

IMPROVEMENTS IN AND RELATING TO GAS COOKER HOBS

Conventionally, a gas cooker hob includes a cooker top a gas burner assembly, a drip tray for catching, for example, liquid materials which may overflow from a cooking utensil during cooking, and a utensil supporting grate carried by the drip tray. In such conventional hobs, the burner assembly and the drip tray are disposed below the cooker top and gas flames from the burner assembly reach the utensil through an access aperture formed in the cooker top. In contrast, where the utensil supporting grate carried by the burner assembly is disposed above the worktop and, when a cooking utensil is placed in the supporting grate, the weight thereof and the weight of contents to be cooked is transmitted directly to the cooker top. One disadvantage of such conventional cookers is that the stress applied to the cooker top resulting from the weight of a utensil and its contents during cooking not infrequently causes the cooker top in the region of the gas burner to crack or deform and thereby afford inadequate support for the utensil. Such deformation and cracking may result in a utensil containing hot foodstuff to over-turn and endanger an operator by, for example, burning or scalding. A further disadvantage is that dirt and grease readily passes from a utensil to regions below the cooker top necessitating dismantling the hob in order to clean the same. In addition conventional gas cooker hobs not only suffer from an inadequate supply of air to achieve complete combustion but also inadequate provision is made to disperse heat generated during cooking.

It is an object of the present invention to provide a gas cooker hob which overcomes or at least reduces the disadvantages of conventional cookers outlined above.

According to the present invention a gas cooker hob comprises a cooker top and at least one gas burner/support assembly, the/or each support having an inlet passage for introducing gas to an associated burner, each burner comprising two generally annular and inter-engageable components, one of the components

including an array of flame holes disposed at intervals around the said component and communicating with a gas distribution channel, the other component including a gas transfer passage for directing incoming gas from the inlet passage to the gas distribution channel, a removable drip tray carried by the assembly and a cooking utensil supporting grate carried by the drip tray, the drip tray having a peripheral portion which extends outwardly relatively to the burner, the peripheral portion including a rim which is disposed with a clearance relative to the cooker top, so that, in use, the weight of a cooking utensil placed on the grate is transmitted to the assembly via the drip tray.

Preferably, the annular component including the array of flame holes forms, when in use, an uppermost part of the burner and wherein the gas distribution channel is disposed between confronting surfaces of the two components. The said other component is preferably removably engageable with the support and includes a bore-engageable with a corresponding projection on the support.

According to one form of the invention, each of the said other component and the support has a confronting surface and wherein the drip tray has a bore with the surrounding peripheral surfaces defining the bore clamped between the confronting surfaces when the said other component is engaged with projection on the support. Alternatively, the drip tray may be supported by the said other component.

Conveniently, the drip tray includes a central catchment region for collecting liquids etc. which may boil over during cooking and at least one rib extending inwardly from the rim of the tray. The rib serves as a pathway along which air is induced to flow to establish combustion due to heat generated by the burner. The flow of such induced air also serves to cool the drip tray.

The invention will now be described by way of illustrative example, with reference to the accompanying drawings in which:-

Fig. 1 is a partial perspective of a gas burner/ support assembly mounted in a cooker top;

Fig. 2 is a cross-section taken along line A-A of Figure 1 with a internal supporting grate removed;

Fig. 3 is a perspective of the drip plate for the assembly shown in Figure 1;

Fig. 4 is a cross-section of an alternative form of drip tray;

Fig. 5 is a perspective drawing of the present invention to illustrate the alternative design for the dripping plate in Fig. 4

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Figures 1 and 2 of the drawings, a gas cooker hob 17 is shown having one burner/support assembly. The burner/support assembly has a support 10 and a burner 11 detachably carried by said support 10. A saucer shaped drip tray 12 is mounted between the support 10 and burner 11 as described later.

The support 10 is of generally L-shaped cross-section having a base flange 16 secured to a base plate 15 of the cooker-hob 17 by screws 14. As shown in Fig. 1 a tubular inlet 18 is connected to an incoming gas supply tube 19. A vertical tubular leg 20 of the L-shaped support 10 terminates in a spigot 20A of reduced diameter forming a shoulder 20B.

