Sept. 15, 1942. H. H. RING 2,295,915

CABINET CONSTRUCTION FOR RANGES AND THE LIKE

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Fig. 1

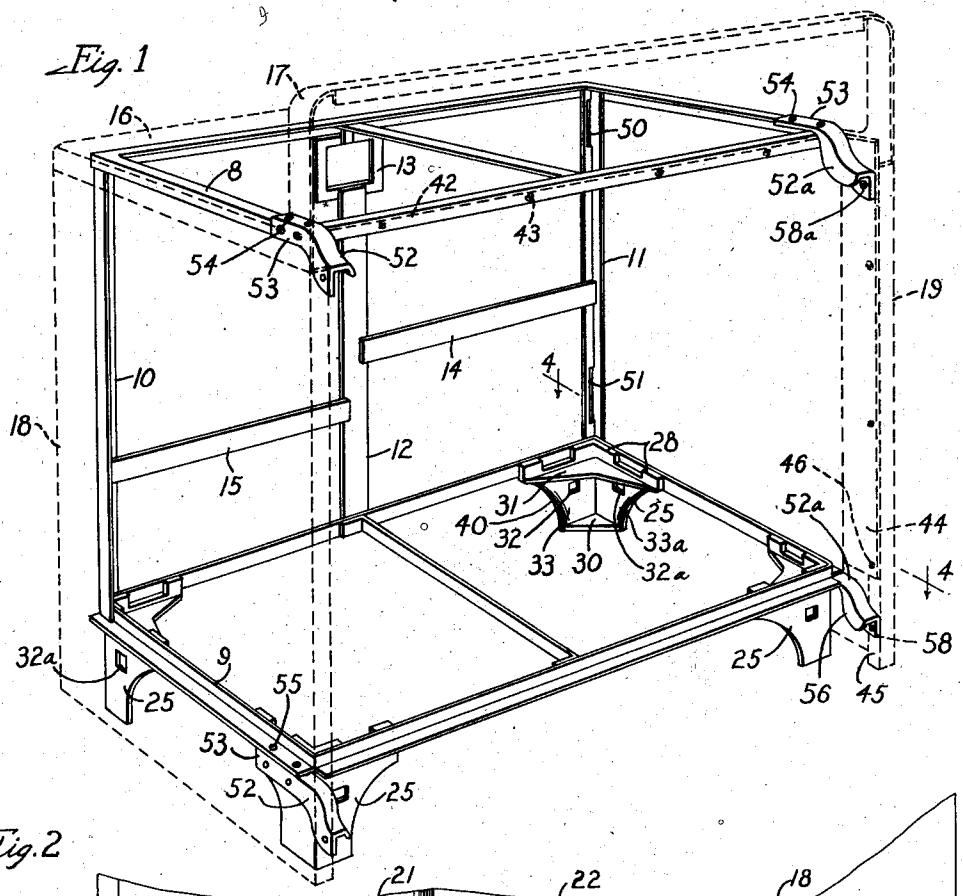


Fig. 2

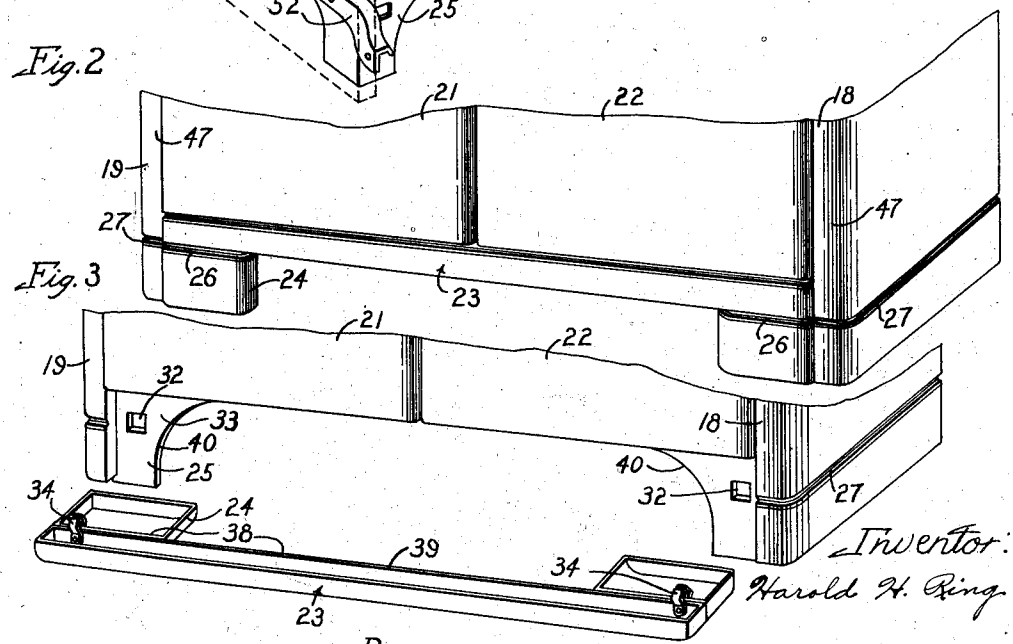


Fig. 3

Inventor:
Harold H. Ring

By McCanna, Wintercorn & Morsbach
Attys.

