

March 29, 1932.

E. BREITWIESER

1,851,150

GAS STOVE BURNER BAR AND SLIDE PLATE SUPPORT

Filed June 14, 1930 3 Sheets-Sheet 1

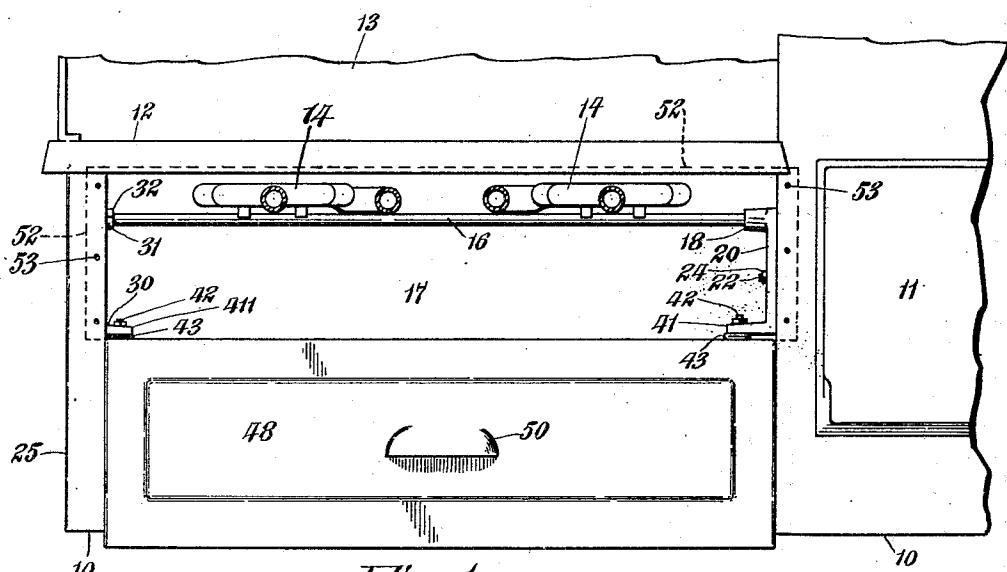


Fig. 1,

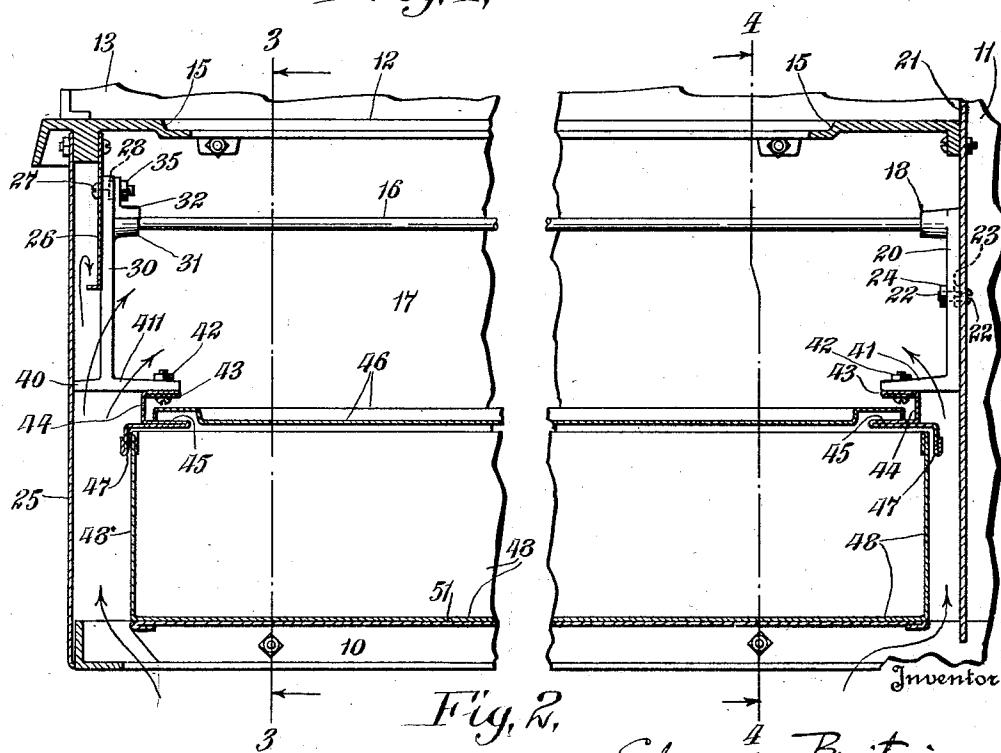


