Jan. 30, 1934. Z. CHAFEE 1,945,020

CABINET CONSTRUCTION

Filed Jan. 3, 1931 2 Sheets-Sheet 1

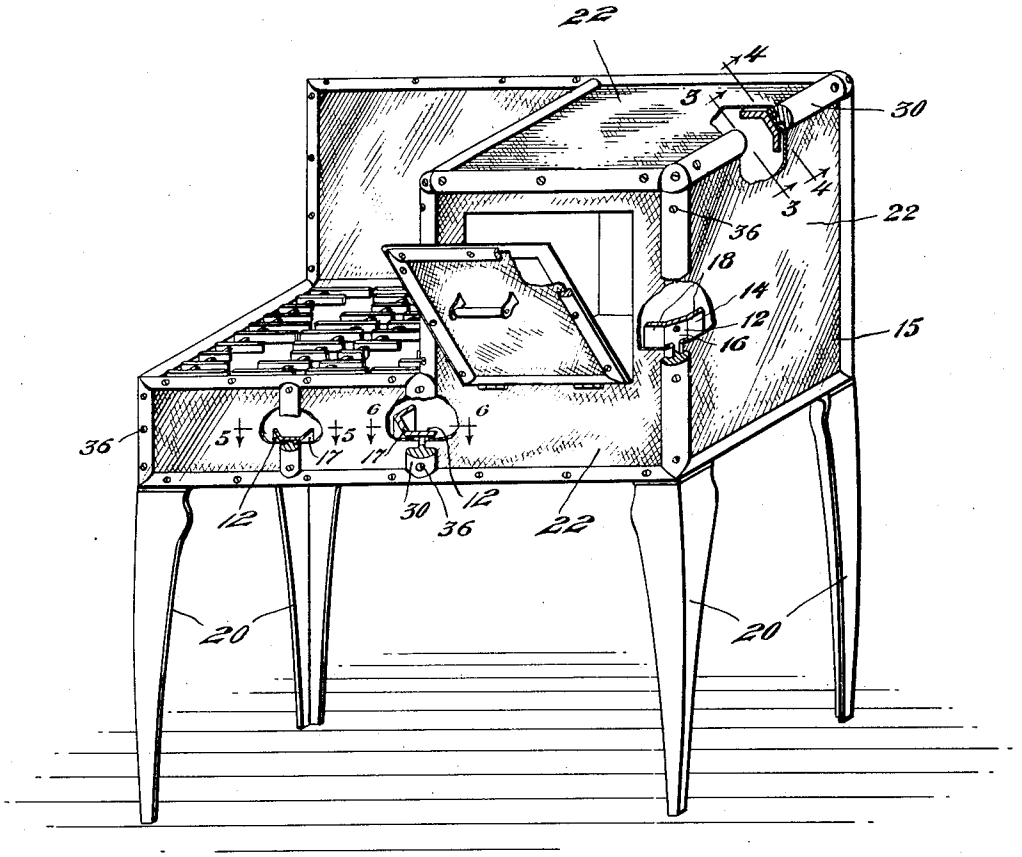



Fig. 1.

INVENTOR
Zachariah Chafee

BY Thomas A. Jenckes Jr.
ATTORNEY

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Filed Jan. 3, 1931 2 Sheets-Sheet 2

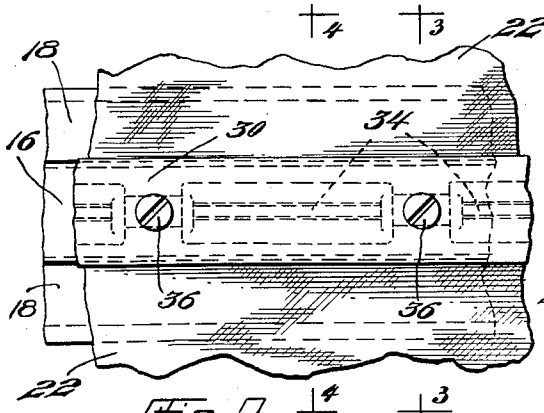



Fig. 2.

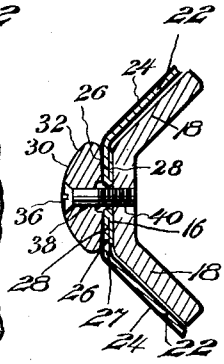



Fig. 3.

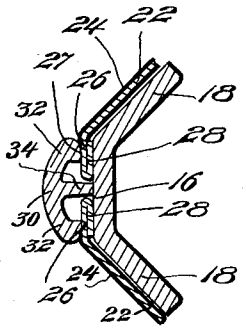



Fig. 4.