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Fig. 4

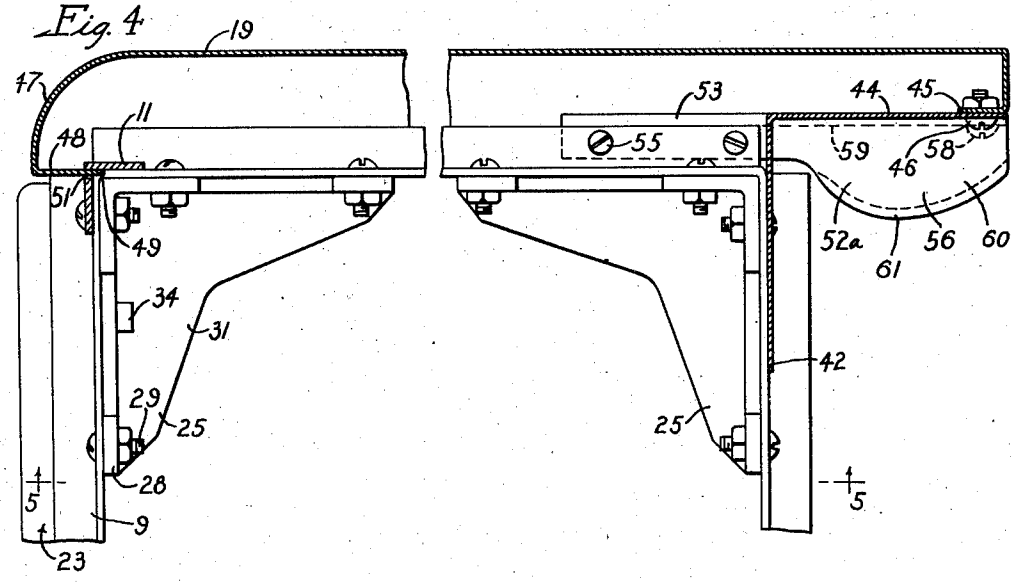


Fig. 5

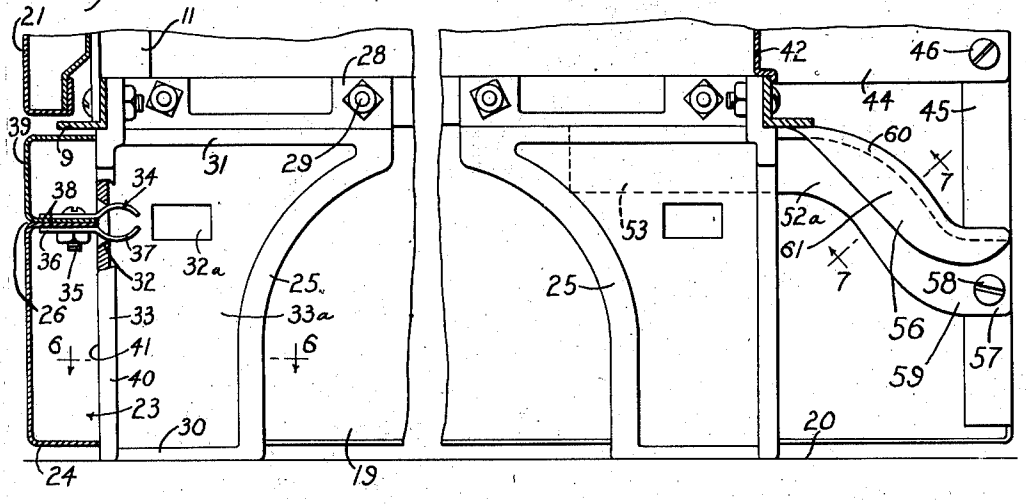


Fig. 6

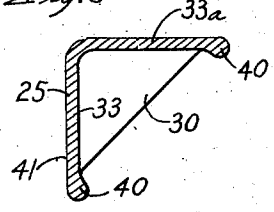
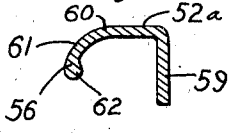


Fig. 7



Inventor:
Harold H. Ring

By
McCanna, Kintercorn & Morsbach
Attys.

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UNITED STATES PATENT OFFICE

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CABINET CONSTRUCTION FOR RANGES AND THE LIKE

Harold H. Ring, Rockford, Ill., assignor to Geo. D. Roper Corporation, Rockford, Ill., a corporation of Illinois

Application February 27, 1939, Serial No. 258,634

12 Claims. (Cl. 126—39)

This invention relates to a new and improved cabinet construction specially designed for use in domestic ranges and the like.

Porcelain enameled parts present problems because of the likelihood of damage in shipment and in the handling of the ranges on the sales floor and at the time of installation. However, ranges have in recent years been designated with a view to more and more extensive use of porcelain enameled parts, porcelain enamel being desired for its good wearing qualities and ease of cleaning as well as good appearance. It is, therefore, the principal object of my invention to provide a cabinet construction, which while it has among other porcelain enameled parts porcelain enameled jacket ends reaching down close to the floor so as to present a desired massive effect is equipped with specially constructed legs made to form non-removable rigid parts of the chassis, reaching down to a level slightly below the jacket ends so as to prevent damage in the event the range is skidded across the floor, the chassis also including bracket castings fastened thereto so as to form permanent rigid parts of the chassis, serving as supports for the sheet metal back