Fig. 2,

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3 Sheets-Sheet 2

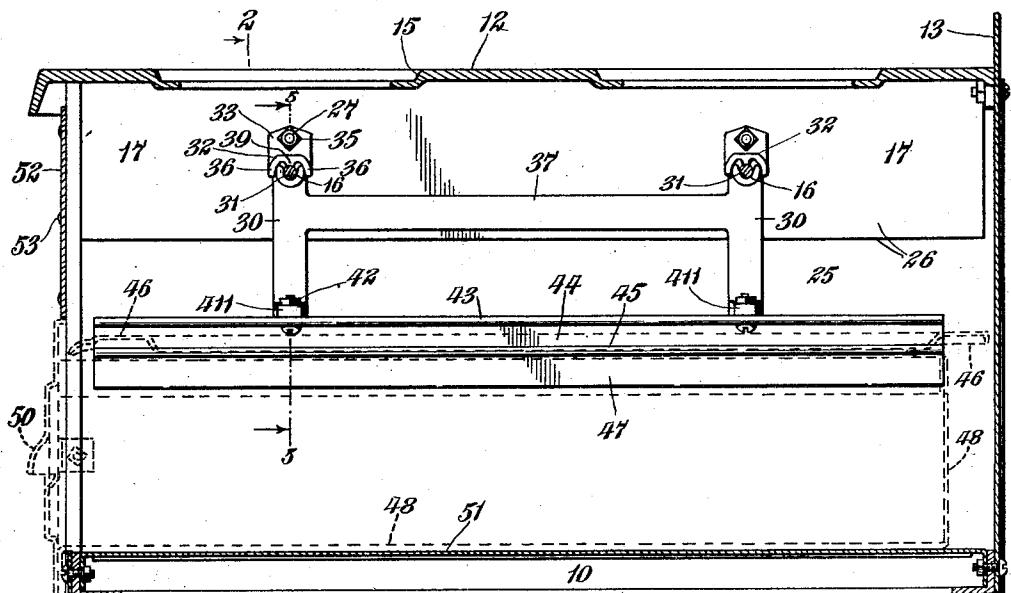


Fig. 3.

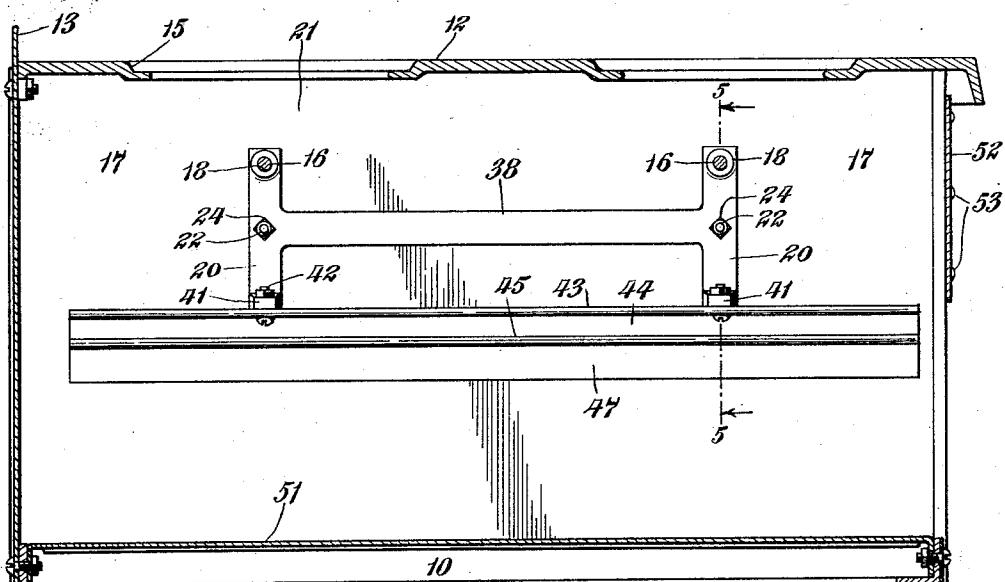


Fig. 4.

