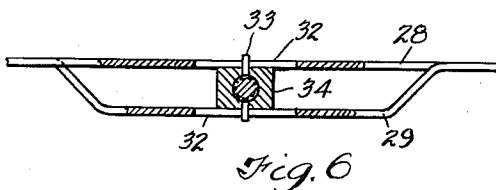


Fig. 6

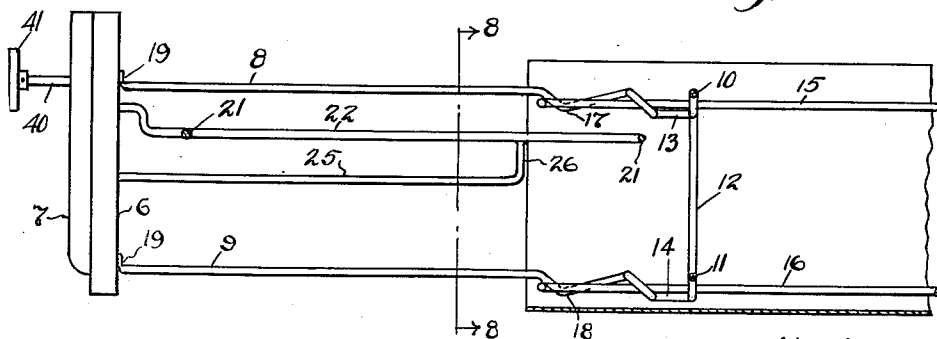


Fig. 7

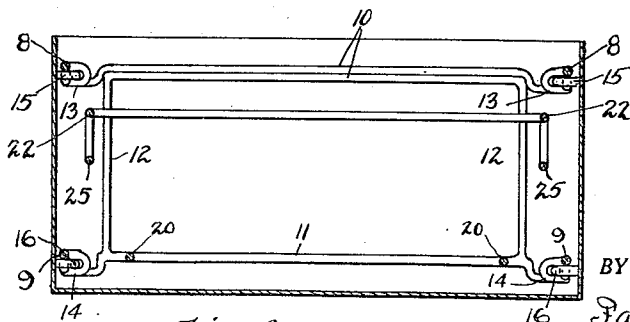


Fig. 8

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UNITED STATES PATENT OFFICE

2,043,102

ADJUSTABLE BROILER

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Application January 11, 1932, Serial No. 585,880

5 Claims. (Cl. 126—41)

The present invention relating as indicated to an adjustable broiler, has more particular reference to a removable food-supporting rack and door panel unit adapted to be most conveniently utilized in a household stove or range. A fundamental object of our present invention is to provide means for adjustably regulating the height of the food-supporting rack from the exterior of the oven, such means to be completely concealed and in no way connected with the frame or body of the oven proper.

A further object is to provide a novel form of construction for the slidable door panel support, whereby the sliding movement is greatly facilitated and the removability of the entire mechanism for cleaning purposes and the like is highly simplified. Another object is to provide, as thoroughly as possible, a rod support construction throughout the unit whereby the necessity of a vitreous enamel finish which is usually required for sheet metal construction, is obviated. The utilization of such a rod-supporting construction possesses the additional advantage in that the surface of the rods may be finished with cadmium plate, or the like, giving a sanitary and non-corrosive finish which is not liable to break or chip off as does enamel. Objects and advantages additional to those above enumerated shall become apparent during the following description. To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully explained, and particularly pointed out in the drawings.

The annexed drawings and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings:

Fig. 1 is a top plan view of an adjustable broiler unit constructed according to the principle of our invention; Fig. 2 is an elevational section taken substantially upon the line 2—2 of Fig. 1; Fig. 3 is another elevational section taken substantially upon the line 3—3 of Fig. 1; Fig. 4 is a fragmentary section taken substantially upon the line 4—4 of Fig. 2; Fig. 5 is a fragmentary section taken substantially upon line 5—5 of Fig. 4 in the direction indicated by the arrows; Fig. 6 is an enlarged detail section taken substantially upon line 6—6 of Fig. 2; Fig. 7 is an elevational view similar to Fig. 3, but showing the adjustable broiler unit in open or withdrawn position; Fig. 8 is a

section taken substantially upon line 8—8 of Fig. 7.

Referring more particularly to the drawings, we have shown the outer walls of an oven as indicated generally by the numeral 1 in which there is positioned an inner sheet metal lining consisting of the bottom 2, the inner end wall 3 and the side walls 4 and 5. For the open end of the oven there is provided the door panel 6 which carries in spaced relationship the false front panel 7.

The inner oven lining may be fabricated in a unit assembly which can be readily fitted into the oven proper and substituted for the old oven lining. The side walls 4 and 5 of the oven lining carry the horizontally extending fixed supporting rods 15 and 16. The inner door panel 6 mounts the horizontally extending rods 8 and 9 which are secured together at their ends farthest removed from the door by means of the rectangular reinforcing members 10, 11, and 12. As best shown in Figs. 1 and 7, the innermost ends of the rods 8 and 9 are transversely bent into the projecting finger portions 13 and 14 which are adapted to contact with the under sides of the fixed support rods 15 and 16, respectively. The door panel support rods 8 and 9 likewise carry the vertically bent portions 17 and 18 which are adapted to bear against the inner side surfaces of the fixed supports 15 and 16, respectively. The outer ends 19 of the rods 8 and 9 may be perpendicularly bent, flattened and welded to the face of the inner door panel 6.

