March 1, 1932. W. F. ROGERS 1,847,225

STOVE

Filed Nov. 24, 1930 3 Sheets-Sheet 1.

Fig. 2.

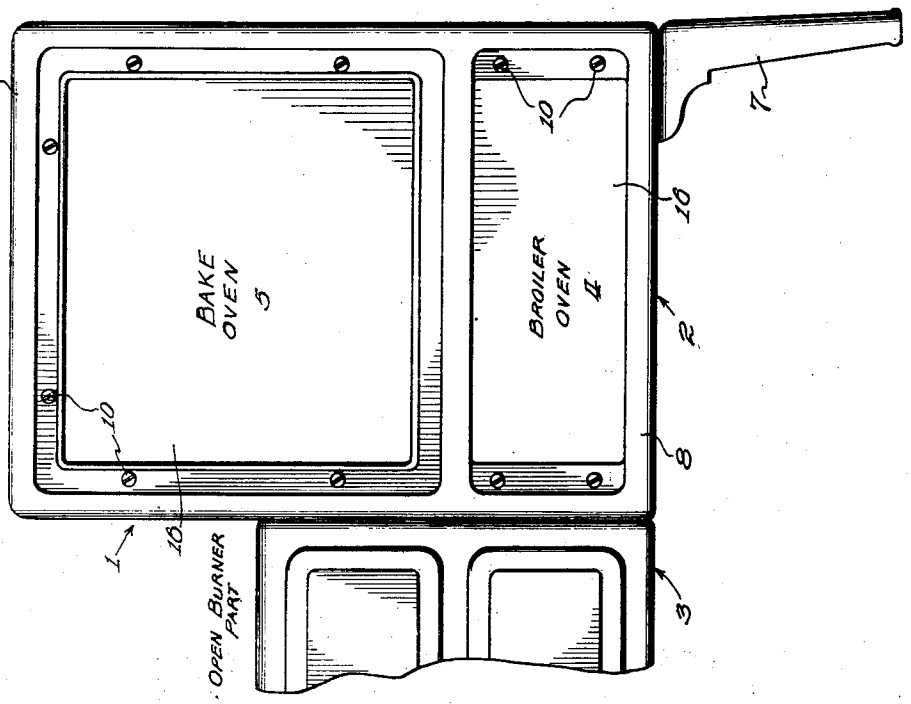
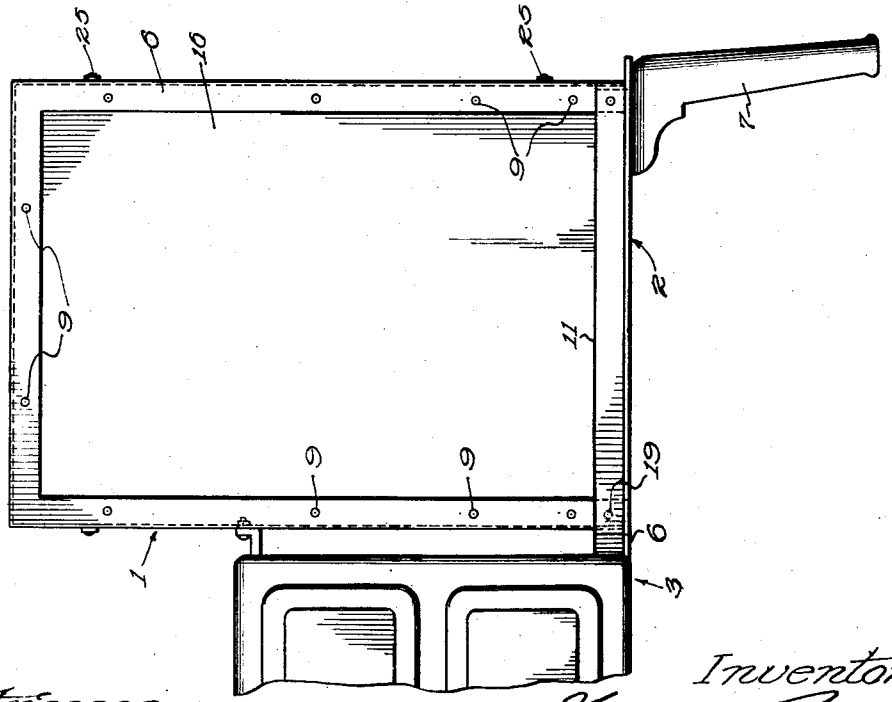


Fig. 1.