wall and the adjacent enameled jacket ends, the legs and last named castings being designed and arranged to provide smooth handle grips for use in lifting and carrying the range, while protecting the enameled jacket ends against damage by assuming all of the stresses in these rigid parts.

Another object is to provide specially enlarged hand grip flanges on the legs and bracket castings with enlarged rounded edge portions to form comfortable hand grip portions so that the weight of the range can be carried without cutting into the hands or giving any discomfort.

Still another object is to provide a quickly removable porcelain enameled bottom base strip for the front of the range, which serves to conceal the legs and give a neat and attractive appearance for the range front, especially when made to match the design of the lower portions of the porcelain enameled jacket ends, the legs being, however, quickly accessible to serve as handles for the lifting and moving of the range when the base strip is removed.

The invention is illustrated in the accompanying drawings, in which—

Fig. 1 is a phantom view showing the inner rigid framework or chassis in perspective;

Fig. 2 is a fragmentary perspective view of the lower portion of the range, showing the removable base strip in place;

Fig. 3 is a similar view showing the base strip removed and laid face down on the floor in front of the range to better illustrate the construction;

Fig. 4 is a horizontal section through one end of the stove, taken on the line 4—4 of Fig. 1, with an intermediate portion of the section broken away to permit showing the same on a larger scale;

Fig. 5 is a vertical section on the line 5—5 of Fig. 4, and

Figs. 6 and 7 are sections taken on the correspondingly numbered lines in Fig. 5.

The same reference numerals are applied to corresponding parts throughout the views.