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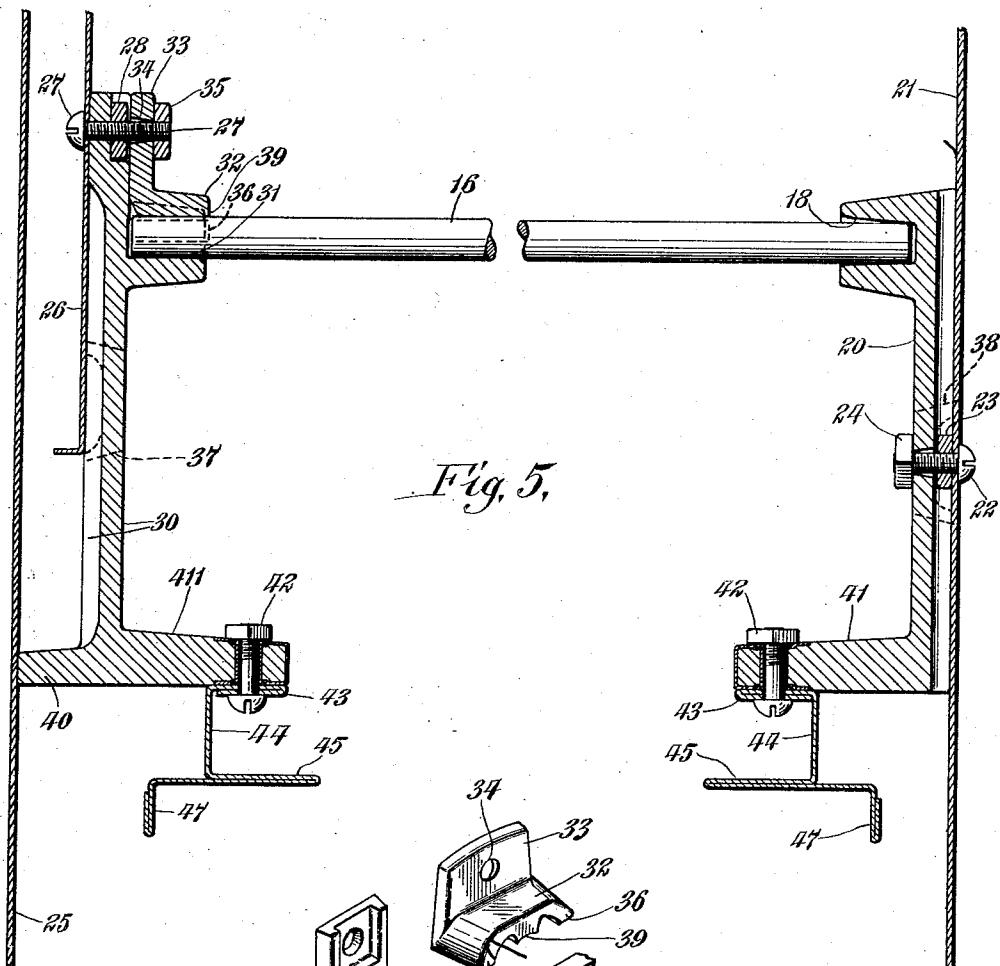
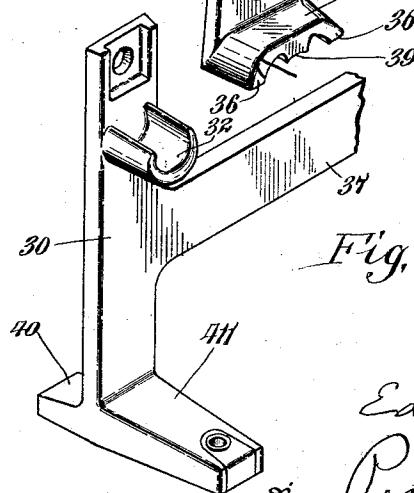


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE

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GAS STOVE BURNER-BAR AND SLIDE-PLATE SUPPORT

Application filed June 14, 1930. Serial No. 461,242.