Witnesses
Arthur M. Frambe
William Dinsmore

Inventor
Walter F. Rogers,
By Munn & Co., Munn & Woodworth,
Attys.

March 1, 1932. W. F. ROGERS 1,847,225

STOVE

Filed Nov. 24, 1930 3 Sheets-Sheet 2

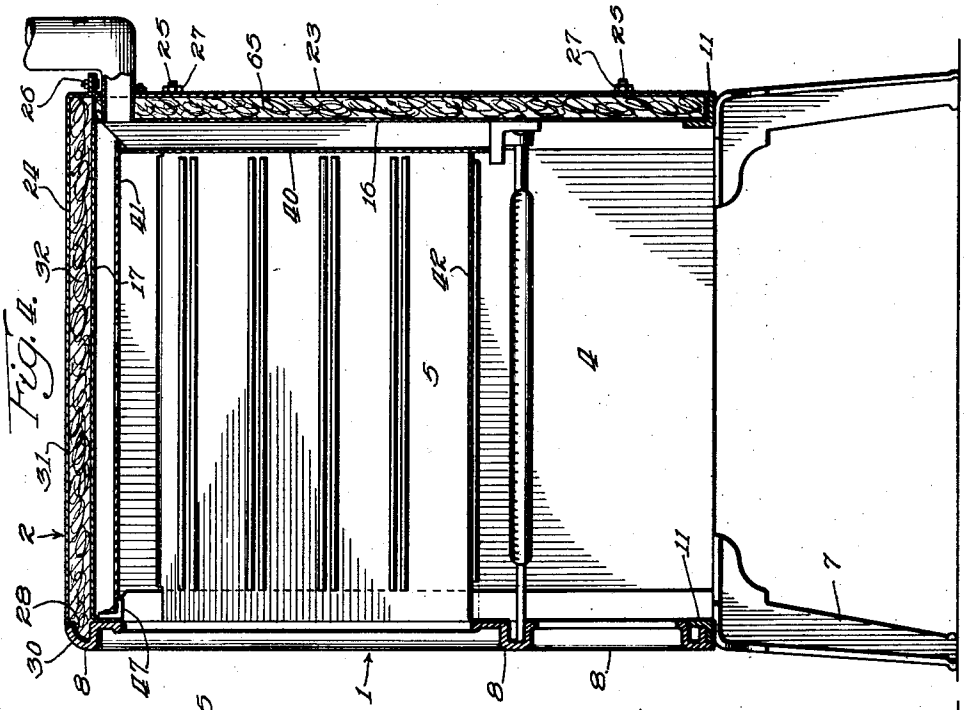


Fig. 4.