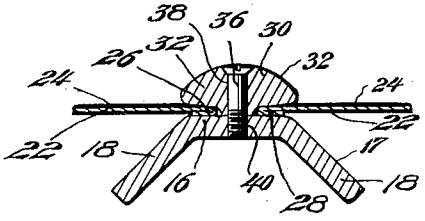



Fig. 5.

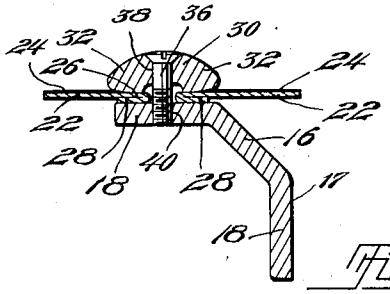



Fig. 6.

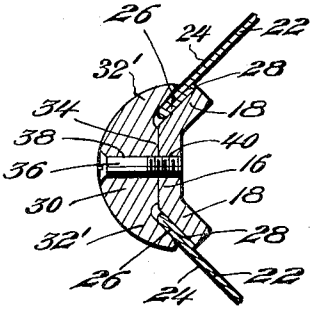



Fig. 7.

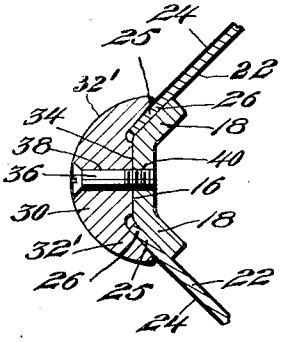



Fig. 8.

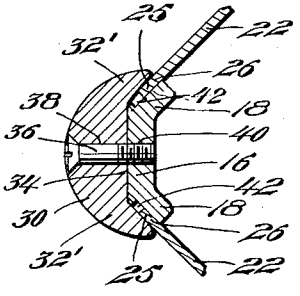



Fig. 9.

INVENTOR
Zechariah Chafee
BY Thomas A. Jenckes Jr.
ATTORNEY

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# UNITED STATES PATENT OFFICE

1,945,020

## CABINET CONSTRUCTION

Zechariah Chafee, Providence, R. I.

Application January 3, 1931. Serial No. 506,419

2 Claims. (Cl. 220—80)

My invention relates to improvements in cabinet construction, particularly in the type of cabinet adapted to be used in gas and electric ranges as ovens, burner units, etc., or as refrigerators, particularly automatic refrigerators, electrically or gas operated.

An object of my invention is to provide a cabinet including a supporting skeleton frame having substantially all of the exposed parts, such as the walls thereof mounted on said skeleton frame, which thus bears all the strain.

A further object of my invention is to provide such a cabinet construction, in which the side walls thereof are easily detachable for convenience in replacement, etc.

My invention is particularly useful in devices, such as gas ranges, refrigerators, etc., where it is desired to ornament, such as by enameling, painting, etc., the exposed walls thereof and by my improved construction I am enabled to so mount the lighter ornamented walls thereof that they will be subject to no strain or stress in use. In fact, in employing my invention even such frangible material as painted asbestos may be employed as the walls thereof. My invention is particularly adapted, however, for enameled metal ware and is so designed that the expansion or contraction of the metal will not cause any cracking of the enamel.

A further feature of my invention involves that I need only enamel or otherwise ornament the exposed surfaces of the walls up to their points of attachment to the skeleton frame, while the attached member shields all unfinished portions from view.

A further feature of an embodiment of my invention resides in the fact that I am enabled to provide walls and other portions which may be stored and shipped flat.

A further feature of my invention relates to the fact that I believe I am the first to provide a skeleton frame construction consisting of corner or side bars having chamfered edges to which clamping bars or means may be attached having means thereon adapted to abut the chamfered edges to limit the movement of the clamping means theretoward and having lateral clamping portions adapted to clamp the edges of said ornamented walls to said corner bars. By employing these stop means I am enabled to loosely bind the edges of the side walls to the frame by means of my improved clamping means in a manner to permit expansion or contraction of the metal walls and varying strains on the supporting framework without cracking the enamel or ornamentation thereon.

These and such other objects of my invention as may hereinafter appear will be best understood from a description of the embodiments thereof shown in the accompanying drawings.

In the drawings, Fig. 1 is a perspective view of a gas range employing my improved cabinet construction having portions thereof broken away to show said construction.

Fig. 2 is an oblique plan view of a frame corner cabinet construction made in accordance with my invention.

