

July 12, 1955

J. E. CHAMBERS
SUPPORT FOR TOP BURNERS

2,712,818

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2 Sheets-Sheet 1

Fig. 1

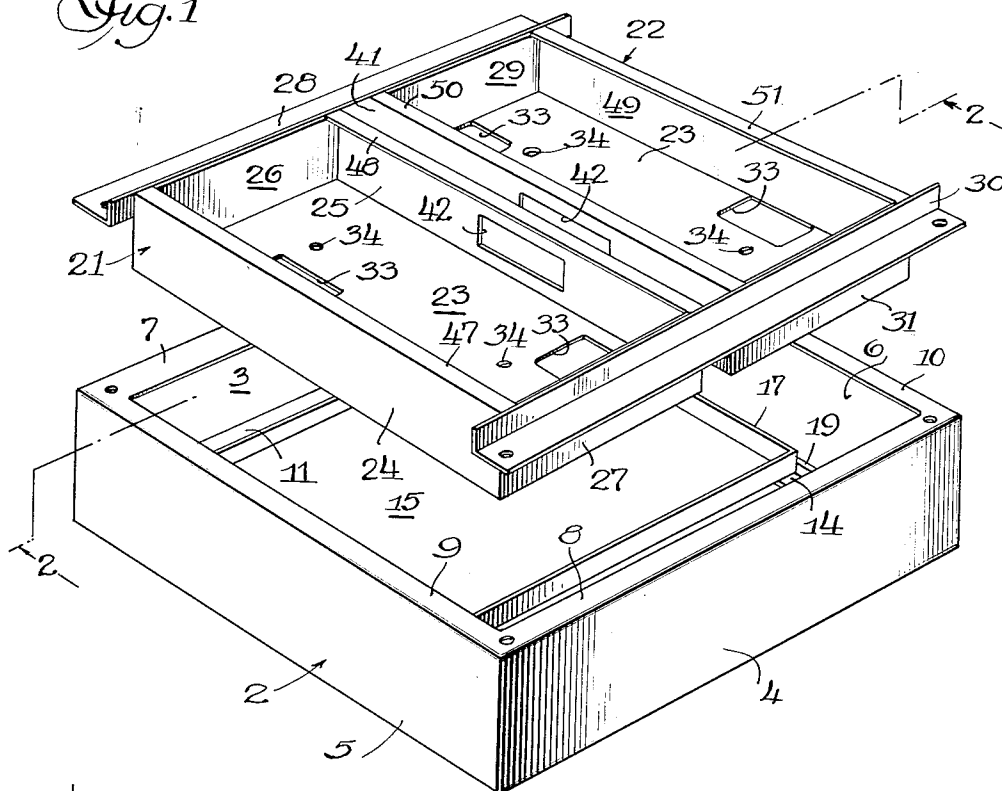
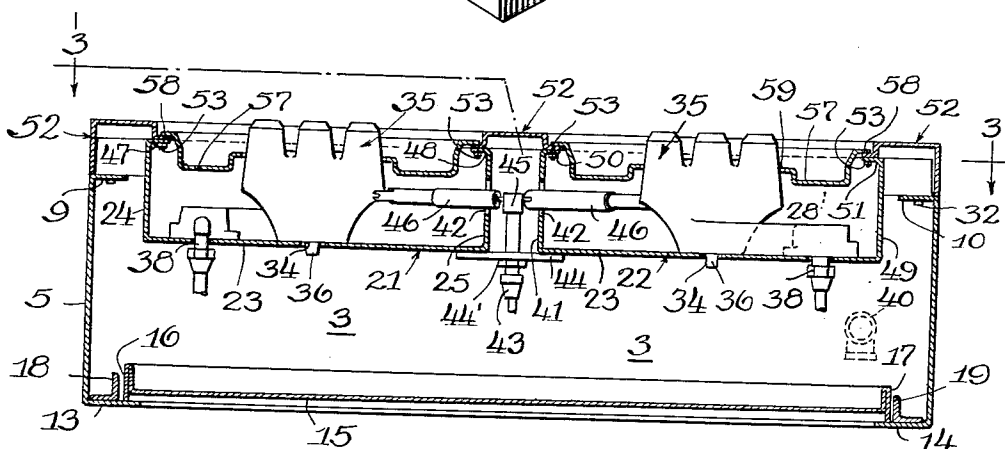