The inner framework or chassis of the range is shown in full lines in Fig. 1 and comprises a rectangular top frame 8 of angle iron construction, a rectangular bottom frame 9 of angle iron construction, and vertical angle iron front corner posts 10 and 11. A vertical middle pillar 12 carrying a small rectangular frame 13 on the upper end thereof is connected at its upper and lower ends to the frames 8 and 9 between the right and left hand oven sections. The horizontal cross-pieces 14 and 15 which connect the middle pillar 12 with the corner posts 10 and 11 are at the elevations of the oven bottoms. The frame 13 previously mentioned is at the elevation of the burner box under the cooking top, indicated in dotted lines at 16, and is adapted to support a control panel on which several oven controls operable from the front of the range are carried. The cooking top 16, which is preferably porcelain enameled, is illustrated as having integral therewith a vertical porcelain enameled back rail 17 which is adapted to have abutment with the wall behind the range. At 18 and 19 are indicated the porcelain enameled jacket ends for the opposite sides of the range disposed vertically and reaching from the cooking top 16 down close to the floor level, indicated at 20 in Fig. 5. 21 designates the front panel for the broiler drawer under the pastry oven, and 22 designates the front closure panel for the burner compartment under the main baking oven. The panels 21 and 22 are also porcelain enameled to match porcelain enameled doors (not shown) provided for the pastry and baking ovens. There is also a porcelain enameled base strip 23 for the front of the range below the panels 21 and 22 having downwardly projecting end parts 24 which, for a purpose that will soon appear, are adapted to cooperate with the ends of the strip to cover the supporting legs 25 on the front corners of the range, the strip 23 when in place,

as shown in Fig. 2, having the horizontal joints 26 thereon in alignment with ornamental beads 27 provided on the lower portions of the jacket ends 18 and 19 for good appearance.

In accordance with my invention, I provide four legs 25 of cast construction and right-angle cross-section to fit in the corners of the bottom frame 9 and having upwardly projecting tab portions 28 through which bolts 29 are adapted to be entered for fastening the legs to the frame so that they are permanent parts of the chassis projecting down below the lower ends of the jacket ends 18 and 19, as indicated in Fig. 5, to provide enough clearance therefor with respect to the floor 20, so that the range can be skidded along the floor without danger of damaging the porcelain enameled parts. The webs or gussets 30 across the bottoms of the legs give broader engagement with the floor covering so that the range will not be so apt to sink into the floor covering and the range can therefore be moved more readily by sliding the legs on the floor. The upper webs or gussets 31 provide reenforcements for the legs so that there is adequate strength even though the legs are of reduced thickness. All of the legs are made alike for interchangeability, although only the hole 32 provided in the front wall 33 of each of the front legs 25 will be used for the detachable engagement therein of a leaf-spring clip 34 provided therefor on the back of the base strip 23. The holes 32, as clearly appears in Fig. 5, are tapered inwardly so as to facilitate entry of the narrow end portions of the spring clips 34. A single bolt 35 cooperates with each of the spring clips 34 and is entered through registering holes in the attaching shank portions 36 of two bowed leaf-springs 37 forming the clip and through registering holes in superimposed flanges 38 on the main body portions 39 of the base strip 23 and the end parts 24 to join the pieces together and mount the spring clips thereon. When the base strip 23 is brought into position in front of the legs 25, the two clips 34 at opposite ends are easily entered in the holes 32 and can be forced into these holes by pressure against the ends of the strip or by striking the strip a blow with the fist in the vicinity of each of said clips. When the clips are entered to the extent shown in Fig. 5, where there is slightly more than half of the C-shaped portion formed by the oppositely bowed end portions of the leaf-springs 37 projecting behind the wall 33, there is no danger of the base strip coming off, although it may be easily removed by pulling outwardly thereon at both ends. The other holes 32*a* in the other walls 33*a* of the legs 25 at right angles to the walls 33 are provided merely for the purpose of interchangeability so that a leg may be used on the right or left hand side of the stove indiscriminately. The rear legs 25, it will be noticed, are of the same construction as the front legs, for a similar reason. When the base strip 23 is removed, the front legs 25 are exposed, as appears in Fig. 3, to permit their use as handles for lifting and carrying the range or for moving the same about at the time of installation. The housewife may also find occasion now and then to remove and replace the base strip to sweep or scrub the floor under the range.