Fig. 3 is a sectional view thereof taken along the line 3—3 of Figs. 1 and 2.

Fig. 4 is a sectional view thereof taken along the line 4—4 of Figs. 1 and 2.

Fig. 5 is a sectional view taken along the line 5—5 of Fig. 1.

Fig. 6 is a sectional view taken along the line 6—6 of Fig. 1.

Fig. 7 is a sectional view similar to Fig. 3 of a slightly different embodiment of my invention wherein the lateral portions of the clamping bars clamp the edges of the walls against the sides of the corner bars.

Fig. 8 is a sectional view similar to Fig. 3 of a further modification of my invention generally similar to that shown in Fig. 7 wherein the edges of the walls are not doubled over on themselves.

Fig. 9 is a sectional view generally similar to Fig. 7 showing a slightly different embodiment of my invention, wherein the side walls of the clamping bars are slightly inset instead of providing the stop means on the clamping bars themselves to limit the degree of gripping of the edges of the side walls between the lateral portions of the clamping bars and the side walls of the frame, in this instance not shown enamelled.

In the drawings, wherein like characters of reference indicate like parts throughout, 15 generally indicates a gas range cabinet constructed in accordance with the teachings of my invention. Said gas range 15 consists of the skeleton frame 12 constructed of chamfered corner bars 14 and side bars 17 having chamfered edges 16 and sides 18 exterior of said chamfered portions 16. In my preferred embodiment the edges of the corner bars are chamfered at approximately 45° to each side wall. I am aware that others have attempted partially to nonstrainably mount enameled or otherwise ornamented walls on skeleton frames, but they have endeavored to do so completely at other places than at the corners of the corner bars or other frame bars and I