Fig. 2

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Fig. 3

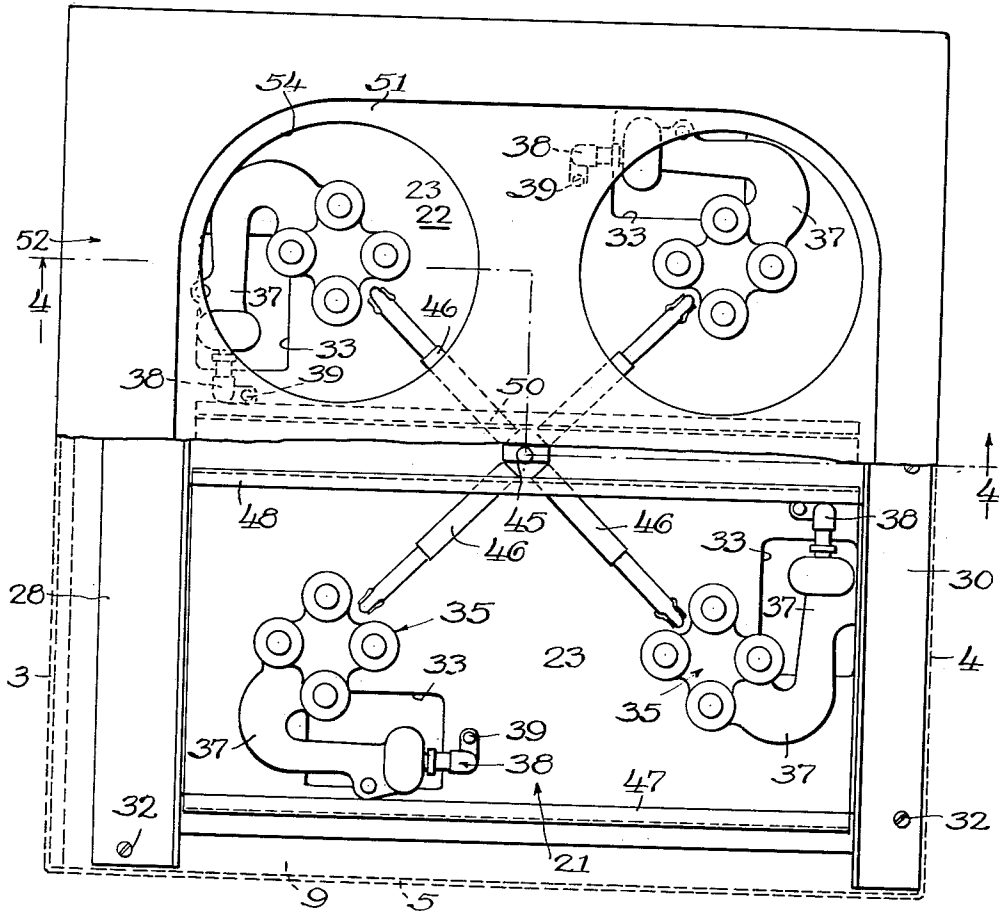
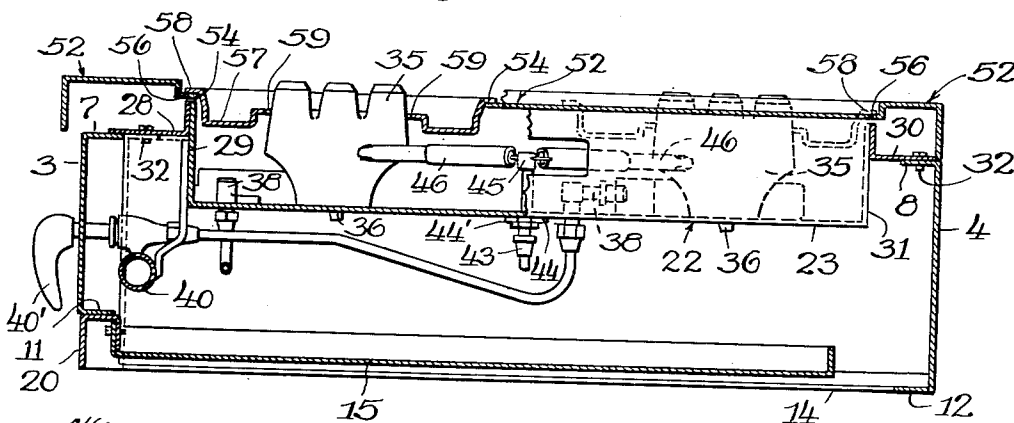