This invention relates to the organization of parts which are situated in the gas burner compartment of a gas stove, and more particularly to the means of supporting the burner bars (which carry the gas burners) and the drip pan (which is disposed beneath said burner bars), and also to the means of laterally guiding the warming or "service drawer" which is disposed below said drip pan.

One of the objects of the invention is to provide a construction whereby all three of the above results are obtained in the simplest and otherwise most satisfactory manner and in such way as to permit the stove to be shipped to a customer without the necessity of any complicated assembly operations subsequent to its arrival. At the same time, it is the object of the invention to make any replacement of parts simple, inexpensive and foolproof whenever such replacement may be required. Another object of the invention is to provide an adequate supply of regenerative air to the gas burners up through three 25 of the sides of the burner compartment; this being in addition to the normal air which is supplied directly to the burners from the front of the burner compartment. A further object of the invention is to provide a construction whereby a minimum number of 30 holes are required to be drilled in the walls of the burner compartment for the purpose of fastening the various parts thereto. Numerous other minor objects of the invention 35 and practical solutions therefor are described and shown in detail in the herein patent specification, wherein:

In the accompanying illustrations:

Figure 1 is a fragmentary front elevation 40 of one end of a gas stove constructed in accordance with my invention. Figure 2 is a fragmentary, enlarged, vertical, transverse section taken on line 2-2, Fig. 3, and with the burners removed. Figures 3 and 4 are fragmentary, enlarged, vertical, longitudinal sections taken on correspondingly numbered lines of Fig. 2. Figure 5 is a still more enlarged, fragmentary, vertical, transverse section through the 45 burner compartment and taken on lines 5-5,

Figs. 3 and 4. Figure 6 is a considerably enlarged fragmentary perspective of the secondary hanger.

In the following description, similar characters of reference indicate like parts in the 55 several figures of the drawings.

My invention may be embodied in various forms and in stove constructions of different constructions and the present application is therefore to be regarded merely as one organization which satisfactorily carries out the 60 invention in practice. As here shown, the same is constructed as follows:

Referring to Fig. 1, 10 represents the base or "bottom" of the stove which is suitably supported in the usual and well known manner a suitable distance above the kitchen floor; 11 is the usual oven; 12 is the flat, horizontal "top" of the stove upon which such culinary operations as frying, boiling, etc., 70 are carried on; and 13 is the back of the stove. Said top 12 of the stove is heated by a plurality of gas burners 14 each of which is located directly below a lid opening 15 in the usual manner.

Each pair of these gas burners 14 is suitably mounted upon a burner rod or bar 16, which extends horizontally and transversely of the burner compartment 17 just below the stove top 12. The inner end of each burner bar 16 is located within and is entirely enclosed by a retaining socket 18 which is formed integrally with and projects horizontally and outwardly from a primary hanger 20. The latter is secured to the oven wall 21 by a bolt 22, but it should be noticed that this bolt has two nuts 23 and 24, the purpose of which is to permit of removing the hanger 20 without disturbing the nut 23 or its bolt 22. The 85 value of this construction will hereinafter be described as to its effect upon the construction taken as a whole.

The outer end of the burner compartment (see Fig. 2) 17 consists of a main outer vertical wall 25 and an insulating vertical wall 26. The purpose of this double wall construction is to shield said outer wall 25 from the excessively hot radiant rays emanating from the burners 14, and to thereby prevent said main outer wall from becoming so hot 120

as to burn the clothing or to cause a flaking off of the enamel with which it is usually coated on the outside. It is only necessary, however, to extend the insulating wall 26 a relatively short distance down from the stove top 12 to satisfactorily accomplish this purpose.