believe I am the first to realize that the most convenient and neatest place for nonstrainably attaching side walls of this description to a skeleton frame is to chamfer the edges of the corner or side bars for this purpose. The skeleton frame 12 is thus constructed of the desired number of corner or side bars which for the purposes of my invention may either be the upright bars, corner edge bars, or the top or bottom bars suitably joined together to form the skeleton frame and in the embodiment shown said skeleton frame 12 is suitably mounted on the legs 20. To enclose the cabinet I provide the walls 22. As in most refrigerators and gas range constructions today the tendency is towards the more ornamental things, the walls, whether they consist of the side walls, top or bottom walls, may consist of any suitable material, such as metal, phenol condensation product, asbestos, etc. and preferably either enameled or otherwise suitably painted or ornamented. In my preferred embodiment, the side walls 22 are suitably ornamented substantially to the edges thereof as at 24 leaving the edges 26 thereof substantially free of enamel or other ornamentation. In the preferred embodiment shown in Figs. 1–4 the walls are constructed of flat plate and the edges thereof are bent obliquely at 45° relative thereto as shown at 27 and are preferably doubled over on themselves as shown at 28 preferably prior to enameling, the enameled portion 24 stopping just adjacent to the bent and/or doubled over portions. For ease in handling, however, if desired as shown in Figs. 7–9 the walls 22 may be constructed flat and may have their edges 26 doubled over as at 28 as shown in Fig. 7 or may have their edges flat as shown in Figs. 8 and 9, the enameled or ornamented surface 24 in Fig. 8 preferably stopping slightly away from said edges. I provide means to clamp either the bent over edges 26 shown in Figs. 3 and 4 doubled over as at 28 or the straight edges shown in Fig. 7 doubled over as at 28 or the plain edges 25 as shown in Figs. 8 and 9 to said corner bars. Said clamping means 30 is provided with the laterally projecting clamping portions 32 adapted to loosely and nonstrainably clamp the unenameled edges 26 of said walls to said corner bars. In the preferred embodiment shown in Figs. 1–4 said laterally projecting portions 32 are adapted to clamp the bent over and doubled over edges 26 and/or 28 of said side walls 22 against the chamfered portions of said corner bars. Said clamping means 30 is also provided with stop means 34 projecting inwardly therefrom adapted to abut the chamfered portions 16 of said corner bars. It is thus obvious where the edges are doubled over as at 28 that said stop means will permit the laterally extending portions to loosely bind the edges 28 of said walls 22 against said corner bars to permit expansion or contraction thereof without cracking the enamel. I also provide means 36 to secure said clamping means to the chamfered portions 16 of said corner bars. In my preferred embodiment said means comprising the bolts or screws 36 projecting through suitable holes 38 in said clamping means and threaded into suitable holes 40 in the chamfered portions 16 of said bars. It is obvious that said clamping means 30 may be of any length so long as they are provided with the securing means 36 and the stop means 34. In my preferred embodiment, however, said clamping means 36 consists of clamping bars 36 preferably extending substantially the length of each respective corner or side bar, being thus provided with the spaced holes 38 for the securing means 36 therein and in between said holes with the stop inwardy projecting ribs 34. For purposes of more easy storage and where it is desired to enamel the side walls 22 substantially to the edges thereof I preferably extend the length of the laterally projecting portions 32 into the portions 32′ shown in Figs. 7–9 so that said laterally extending portions 32′ may clamp the doubled over edges 28 or straight edges 25 of said walls 22 directly against the sides 18 of said corner bars. In the embodiment of the invention shown in Figs. 7–9 the stop means 34 may be continued as a rib along the corner bars even around the screw holes 38 or may be omitted adjacent the bolt or screw holes 38 if desired. In Fig. 7, I have shown the edges of the flat enameled walls doubled over as at 28 although not obliquely set in accordance with the degree of chamfer as shown in Figs. 3 and 4 in order to provide a loose fit for the edges thereof between the lateral clamping portions 32′ and the side walls 18 of the corner bars. If desired where employing the flat construction of side walls, however, their edges may be merely left flat as shown at 25 in Fig. 8. Instead of providing the inwardly projecting means 34 as shown in Figs. 7 and 8 the sides 18 of the corner bars may be inset as at 42 (see Fig. 9) to permit a loose clamping action of the edges 25 of the side walls 22 between said sides 18 and overlapping portions 32′. As stated my invention includes the combination of any corner or side bar 14 constructed as explained and the side walls 22 on each side thereof and the clamping means 30 whether employed for a vertical or horizontal corner of the cabinet. In Fig. 1, I have shown them employed for the top corners as well as for the vertical and bottom corners. If desired a bar 12 may be employed as a side, top or bottom bar intermediate the wall portions as shown in Figs. 5 and 6 and in this case the chamfered edge 16 may be parallel to the sides of the cabinet to have the wall portions 22 clamped directly against it as shown in Fig. 5, or it may be oblique to said wall portions as shown in Fig. 6 in which case the wall edges 26 may be clamped against one of the sides 18 of the bars as shown in Fig. 6. To assemble the preferred embodiment of my invention shown in Fig. 1 it is merely necessary to suitably secure together in any desired fashion the chamfered corner bars 14 to make up the frame 12. The walls consisting of the top or actual side walls 22 are then rested thereon so that the edges thereof lie against the chamfered portions of the frame as shown in Figs. 3–4 or the side portions of the corner bars as shown in Figs. 5–6. The clamping bars are then inserted over the edges of said corner bars and said side walls 22 and the securing means 36 inserted within the holes 38 to suitably secure said clamping means and edges 26 of said side walls 22 against either the chamfered portions 16 of the corner bars as shown in Figs. 3 and 4 or against the sides thereof as shown in Figs. 7–9.

It is obvious that I have provided a construction which may be readily detached by merely unscrewing the clamping bars after which the side walls may be readily removed and if desired replaced by new ones. It is thus obvious that I have provided a construction easy to fabricate and in which the points of attachment of the side walls of the skeleton frame are largely concealed by the neat looking clamping bars functioning

against the chamfered edges or sides of the skeleton frame corner or other bars.

It is understood that my invention is not limited to the specific embodiments shown and that various deviations may be made therefrom without departing from the spirit and scope of the appended claims.

What I claim is:

1. In a heating cabinet construction subject to wide variations in heat, a skeleton frame constructed of chamfered corner bars having sides exterior of said chamfer, walls having outer enameled surfaces with unenameled edges, clamping means having lateral clamping portions adapted to clamp the unenameled edges of said walls to said corner bars having stop means projecting inwardly therefrom adapted to abut the chamfered portion of said corner bars to permit said portions to grip the edges of said enameled walls with friction to permit expansion and contraction thereof and means to secure said clamping means to the chamfered portion of said corner bars.

2. In a heating cabinet construction subject to wide variations in heat, a chamfered corner bar having sides exterior of said chamfer, walls having outer enameled surfaces with unenameled edges, clamping means having lateral clamping portions adapted to clamp the unenameled edges of said walls to said corner bar having stop means projecting inwardly therefrom adapted to abut the chamfered portion of said corner bar to permit said portions to grip the edges of said enameled walls with friction to permit expansion and contraction thereof and means to secure said clamping means to the chamfered portion of said corner bar.

ZECHARIAH CHAFEE.