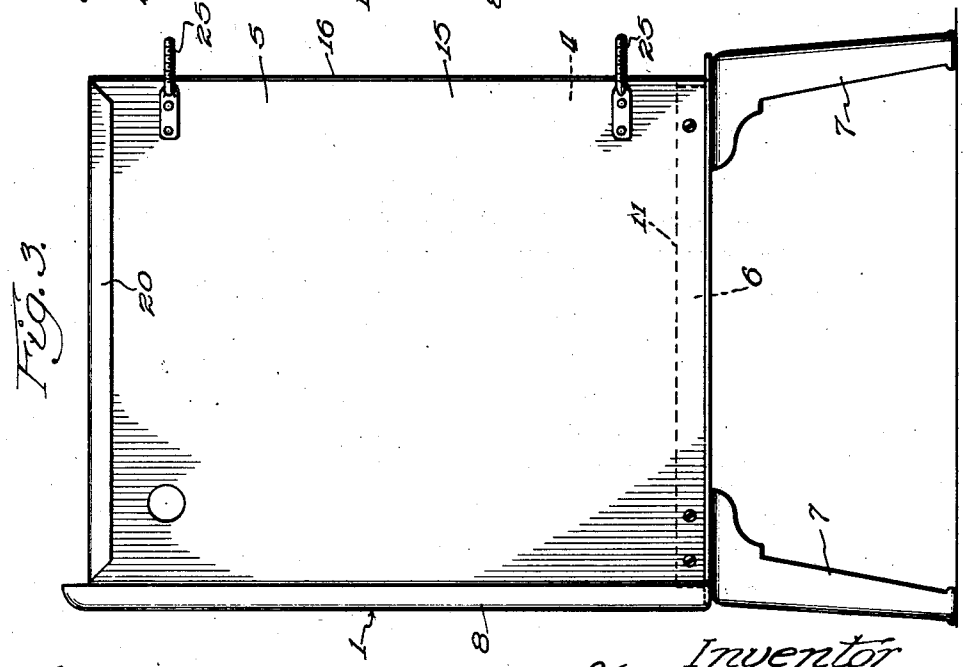


Fig. 3.

Witnesses
Arthur M. Franke.
William J. Anderson.

Inventor
Walter F. Rogers,
By Cushman, Cushman & Woodworth,
Attys.

March 1, 1932. W. F. ROGERS 1,847,225

STOVE

Filed Nov. 24, 1930 3 Sheets-Sheet 3

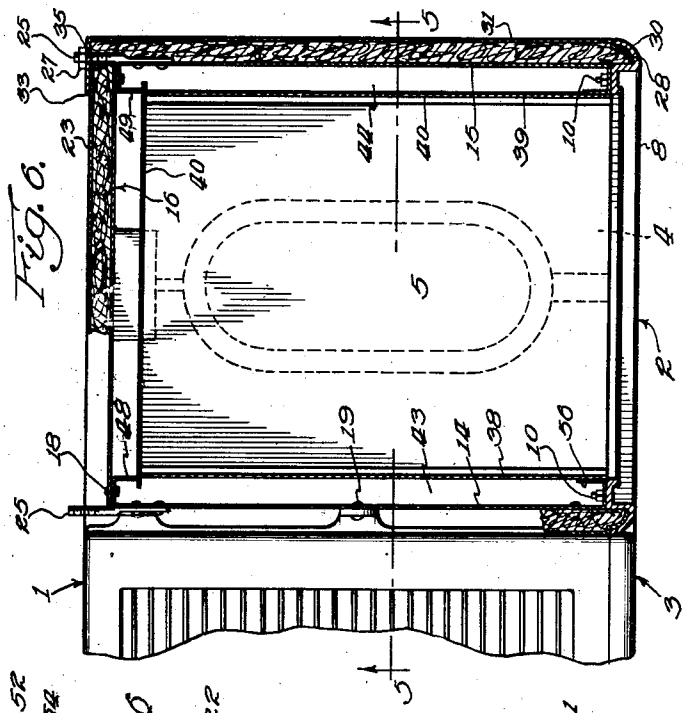


Fig. 6.