Secured by a bolt 27 and nut 28 to said vertical, insulating wall 26 is a secondary hanger 30. Formed preferably integrally with and projecting horizontally and inwardly from the main body of said hanger 30 is a semi-socket 31 (see Figs. 3, 5 and 6) into which the outer end of its companion burner bar 16 is adapted to be dropped after the inner end of said bar has first been inserted into the retaining socket 18.

Said outer end of said burner bar 16 is caused to be positively retained within said semi-socket 31 by means of a bracket-shaped clamp or cleat 32 whose vertical flange 33 has a single cored hole 34 which is adapted to be slipped over the outer end of the bolt 27. When said cleat 32 is thus in place, it is secured in place by a nut 35, the latter being threaded onto the outer end of said bolt 27. The provision of only a single hole 34 in the cleat 32 is obviously an inexpensive construction both as to manufacturing and assembly costs. It, however, does not ensure a correct lateral positioning of said cleat 32. This object is accomplished by the provision of a pair of centering flanges 36—36 which, when said cleat is in proper position, embrace opposite sides of the peripheral face of the semi-socket 31 and thereby center the cleat properly and prevent any displacement thereof after the nut 35 has been screwed tight. This cleat 32 together with the semi-pocket 31 constitutes what may be termed a split pocket to distinguish the same from the annular retaining pocket 18. These centering flanges 36 of the cleat 32 extend over and some distance beyond the side walls of their companion semi-socket 31 and thereby constitute a cover for the same whereby particles of scale and dirt are prevented from dropping into the space between the periphery of the burner bar 16 and the inner faces of the semi-socket 31.

Formed integrally with said cleat 32 and projecting downwardly and centrally therefrom is a pressure rib 39 which is adapted to bear against the upper face of its companion burner bar and to thereby retain the same positively and securely in the semi-socket 31. Obviously, the central main portion of the cleat could operate in the capacity of this centering rib 39, but by making the same relatively narrow and extending the same downwardly a slight distance below the main body of said cleat, as illustrated, a construction is obtained which permits of easily grinding or filing away the lower face of said rib, thereby causing it to fit prop-

erly if it should happen to project downward too far to permit of easily slipping the cleat over the inner end of the bolt 27. This cleat 32 and also both hangers 20 and 30 are preferably sand cast and are manufactured without any machining (other than the hand grinding off of the rough casting fins) and therefore certain variations in size, incidental to any sand cast article, are to be expected. This is why, occasionally, a grinding or filing operation upon the pressure rib 39, when assembling the stove, is to be normally expected and suitably provided for as is the case in the present construction.

It is usually desirable that the stove be equipped with a plurality of pairs of burners 14 and hence also with a plurality of burner bars 16. This necessitates the provision of a pair of primary hangers 20 and a pair of secondary hangers 30. In the present invention the two secondary hangers 30 are integrally joined by a uniting bar 37 as in Fig. 3, while the primary hangers 20 are integrally joined by a similar uniting bar 38. This integral construction provides automatically for a proper spacing between each companion pair of hangers and also enables each of said pairs to be rigidly connected to the adjacent wall of the burner compartment by the use of only two bolts. At the same time the cast construction of each pair of hangers permits of a solid and broad faced socket for each end of each burner bar 16, such a result not being otherwise inexpensively accomplished. In addition, such a cast construction has the advantage that the temperature at which ordinary cast iron is deformable is considerably higher than that at which sheet iron or steel is deformable, this being a matter quite different from the factor of ultimate strength of these materials. This matter particularly affects the present invention in that the parts which support the opposite ends of the burner bars are subjected to very high temperatures.

The integral construction of the two primary hangers 20 also has the advantage of greatly facilitating the assembly of the same in the stove. As before stated, the two hanger bolts 22 are permanently secured to the oven wall 21 by nuts 23, the outer threaded ends of said bolts projecting some distance beyond the outer faces of said nuts 23. This permits the pair of primary hangers 20, together with their integral uniting bar 38, to be slipped as a single unit over said outwardly projecting ends of said bolts 22 and self-supported upon the same while the nuts 24 are being tightened. The latter operation is facilitated by the fact that said bolts 22 do not have to be restrained against turning while said outer nuts 24 are being turned inasmuch as the bolts themselves are rigidly

held in place on the oven wall 21 by the nuts 23.