The legs 25 are formed with enlarged edge portions 40 to provide hand grips that will not cut into the hands or give discomfort in the handling of the range. The enlargement, it will be noticed in Fig. 6, is all inwardly with respect to the plane of the flat outer face 41 so that there is nothing to interfere with the seating of the base strip 23 in tight engagement with the legs 25. Here again it will be noticed in Fig. 6 that the edge portion on not only the front wall 33, but also the side wall 33*a*, is enlarged as described. In that way, a leg may be used interchangeably in the right or left hand position.

The plain sheet metal back wall 42, which is commonly referred to as the jacket back, is arranged to be fastened along its upper edges to the top frame 8 by bolts 43, and has rearwardly projecting flanges 44 on the opposite ends thereof arranged to be fastened to the inwardly projecting flanges 45 on the jacket ends 18 and 19 by other bolts 46. Now, the jacket ends 18 and 19 have inwardly curved front end portions 47, which, as shown in Fig. 4, terminate in rearwardly projecting flanges 48 on the vertical edges of which are formed elongated lugs 49 arranged to be entered in elongated slots 50 and 51 provided therefor in the front flanges of the angle iron corner posts 10 and 11 so as to interlock the jacket ends with the chassis in a quickly detachable manner at the front ends and avoid the necessity for bolting at those points. The bolts 46, previously mentioned, being on the inner side of the rear portions of the jacket ends 18 and 19 are therefore not visible and the range is accordingly of greatly improved appearance. The jacket ends 18 and 19 are arranged to have their rear ends secured directly to the chassis by means of four brackets 52—52*a* on the four corners on the back of the range chassis, so that there are two of these brackets in vertically spaced relation cooperating with the rear end portion of each of said jacket ends. These brackets 52—52*a* are of right and left hand construction and are made so that the upper and lower brackets of each pair are interchangeable. The upper brackets 52 and 52*a* have their attaching ends 53 of angular cross-section fitting over the side portions of the top frame 8 at the rear thereof and fastened by bolts 54. The lower brackets 52 and 52*a* have their attaching ends 53 of angular cross-section like the upper brackets but fastened to the under side of the side members of the bottom frame 9 by bolts 55. The brackets 52 and 52*a* project rearwardly and downwardly so as to provide handle portions 56 at an acute angle to the vertical, as clearly appears in Fig. 5, at substantially the same angle as the handle grips 40, although in planes at right angles to the planes of the grips 40. The extremities 57 of the brackets 52—52*a* provide attaching portions through holes in which bolts 58 may be entered to fasten the jacket ends 18 and 19 to the brackets 52—52*a* by their inturned flanges 45. The flanges 44 on the sheet metal back wall 42 terminate in the plane of the bottom frame 9 just above the lower brackets 52—52*a*, but the upper ends project between the upper brackets and the flanges 45 on the jacket ends, so that bolts 58*a* serve to fasten both the back wall 42 and the jacket ends 18 and 19 to these upper brackets. The brackets 52—52*a* are of angular cross-section throughout their rearwardly projecting end portions, as illustrated in Fig. 7, the vertical flanges 59 thereof being used for attachment of the jacket ends, and the transverse flanges 60 thereof being given a downward curvature along the edge portion 61 to provide the hand grips 56, the edges of which are enlarged, as clearly appears at 62 in Fig. 7, for

comfort in lifting and handling the range by means of these hand grips.

In operation, it should be clear from the foregoing description that two men can easily lift and carry the range, each using one of the front legs **25** as a handle and the adjacent lower bracket **52** or **52***a*, as the case may be, for the other handle. The two handles thus provided are so spaced and at such angularity, as previously pointed out, that lifting and carrying is rendered easier and less awkward than where some part of the range not designed to be used as a handle is so used. Furthermore, since the legs and brackets referred to have specially formed hand grip portions, the workman experiences no discomfort whatever in lifting and carrying the range, whereas when other portions of a range are grasped and used as handles, there is always danger of a workman getting his hands cut. The present handles, besides avoiding likelihood of injury to workmen, avoid any danger of damage to the enameled parts of the range by concentrating in the rigid handle members whatever stresses there are when the range is so supported, leaving the porcelain enameled parts under substantially no greater stress than when the range is resting on the floor. There is therefore no danger of enameled parts being damaged and requiring replacement. Furthermore, when the range is set down on the floor in the kitchen where it is to be installed, the enameled parts are kept clear of the floor **20** by the legs **25**, so that the range can be slid to and fro without damage to the enameled parts.