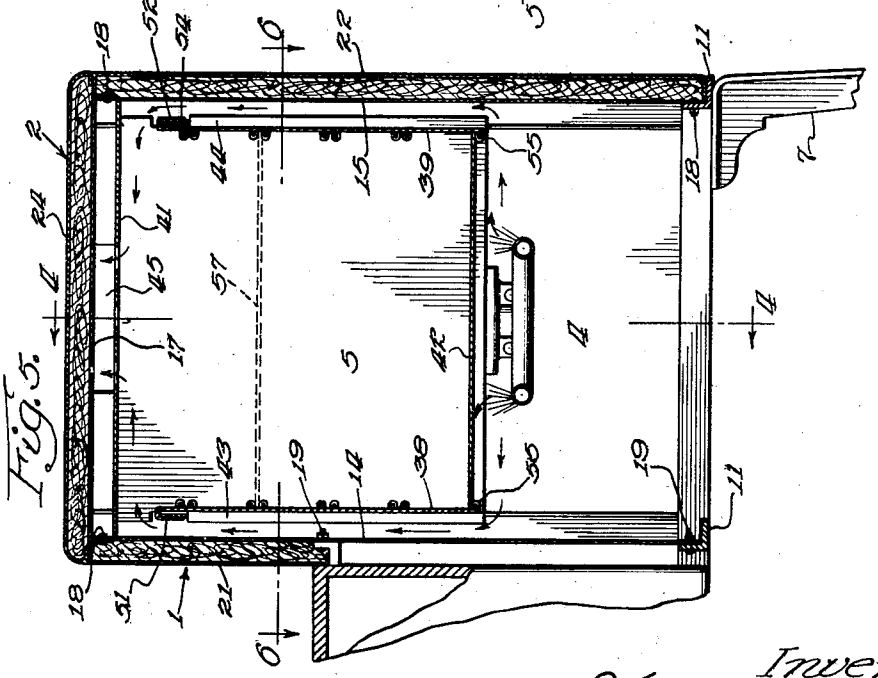


Fig. 5.

Witnesses
Arthur M. Franke
Helen E. Anderson

Inventor
Walter F. Rogers,
By Cummings, Cummings & Woodworth,
Attys:

Patented Mar. 1, 1932 1,847,225

UNITED STATES PATENT OFFICE

WALTER F. ROGERS, OF CICERO, ILLINOIS, ASSIGNOR TO CROWN STOVE WORKS, OF CICERO, ILLINOIS, A CORPORATION OF ILLINOIS

STOVE

Application filed November 24, 1930. Serial No. 499,269.

This invention relates to the construction of stoves and to methods of assembling and caring for the same, particular reference being had to stove ovens and to linings therefor. The invention is especially advantageous in connection with stoves designed for burning fluid forms of fuel including oil and gas.

The main objects of the invention are to provide a stove construction adapted for ready assemblage and knockdown, as for cleaning, repairs and replacement of parts, especially the oven linings; to provide a simplified construction for stoves, and especially ovens therefor, whereby the same may be secured in assembled condition or may be taken apart by appropriate operation of a minimum number of nuts, screws or other attachments; to provide such a stove in which the assembly fastening means are substantially hidden at the rear and are so organized as to enable a substantially complete knockdown of the stove, or at least the oven part, by disconnecting a minimized number of bolts or other fastenings; to provide for so assembling the exterior parts and fastening the same as to assuredly avoid cracking or other injury to the surface enamel or other finish; to provide an improved system of flues for such a stove formed and arranged for more efficient heating of the oven; and to provide an improved and more efficient system of outer shell insulation whereby a maximum of oven-heating efficiency may be attained.

This invention is illustrated by the accompanying drawings showing a preferred embodiment of my invention in which:

Figure 1 shows a front elevation mainly of the oven part of the stove with the top, side and back outer casing members and insulation removed, and with the cast front finish frame and doors also removed, the part of the stove which is broken away at the left being substantially independent of the oven part here concerned.

Fig. 2 is a similar view, but with the front frame and the insulative casing in place, the oven doors being omitted.

Fig. 3 is an end elevation as viewed from the right of Figure 2, but with the insulative shell members removed.

Fig. 4 is a section on the line 4—4 of Fig. 5, the assembly being complete, except omission of the oven doors.

Fig. 5 is substantially a section on the line 5—5 of Fig. 6.

Fig. 6 is a section on the line 6—6 of Fig. 5, part of the open burner part of the stove being shown in plan at the left.

Referring more in detail to the drawings, the stove 1 comprises mainly an oven part 2 at the right and an open burner part 3 at the left, as viewed in Figs. 1, 2, 5 and 6; the present invention residing in the part 2 comprising a broiler oven 4 below and a bake oven 5 above, as best shown by Figs. 2, 4 and 5.