The lower end of each of the secondary hangers 30 is provided with an integral spacer leg 40 which projects horizontally outward from the main body of said hanger and bears with its outer face against the inner face of the outer wall 25 of the burner compartment. Inasmuch as the upper ends of 5 said secondary hangers 30 are secured to the inner or insulating wall 26 of the burner compartment, it follows that by this construction, these two walls 25 and 26 are held apart in 10 properly spaced relation. This prevents the insulation wall 26 from warping and sagging which would otherwise result as a consequence of the high temperatures to which it is subjected at its upper end. At the same time 15 the cool currents of air flowing upward along the inner faces of said outer wall 25 are free to flow directly up into the space between the outer and inner walls 25 and 26 and thence to the burners 14, this flow of cool air not being materially obstructed by the relatively 20 narrow width of these secondary hangers 30 and their spacer legs 40, as is apparent from Fig. 3. This same consideration applies to the primary hangers 20; vertical air currents adjacent the oven wall 21 not being materially 25 obstructed by said primary hangers 20.

Formed integrally on the primary and secondary hangers 20 and 30 are brackets 41 and 411 respectively each of which extends horizontally away from the adjacent burner compartment wall and has secured to its outer, under face by bolts 42 or otherwise, a slide plate 43 extending horizontally and longitudinally of the burner compartment 17. These 30 slide plates are preferably of identical form and each is constructed of sheet metal and extends vertically downward from its companion bracket 41 or 411 to form lateral guide walls 44, the lower extremity of which is bent sharply horizontally to form a supporting 35 shelf 45. Slidably supported upon the pair of shelves 45 of the two slide plates 43 is a refuse collector or drip pan 46 (see Figs. 2 and 3) which is laterally guided between the aforesaid guide walls 44 of said slide plates. 40 This drip pan is useful in catching any dirt which drops from the burners 14 of any cooking substance which may boil or be spilled out of the culinary utensils being heated on the stove top 12. It will be noticed 45 that the slide plate 43 extends over the upper, outer edge of the drip pan 46. This ensures that when said drip pan is pulled more than half way out, its front end cannot drop down until the entire drip pan is completely 50 disengaged from said slide plate.

The inner edge of each supporting shelf 45 is bent horizontally outward and back upon the lower face of itself and is then bent sharply downward to form a vertical guiding or retaining flange 47. Between the op-

posing faces of the two guiding flanges of the two slide plates 43 and guided laterally thereby is the usual, so-called warming or "service drawer" 48 in which various culinary receptacles may be placed to be kept moderately warm after the food therein has been sufficiently prepared. This service drawer is provided with a suitable handle 50 (to facilitate its being slid in or out) and rests upon a burner compartment floor 51 as shown in 70 Figs. 2 and 3. For the sake of appearance its front face is carried up far enough to conceal the front edge of the drip pan 46. The slide plate 43 extends over the upper, outer edge of this service drawer and thereby prevents its front end from dropping down when the same is pulled more than half way out. 75

It will be noticed that the vertical retaining flange 47 of each slide plate 43 is spaced a considerable distance laterally inward or away from its adjacent burner compartment wall. This ensures that each of the longitudinal, vertical sides of the service drawer 48 will be spaced a considerable distance inward or away from the adjacent walls of the burner compartment 17 as best shown in Fig. 2. This arrangement enables air to pass up through the space between the burner compartment floor 51 and the burner compartment side walls 25 and 21, continuing thence up between the sides of the drawer 48 and the burner compartment side walls, through the space between the slide plates 43 and the burner compartment side walls and then to the gas burners 14 where it is burned in combination 80 with the fuel gas issuing therefrom. The combined length of the spacer leg 40 plus the length of the bracket 411 of the secondary hanger 30 is greater than the length of the bracket 41 of the primary hanger 20. By 85 this dimensional relationship the width of the air passage between the service drawer 48 and the outer burner compartment wall 25 is greater than the width of the air passage between said service drawer and the adjacent oven wall 21. This provision operates to adequately cool said outer wall 25 and thereby prevents the same from burning a person coming in contact with it and in addition is 90 not liable to have its outer, enameled finish 95 flaked off by reason of excessive changes of temperature. The air passage between the service drawer 48 and the oven wall 21 is, on the other hand, only sufficiently wide to enable a suitable amount of air to be fed to the 100 gas burners 14 from the opposite or inner part of the burner compartment. The present invention allows such an arrangement to 105 be easily obtained.