Fig. 4

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SUPPORT FOR TOP BURNERS

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6 Claims. (Cl. 126—39)

This invention relates to a support for the top burners of a cooking stove or range, and is particularly concerned with means for supporting the top burners and a light weight cooking top and for holding such cooking top straight.

The support with which the present invention is concerned is generally incorporated into a cooking stove or range, but may be used on a cabinet, table, or any other suitable base. It has been common practice to connect the cooking top directly to the frame of the stove, and to support the burner assemblies thereon. Accordingly, it has heretofore been necessary to make the cooking top of heavy, form-sustaining metal to give it sufficient strength and rigidity to support the top burners and burner assemblies.

In accordance with the present invention, the cooking top may be made of light sheet metal because the burner assemblies are not supported thereon. The drip rings, which comprise the only structure supported by the cooking top, are also formed of light sheet metal and therefore are not heavy enough to require a heavy cooking top for their support. A cooking top made of light sheet metal is normally susceptible to bending and buckling because of its lack of rigidity. This apparent deficiency is overcome in the structure of the present invention by providing a plurality of closely spaced points of support for the cooking top to which the cooking top may be drawn tightly and thus held straight without any possibility of bending and buckling.

The support provides great flexibility in design and construction. The individual box components, which constitute parts of the support, can be prefabricated and then assembled in the desired spatial relationship on angle irons which are supported directly by the frame or base of the support. It is necessary to carry only one stock of box components, regardless of how many different widths of stoves are made, because uniform box components can be secured to the angle irons in different spatial relationships to provide supports for the burner assemblies and cooking tops of stoves of different widths. Each box is designed to support two top burners and related structure. Additional boxes may be added to support additional burners and the angle irons, to which the boxes are spot welded, can be of any desirable length. The frame is, of course, designed to fit the overall dimensions of the box component.

The structure of the present invention by which the above and other advantages are attained will be described in the following specification, taken in conjunction with the accompanying drawings, showing a preferred illustrative embodiment of the invention, in which:

Figure 1 is a perspective view showing a box component in spaced relationship to the frame or base on which it is to be mounted;

Fig. 2 is a cross sectional view, taken generally along the line 2—2 of Fig. 1, but with the box component in position on the frame, and the cooking top positioned on the box component;

Fig. 3 is a top elevational view, taken generally along the line 3—3 of Fig. 2, with part of the cooking top broken away and the drip rings removed to facilitate illustration of the structure; and

Fig. 4 is a cross sectional view, taken generally along the line 4—4 of Fig. 3, but with the drip rings in position and showing the top burners and flash tubes in elevation.