The frame 6 for the stove as a whole is provided with legs 7; and the oven end of said frame is shown in front elevation in Fig. 1, the front finish frame 8 being omitted in this view, though holes 9 are shown for screws or bolts 10 to secure member 8. Said frame 6 includes both angle bars 11 and sheet metal work permanently secured thereto, as hereinafter referred to.

The oven part 2 includes the permanent sheet walls proper 14 and 15 at the sides, 16 at the back, and 17 at the top, all secured together or to bars 11, as indicated for instance at 18 and 19 respectively (Fig. 6), to constitute the frame, substantially as usual. The back and top walls 16 and 17 may well be formed integrally, and the top 17 has its edges turned down at the sides as at 20.

Insulating finish plates 21 and 22 at the sides, 23 at the back, and 24 at the top, are arranged to form an outer shell and are detachably secured to the frame by fastening bolts 25 and nuts 27 at the rear. The bolts 25 are rigidly secured to the side walls 14 and 15 of the frame and project rearwardly.

In order to avoid injury to the finish plates, as by setting screws or nuts against an enameled surface, or by undue stress on any such surface, the front finish frame 8 is formed with inwardly facing grooves, as at 28, to receive the front edges of the abutting finish plates, the latter having appropriately molded edge flanges 30 on their sheet metal

face plates 31, and these plates being packed with asbestos 32 or the like.

The side members 21 and 22 have inward rear flanges 33 apertured at 35 to receive the bolts 25. These flanges overlap the rear member 23, and so lock it in place when the nuts 27 are applied for securing the sides 21 and 22.

The bake oven part 5 is provided with removable lining members or panels 38 and 39 at the sides, 40 at the back, 41 at the top and 42 at the bottom, the plate 42 serving both as a floor for oven 5 and as a roof for the broiler oven 4, and the plates 38 to 41 being formed, arranged, and spaced from the outer walls or frame so as to provide lateral flues 43 and 44 upward from chamber 4, discharging into the top of chamber 5 and continuing as a top and rear exit flue 45.

These bake oven lining plates are readily assembled in place in the oven 5, one at a time. First the top plate 41 is thrust inward horizontally through the upper doorway and when lifted into place is brought forward sufficiently for its front edge to rest on the inwardly turned flange of the frame bar 47, as shown in Figure 4, the rearward part of this plate being supported by one hand, while with the other hand the back plate 40 is set in place snugly against the inwardly turned edges of the frame flanges 48 and 49, as shown in Fig. 6, and with the rear edge of the top plate resting thereon, as shown in Fig. 4. The side plates 38 and 39 are then hung on horizontal side bars 51 and 52 of the frame, as shown in Fig. 5, these bars being secured at their ends to the flanges 48 and 49 at the back, and the corresponding flanges 53 at the front, the side plates 38 and 39 having appropriate outward turned hook lugs 54 formed on their upper edges.

The bottom plate 42 is then pushed into place to rest on the bottom ribs 55 on the side plates 38 and 39, as shown in Fig. 5. Side plates 38 and 39 are held against outward swinging by the inward flanges 53 of the frame plates 14 and 15.

The side plates 38 and 39 have an upward series of corresponding paired ribs, similar to ribs 55, to receive and support shelves and the like, indicated by dotted lines at 57.

Whenever it is desired to clean the oven or to renew any of the linings, the latter are removed one at a time, in reverse order respecting that stated for assemblage.

In assembling the insulating finish plates, the back 23 is first set in place, then the two side plates 21 and 22 are applied by first inserting their front edges, care being taken that the bolts 25 extend through the corresponding holes 35 in the rear flanges 33, the latter overlapping and securing the back plate 23. The top plate 24 is then set in place in a somewhat similar manner and the rear edge is secured by setting the nut on bolt 26 at the rear.

By this construction it will be seen that stress or pressure on the surface enamel is entirely avoided, especially where exposed to view, and furthermore the mode of assemblage and fastening the plates accommodates ready renewal or replacement of the finish plates whenever, for any reason, this may be desired.