It is believed the foregoing description conveys a good understanding of the objects and advantages of my invention. The appended claims have been drawn with a view to covering all legitimate modifications and adaptations.

I claim:

1. In a cabinet construction, a rigid inner framework capable of sustaining the load of the rest of the cabinet without appreciable deflection, outer sheet metal jacket members having finished exposed surfaces and mounted vertically on the sides of said framework, handle members rigid with and projecting rearwardly from the framework so as to be concealed behind said jacket members when the cabinet is placed with its back next to a wall but so as to be accessible otherwise for use in lifting and carrying the cabinet substantially independently of the jacket members, and means for securing said jacket members to the frame including means securing the jacket members to said handle members.

2. In a cabinet construction, a rigid inner framework of generally rectangular form capable of sustaining the load of the rest of the cabinet without appreciable deflection, legs rigid with the bottom of said framework at the corners thereof, the legs on the front corners having handle grip portions provided thereon, outer sheet metal jacket members having finished exposed surfaces and vertically mounted on the ends of said framework, and bracket-like extensions rigid with the bottom of said framework at the rear thereof, and having the rear end portions of the jacket members attached thereto, said extensions having handle grip portions provided thereon in approximately the same horizontal plane with the handle grip portions provided on said front legs.

3. In a cabinet construction, a rigid inner framework of generally rectangular form, including upright front corner posts, outer sheet metal jacket members having finished exposed surfaces, means for securing said jacket members on the opposite ends of said framework with the front edge portions thereof substantially flush with the front of the cabinet, and with the rear edge portions projecting rearwardly from the back of the cabinet, and bracket-like extensions on the opposite ends of said framework and rigid therewith, projecting rearwardly from the framework and of inverted channel shaped cross section having the rear end portions of the jacket members detachably secured to the outer flanges thereof, said extensions having the inner flanges formed to provide handle grip portions so disposed as to be accessible by reaching around the rear edges of said jacket ends from the sides of the cabinet.

4. In a cabinet construction, a rigid inner framework of generally rectangular form, including upright corner posts, outer sheet metal jacket members having finished exposed surfaces, means for securing said jacket members on the opposite ends of said framework with the front edge portions thereof substantially flush with the front of the cabinet, and with the rear edge portions projecting rearwardly from the back of the cabinet, and bracket-like extensions on the opposite ends of said framework and rigid therewith projecting rearwardly from the upper and lower portions of said framework and all of inverted channel shaped cross section having the rear end portions of the jacket members detachably secured to the outer flanges thereof, each of said extensions having the inner flange formed to provide a handle grip portion so disposed as to be accessible by reaching around the rear edge of the adjacent jacket and from the side of the cabinet.

5. In a cabinet construction of the character described, the combination of an outer substantially flat panel, a cabinet leg of cast construction, the body of which is of right angular cross section and adapted to fit onto the corner of the cabinet, the outer face of said body being flat in a vertical plane for detachable engagement thereon of the outer flat cabinet panel, one edge portion of said leg being adapted to serve as a handle for lifting and carrying the cabinet, said edge portion being formed to enlarged rounded cross section with respect to the adjacent portions of the body of said leg to provide broad rounded handle grip surfaces, the enlargement of said edge portion being wholly behind the plane of the flat outside face of the leg, whereby the enlarged edge portion does not interfere with flush engagement of the panel with the leg, and means for detachably securing said panel in abutment with the flat outside face of the leg and substantially concealing said leg from view from the outside of the cabinet.

6. As an article of manufacture, a combination jacket attaching and handle bracket for a cabinet, comprising an elongated body of cast construction and angular cross section, one end portion of said body being perforated for attachment to the frame of the cabinet and the other end portion providing a substantially vertical flange perforated to be attached to the jacket for the cabinet, the other flange extending transversely and having its longitudinal edge portion curved downwardly and terminating in an enlarged rounded edge portion of larger cross section than the rest of the flange so as to provide a broad rounded hand grip surface.