In the drawings, the reference numeral 2 indicates a frame or base comprising a front wall 3, a rear wall 4, and side walls 5 and 6. Frame 2 may be mounted on the frame of a cooking stove or range, or on any suitable table, cabinet or other supporting structure. Front wall 3 has an inwardly extending top flange 7, and walls 4, 5 and 6 have similar top flanges 8, 9 and 10, respectively. Frame 2 is provided with bottom flanges 11, 12, 13 and 14, bent inwardly at the lower edges of walls 3, 4, 5 and 6, respectively, to stiffen the walls. Flanges 12, 13 and 14 are all in a common plane and cooperate to form a horizontal bottom for frame 2. Flange 11 is preferably spaced above flanges 12, 13 and 14 to provide clearance for a crumb tray 15 slidably mounted on flanges 13 and 14. The sides 16 and 17 of crumb tray 15 are held against lateral displacement by angle irons 18 and 19 which also reinforce the bottom of frame 2. Crumb tray 15 has a front wall 20 flush with front wall 3 of frame 2. Front wall 20 may be provided with any suitable means (not shown) to facilitate sliding movement of the crumb tray.

The box component comprises a pair of boxes 21 and 22 which are substantially duplicates of each other so that only one will be described in detail. Box 21 comprises a bottom 23, longitudinal side walls 24 and 25, and end walls 26 and 27. An angle iron 28 is welded to corresponding end walls 26 and 29 of boxes 21 and 22, and a similar angle iron 30 is welded to the opposite end walls 27 and 31 to hold boxes 21 and 22 side by side in the desired spatial relationship. Angles 28 and 30 are rigidly secured to flanges 7 and 8, respectively, in any suitable manner, as, for instance, by bolts 32.

Bottom 23 is provided with a pair of openings 33 and a pair of apertures 34. A pair of top burners 35 is located in box 21 by depending tits 36 which fit into apertures 34. Each burner 35 includes an integral goose neck pipe 37 rigidly secured to a fitting 38 which constitutes part of the burner assembly and is bolted to bottom 23, as indicated at 39. In this way the entire weight of each burner and the burner assembly is supported by bottom 23. The burner and burner assembly are conventional and will not be described in detail. Each burner assembly is connected to a gas manifold 40 and is provided with a valve 40' to control the flow of gas to the burner. Another pair of burners 35 is similarly supported on the bottom 23 of box 22.

Longitudinal side wall 25 of box 21 and the adjacent longitudinal side wall 41 of box 22 are provided with openings 42. A pilot burner assembly 43, which is supported by a plate 44 held against the inner edges of bottoms 23 by a nut 44', carries a pilot burner 45 which is positioned between side walls 25 and 41. A plurality of flash tubes 46 project from burner 45 through openings 42. Each flash tube leads from the pilot burner to one of the top burners. Walls 24 and 25 of box 21 are provided at their upper edges with inwardly extending flanges 47 and 48, respectively. Walls 41 and 49 of box 22 are similarly provided with flanges 50 and 51.

A cooking top 52 of thin sheet metal is mounted on top of boxes 21 and 22 and is secured at a plurality of closely spaced points to flanges 47, 48, 50 and 51 by means of bolts 53. The close spacing of bolts 53 permits cooking top 52 to be drawn tightly against the box component at a plurality of closely spaced points and held

straight against bending and buckling in spite of the thinness of the sheet metal of which it is made. The cooking top is entirely independent of the top burners and does not support any heavy structure. Therefore it may be formed of sheet metal so thin that it would bend and buckle from the heat to which it is subjected if it were not tightly held by the multiplicity of bolts 53. The cooking top is provided with an opening 54 surrounding each opening 54. The edges of cooking top 52 adjacent each top burner. The edges of cooking top 52 adjacent each opening 54 are offset downwardly, as indicated at 56, to form a flange encircling each top burner. A drip pan 57 is supported in each opening 54 by a flange 58 which rests on flange 56. The inner edge 59 of each drip pan is positioned adjacent each burner.