Although but one embodiment of this invention is herein set forth, it is to be understood that some of the details may be altered or omitted without departing from the spirit of the invention as defined by the following claims.

I claim:

1. In a stove device of the class described, an oven having a top lining the front of which rests on the stove body, a back lining supported on the stove body and supporting the back part of the top lining, a pair of side linings hung on the stove body and bearing outward locally against the stove body and endwise against the back lining, and a horizontal plate carried by said side linings and bearing laterally thereagainst.

2. An oven having a front frame part formed with rearwardly facing edge grooves, finish plates having their front edges seated in said grooves and having inwardly turned rear flanges, and said frame part having rearward lugs to engage said flanges for securing said finish plates in place.

3. A device of the class described comprising a frame having front, top, rear, and side walls defining a compartment, an outer shell having top, rear, and side plates, said side plates having interfitting engagement with the front wall of said frame, the rear edges of said side plates having inwardly extending flanges overlapping said rear plate, and fastening means mounted on said frame and projecting rearwardly through said flanges for detachably securing said shell to said frame.

4. A device of the class described comprising a frame having front, top, rear, and side walls defining a compartment, an outer shell having top, rear, and side plates, said side plates having interfitting engagement with the front wall of said frame, the rear edges of said side plates having inwardly extending flanges overlapping said rear plate, and both rigidly mounted on the side walls of said frame and projecting rearwardly through said flanges for detachably securing said shell to said frame.

5. A device of the class described comprising a frame having front, top, rear, and side walls defining a compartment, said front wall having a rearwardly facing marginal groove, an outer shell having top, rear and side plates, the front edges of said top and side plates being seated in said groove, the

rear edge of one of said plates having an inwardly extending flange, and a bolt for detachably securing said frame to said flange.

6. A device of the class described comprising a frame having front, top, rear, and side walls defining a compartment, said front wall having a rearwardly facing marginal groove, an outer shell having top, rear and side plates, the front edges of said top and side plates being seated in said groove, the rear edges of said side plates having inwardly extending flanges overlapping said rear plate, and rearwardly extending bolts mounted on said frame and projecting through said flanges for detachably securing said shell to said frame.

7. A device of the class described comprising a frame having front, top, rear, and side walls defining a compartment, said front wall having a rearwardly facing marginal groove, an outer shell having top, rear and side plates, the front edges of said top and side plates being seated in said groove, said rear plate having forwardly extending marginal flanges for spacing said rear plate from said rear wall of the frame, said side plates having inwardly extending flanges overlapping said rear plate, and fastening means mounted on said frame and secured to said flanges for detachably securing said shell to said frame.

8. A device of the class described comprising a frame having front, top, rear, and side walls defining a compartment, said front wall having a rearwardly facing marginal groove, an outer shell having top, rear and side plates, the front edges of said top and side plates being seated in said groove, said rear and side plates having overlapping parts at the rear of said shell, and fastening means mounted on said frame and extending rearwardly through one of said overlapping parts for detachably securing the shell to the frame.

9. A device of the class described comprising a frame having front, top, rear, and side walls defining a compartment, said front wall having a rearwardly facing marginal groove, an outer shell having top, rear and side plates spaced from the corresponding walls of said frame, insulation filler material located between the walls of said frame and the plates of said shell, the front edges of said top and side plates being seated in said groove, said rear plate and the rear edges of said side plates having overlapping portions, and bolts extending rearwardly from said frame for attachment to certain of said overlapping portions, the rear edge of said top plate being detachably secured to said rear plate.

10. A stove comprising a frame having front, top, rear, and side walls defining a compartment, and a removable lining comprising rear, top, bottom and side panels spaced from said walls, said bottom panel dividing said compartment into an upper bake oven and a lower broiler oven, said rear panel being supported on said frame, said top panel being supported on said frame and on said rear panel, said side panels being suspended from said frame, the upper edges of said side panels being spaced from said top panel to permit the passage of air from said broiler oven to said bake oven.

Signed at Chicago this 14th day of November, 1930.

WALTER F. ROGERS.