In the construction shown in the drawings, 110 air is prevented from entering the front of the burner compartment 17 by reason of the obstruction caused by the front of the service drawer and also by the obstruction of an 115 apron 52 which is secured to the vertical front 120

face of the stove by screws 53 or otherwise. This apron serves to give the front of the stove a neater and more finished appearance. In case this apron 52 is omitted (as in the less expensive models of stoves) then one or both of the retaining flanges 47 of the guide strip 43 may be suitably shifted in position or omitted entirely, and the service drawer 48 correspondingly increased in width inasmuch as in such case an adequate supply of air is provided to the burners without any air channels laterally adjacent the service drawer.

I claim as my invention:

15. 1. A gas stove comprising a burner compartment; a hanger secured to one wall thereof and provided with a semi-socket; a burner bar having its one end received within said semi-socket; a cleat arranged adjacent said semi-socket and adapted to bear against the adjacent face of said burner bar and having a centering flange; and a gas burner mounted on said burner bar.
2. A gas stove comprising a burner compartment; a hanger secured to one wall thereof and provided with a semi-socket; a burner bar having its one end received within said semi-socket; a cleat arranged adjacent said semi-socket and having a pressure rib adapted to bear against the adjacent face of said burner bar so as to retain the same within said semi-socket; and a gas burner mounted on said burner bar.
3. A gas stove comprising a burner compartment having an inner and an outer wall; a hanger secured to said inner compartment wall and having a socket and also having a spacer leg bearing against the adjacent face of said outer compartment wall; a burner bar having one of its ends received within said socket; and a gas burner mounted on said burner bar.
4. A gas stove comprising a burner compartment; a burner bar; a hanger secured to one wall thereof having a socket adapted to receive one end of said burner bar; a relatively long slide plate secured to said hanger; a drip pan slidably arranged in said slide plate; and a burner mounted on said burner bar.
5. A gas stove comprising a burner compartment; a burner bar; a hanger secured to one wall thereof having a socket adapted to receive one end of said burner bar; a relatively long slide plate secured to said hanger and provided with a guide flange; a drawer bearing against said guide flange; and a burner mounted on said burner bar.
6. A gas stove comprising a burner compartment; a burner bar; a hanger secured to one wall thereof having a socket adapted to receive one end of said burner bar; a relatively long slide plate secured to said hanger and having a guide flange in spaced relation to the adjacent wall of said compartment; a

drawer bearing against said guide flange; and a burner mounted on said burner bar.

7. A gas stove comprising a burner compartment; a burner bar; a hanger secured to one wall thereof having a socket adapted to receive one end of said burner bar; a relatively long slide plate secured to said hanger and having a guide flange; a drawer bearing against said guide flange; a drip pan slidably arranged in said slide plate; and a burner mounted on said burner bar.

8. A gas stove comprising a burner compartment; a plurality of hangers arranged at the front and rear ends of said compartment, each having a socket; a plurality of burner bars having their ends receivable within said sockets; a single slide plate secured adjacent its opposite ends to said hangers; a drip pan slidably mounted on said slide plate; and gas burners mounted on said burner bars.

9. A gas stove comprising a burner compartment; a plurality of hangers arranged at the front and rear ends of said compartment, each having a socket; a plurality of burner bars having their ends receivable within said sockets; a single slide plate secured adjacent its opposite ends to said hangers and having a guide flange; a drawer bearing against said guide flange; and gas burners mounted on said burner bars.

10. A gas stove comprising a burner compartment; a uniting bar; a pair of hangers having sockets and secured to opposite ends of said uniting bar; burner bars arranged in said sockets; and gas burners mounted on said burner bars.

In testimony whereof I hereby affix my signature.

EDWARD BREITWIESER.

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