The support described above provides a much simpler structure for supporting top burners of a cooking stove than any similar structure previously known because it has fewer parts and may be manufactured on a mass production basis without requiring an extensive inventory of components to fit stoves of different widths. The support, comprising the frame or base 2 and the box component 21, may be assembled as a unit, and may be mounted on a gas stove or range, table, cabinet, or any other suitable supporting structure. The top burner assemblies, which are comparatively heavy, are supported directly by the unit, which has substantial strength, and the cooking top may be made of thin sheet metal because it does not have to support any substantial weight.

Although I have described a preferred embodiment of the invention in considerable detail, it will be understood that the description thereof is intended to be illustrative, rather than restrictive, as many details may be modified or changed without departing from the spirit or scope of the invention. Accordingly, I do not desire to be restricted to the exact structure described.

I claim:

1. A support for top burners comprising a pair of open top boxes of light weight sheet metal spaced in side by side relationship, a top burner and burner assembly rigidly secured to the bottom of each of said boxes, a reinforcing member rigidly secured to corresponding ends of said boxes at opposite ends thereof to secure said boxes together and to provide rigidity for the upper edges of said boxes, a plurality of horizontal flanges at the upper edge of each of said boxes, and a cooking top of light weight sheet metal bolted to said flanges at a plurality of closely spaced points to hold said cooking top tightly against the upper edges of said boxes and thereby resist deformation of said cooking top.

2. A support for a cooking top comprising a frame and a box component assembled as a unit to be mounted on any suitable supporting structure, said frame comprising upstanding side walls provided with horizontal flanges at their upper edges, and said box component comprising a plurality of boxes each having a bottom wall for supporting a burner assembly and a pair of oppositely disposed flanges at its upper edges, a cooking top of lightweight sheet metal mounted on said oppositely disposed flanges and a pair of rigid bars secured at opposite ends of said boxes to hold said boxes in predetermined spatial relationship, said rigid bars being each mounted on one of said horizontal flanges and being rigidly secured thereto.

3. A unit for independently supporting a cooking top and a plurality of top burners, said unit comprising a frame and a box component rigidly mounted on said frame, said box component including a plurality of separate boxes and reinforcing members secured to opposite ends of said boxes to hold them in spatial relationship, each of said boxes having a base member for supporting a plurality of top burners and a plurality of flanges at its upper edges, the flanges of all of said boxes cooperating to support a cooking top.

4. A support for top burners comprising a pair of open top boxes spaced in side by side relationship, each of said boxes having two end walls, two side walls and a bottom wall, a top burner and burner assembly supported by each of said bottom walls, a cross bar rigidly secured to corresponding end walls of each of said boxes to hold said boxes in spaced side by side relationship, a pilot burner secured in position between said boxes, the side walls of said boxes being provided with openings adjacent said pilot burner, flash tubes extending from said pilot burner through said openings to each of said top burners, a plurality of horizontal flanges at the upper edge of each of said boxes, a cooking top secured to said flanges, said cooking top having an opening positioned above each of said top burners, and a drip ring supported by said cooking top in each of said last mentioned openings, each of said drip rings having an opening through which the adjacent top burner projects.

5. A top burner supporting structure comprising a frame, a pair of boxes of light weight sheet metal, angle irons welded to opposite ends of said boxes, said angle irons being secured to said frame, each of said boxes having horizontal flanges on its upper edges, and a cooking top of light weight sheet metal bolted to said flanges at a plurality of closely spaced points to hold said cooking top tightly against the upper edges of said boxes and thereby resist deformation of said cooking top.

6. A cooking stove structure comprising an open top rectangular frame provided with horizontal flanges extending inwardly from each wall thereof, a pair of open top boxes of light weight sheet metal positioned within said frame, a pair of angle irons rigidly secured to opposite ends of said boxes to reinforce said ends and to hold said boxes in spaced parallel relationship, each of said angle irons being secured to one of said flanges, a pair of top burners mounted in each of said boxes, and a pilot burner positioned between said boxes, said pilot burner having flash tubes leading to each of said top burners.

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