It will thus be seen from the foregoing description that we have provided a horizontally movable oven door panel which is supported by an extremely light and rigid rod structure, which, in addition to possessing strength and rigidity, may be easily removed for cleaning or inspection purposes. Referring to Fig. 7, in order to remove the door panel 6 and supporting rods 8 and 9, it is merely necessary to raise the unit to an angularly inclined position, so that the vertical projections 17 and 18 are clear of the transversely bent ends of the fixed supporting rods 15 and 16. It should be further noted that the sliding movement of the rods 8 and 9 upon the fixed rods 15 and 16 is further enhanced by virtue of the fact that each rod possesses only two points of bearing contact, namely the contact of the horizontal projections 13 and 14 with the under side of the rods 15 and 16, respectively, and the contact of the under sides of the rods 8 and 9 with the upper sides of the perpendicularly bent ends of the rods 15 and 16, respectively.

Additional longitudinal supporting rod mem-

bers 20 may also be secured between the rod 11 and the door panel 6 in order to impart further strength and rigidity to the supporting rod structure.

5 A food-supporting rack upon which may be placed a grill, a stamped metal tray, a perforated plate, or a combination of any of the latter, consists of a rectangular frame made up of the rod members 21 and 22. The inner ends of the rods 10 22 are offset vertically and extend through the slots 23 in the door panel 6. These last-mentioned rod ends are likewise secured to a movable plate 24, which also carries the supporting rod 25 which is bent upwardly at its end 26 and suitably secured 15 by means of welding to the rod 22. The rod member 25 functions as a cantilever support and is for the purpose of imparting additional vertical supporting strength to the rectangular rack. The movable guide plates 24 are positioned in a vertical channel formed by the inner door panel 6 and 20 the fixed guide plates 27.

The mechanism for lowering and raising the above described food rack consists in a pair of scissors or tongues 28 and 29, secured at their 25 upper ends to the ends of the rods 22, and having longitudinal slots 30 at their lower ends which are engaged by the fixed studs 31 which are in turn secured to the interior of the door panel 6. Another pair of longitudinally extending slots 32 30 are positioned in the medial portions of the scissor members 28 and 29. Directing attention to Fig. 6, a pin 33 engages in the slots 32 and is carried by the square nut 34. The nut 34 is in turn threadably engaged by the vertical screw 35 35 which is rotatably mounted at each end in the horizontal bracket plates 36 and 37. Upon the upper end of the screw 35 there are positioned the small bevel gears 38 and 39 by means of which the screw 39 is rotatably connected to the horizontal 40 shaft 40 which projects through the outer door panel 7. A suitable operating handle 41 is attached to the end of the horizontal shaft 40.

It will thus be seen that the last described mechanism permits the lowering and raising of 45 the food-supporting rack through the rotation of the operating handle 41 on the exterior of the door. Also, such elevating mechanism is totally concealed in the interior of the door panel and is in no way or manner connected to the body or 50 frame of the oven itself.

Other modes of applying the principle of our invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated 55 by any of the following claims or the equivalent of such stated means be employed.

We therefore particularly point out and distinctly claim as our invention:

1. An adjustable broiler for a household oven,

and the like, comprising the combination of a horizontally slidable oven door, a vertically adjustable food-supporting rack carried by said door, a plurality of horizontally extending rods secured 5 to and disposed adjacent the inner side walls of said oven, a plurality of rods extending horizontally from the inner face of said door, and transverse projections on said last-named rods adapted to engage with the bottom, top and sides of said first-named rods. 10

2. An adjustable broiler for a household oven, and the like, comprising the combination of a horizontally slidable oven door, a vertically adjustable food-supporting rack carried by said door, a plurality of horizontally extending rods 15 secured to and disposed adjacent the inner side walls of said oven, a plurality of rods extending horizontally from the inner face of said door having transversely bent portions adapted to contact with the bottom, top and sides of said first-named rods and have slidable engagement there- 20 with.

3. An adjustable broiler for an oven of the character described comprising the combination 25 of a closure for the oven, means for mounting said closure on said oven providing for movement thereof to an open and a closed position, a food supporting member, means mounted on said closure forming the sole support for said member, and means supported entirely by said closure and 30 operable from the exterior thereof providing for adjusting the elevation of said food supporting member.

4. In a stove of the character described having an oven compartment, the combination of a closure 35 for said compartment, means for mounting said closure providing for longitudinal movement thereof to an open and to a closed position, a food supporting member, means on said closure forming the sole support for said member, and means 40 carried by said closure providing for the adjustment of said sole supporting means to position said member at a predetermined desired elevation within said oven.

5. In a stove of the character described having an oven compartment, a closure for the oven compartment, means for mounting said closure on 45 said oven providing for longitudinal movement thereof from a closed to an open position, a food supporting member, means carried by said closure forming the sole support for said member and 50 adjusting means carried by said closure including an operating member extending to the exterior of said oven compartment for adjusting the position of said supporting means to provide for the positioning of said member at a predetermined 55 desired elevation within said oven.

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