7. As an article of manufacture, a combination jacket attaching and handle bracket for a cabinet, comprising an elongated body of cast construction and angular cross section, one end portion of said body being perforated for attachment to the frame of the cabinet and the other end portion providing a substantially vertical flange perforated to be attached to the jacket for the cabinet, the other flange extending transversely and having its longitudinal edge portion curved downwardly and terminating in an enlarged rounded edge portion of larger cross section than the rest of the flange so as to provide a broad rounded hand grip surface, the hand grip portion extending in acute angled relationship to the first mentioned end portion of said bracket.

8. In a cabinet construction, the combination of a base frame and a top frame in vertically spaced relation and upright frame members interconnecting the same, the framework thus formed being adapted to have external panels mounted thereon, and combined panel attaching means and handle means for lifting and carrying said cabinet construction comprising projecting members attached to the top frame and base frame at the rear portion thereof and extending rearwardly from the framework, each of said projecting members having a flange on the outer face thereof in a substantially vertical plane perforated for reception of fastening means, said projecting members being arranged so as to have said flanges engage inner portions of external panels adapted to be secured by fastening means entered through the perforations in said flanges, and each of said projecting members having another flange portion extending inwardly and downwardly in transverse relation to the panel attaching flange portion and providing a hand grip portion.

9. In a range, the combination of a frame, an end panel having an enameled surface, means for fastening the panel to the frame at the front of the range, said panel having an inturned flange at the rear edge thereof behind the range and in rearwardly spaced relation to the back of said frame, the flange having a forwardly bent edge portion, and an inverted generally channel shaped member secured to said frame and projecting rearwardly therefrom, having the outer flange thereof secured to the forwardly bent edge portion of the flange on said end panel, the inner flange of said channel member having an enlarged and rounded longitudinal edge portion providing a handle grip.

10. In a range, the combination of a frame, an end panel having an enameled surface, means for fastening the panel to the frame at the front of the range, said panel having an inturned flange at the rear edge thereof behind the range and in rearwardly spaced relation to the back of said frame, the flange having a forwardly bent edge portion, a back panel on the rear of said frame having a rearwardly bent flange on the end thereof extending in overlapping relation to the forwardly bent edge portion of the end panel and secured thereto, and an inverted generally channel shaped member secured to said frame and projecting rearwardly therefrom, having the outer flange thereof secured to the forwardly bent edge portion of the flange on said end panel and also to said rearwardly bent flange on said back panel to fasten both panels to the frame, the inner flange of said channel members having an enlarged and rounded longitudinal edge portion providing a handle grip.

11. In a range, the combination of a frame, an end panel having an enameled surface, means for fastening the panel to the frame at the front of the range, said panel having an inturned flange at the rear edge thereof behind the range and in rearwardly spaced relation to the back of said frame, the flange having a forwardly bent edge portion, and an elongated member of angular cross-section rigid with said frame and projecting rearwardly therefrom providing an outer flange in a substantially vertical plane secured to the forwardly bent edge portion of the flange on said end panel and providing another flange projecting inwardly from and in transverse relation to the outer flange to form a handle grip behind and concealed by said end panel.

12. In a range, the combination of a frame, an end panel having an enameled surface, means for fastening the panel to the frame at the front of the range, said panel having an inturned flange at the rear edge thereof behind the range and in rearwardly spaced relation to the back of said frame, the flange having a forwardly bent edge portion, a back panel on the rear of said frame having a rearwardly bent flange on the end thereof extending in overlapping relation to the forwardly bent edge portion of the end panel and secured thereto, and an elongated member of angular cross-section rigid with said frame and projecting rearwardly therefrom providing an outer flange in a substantially vertical plane secured to the forwardly bent edge portion of the flange on said end panel and also to said rearwardly bent flange on said back panel to fasten both panels to the frame and providing another flange projecting inwardly from and in transverse relation to the outer flange to form a handle grip behind and concealed by said end panel.

HAROLD H. RING.