The burner 11 is formed from two generally annular and inter-engageable parts 11A and 11B. The part 11A has a conical surface 11AA and a base portion 22 which also includes a radial gas distribution channel 35 which opens into a hub 26. The hub 26 includes a blind hole 29 which is aligned with the tubular leg 20 of the support 10 and the blind hole 29 is counter bored to be inter-engageable with the spigot 20A of the support 10.

The annular part 11B of the burner 11 is of a generally inverted U-shaped cross-section and nestles in an annular groove 21A formed in the burner part 11A. The annular groove 21A opens into a further annular groove 21 which communicates with the gas distribution channel 35. An array of flame holes 24A and 24B in communication with the annular groove 21A serve, in use, to direct gas flames inwardly and outwardly of the burner part 11A.

The burner part 11A has a pilot flame hole 25 positioned as shown in Figures 1 and 2 for igniting incoming fuel gas as required by a user. A central and hollow burner 31 of inverted U-shaped cross-section is detachably mounted in a blind bore in

the hub 26 and is formed with an array of flame holes 33. The flame holes 33 communicate with incoming gas through apertures 30 formed in wall 27 of the hub 26 and via chamber 28.

From Figure 2 it will be seen that the hub 26 is supported in the burner part 11A by connecting arm 34 which embraces the gas distribution channel 35.

The drip tray 12 is of generally annular shape with an internally extending flange 36A and a tubular hub 36B for receiving the tubular portion 20 of the support 10. The flange 36A is located between the shoulder 20B and the lower part of hub 26. A number of open radial ribs 36 are formed in the drip tray 12 so as to assist the air flow easy and to provide a good heat-dispersing effect. At least one rib 36 has a hole 37 corresponding to the position of the pilot hole 25.

As shown in Fig. 1, a utensil supporting grate 13 is supported by the drip tray 12 and includes a number of upstanding legs 38 for supporting a cooking utensil. When assembling the hob according to the invention the drip tray 12 is first positioned on the tubular portion 20 of the support. Thereafter, the burner part 11A is mounted so that the hub 26 sits on flange 36A, the burner part 11B is disposed upon the burner part 11A and, finally, the utensil supporting grate is placed upon the drip tray 12.

In operation, the weight of cooking facilities placed the grate 13 is indirectly supported by the support 10 assembly and not as in conventional hobs on the cooker top. Thus the glass or enamel cooker top is not subject to deformation and cracking due to long-periods of compression caused by the weight of utensils and heating during cooking. Furthermore, air can flow into the centre portion of the burner 11A/11B through each open rib 36 in the drip tray 12 to provide enough air for complete combustion as well as creating heat-dispersing effect to decrease temperature of components of the hob. Further, cooking oils and

water are caught in the drip tray and not into the burner assembly. In addition the structure can be readily taken apart for cleaning and thereafter re-assembled.

Figs. 4 and 5, show another example of the present invention, in which, a drip plate 39 has a larger inside diameter compared with the drip tray 12 for mounting on the top of the burner part 11A. As with the drip tray 12, the drip tray 39 is formed with several open radial ribs 40 with at least one rib including hole 41 which corresponds with the hole 25.

The drip tray 39 supports the grate 13 on the circumferential rim thereof. Again when cooking facilities are placed on grate 13, the weight of said grate 13 and the cooking facilities are supported by the drip tray 39 and the weight is transferred to the support 10 and not to the cooker top.

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CLAIMS

1. A gas cooker^{hob} comprising a cooker top and at least one gas burner/support assembly, the or each support having an inlet passage for introducing gas to an associated burner, each burner comprising two generally annular and inter-engageable components, one of the components including an array of flame holes disposed at intervals around the said component and communicating with a gas distribution channel, the other component including a gas transfer passage for directing incoming gas from the inlet passage to the gas distribution channel, a removable drip tray carried by the assembly and a cooking utensil supporting grate carried by the drip tray, the drip tray having a peripheral portion which extends outwardly relatively to the burner, the peripheral portion including a rim which is disposed with a clearance relative to the cooker top, so that, in use, the weight of a cooking utensil placed on the grate is transmitted to the assembly via the drip tray.

2. A hob according to claim 1 wherein the annular component including the array of flame holes forms, when in use, an uppermost part of the burner and wherein the gas distribution channel is disposed between confronting surfaces of the two components.

3. A hob according to claim 1 or claim 2 wherein the said other component is removably engageable with the support.

4. A hob according to claim 3 wherein the said other component includes a bore engageable with a corresponding projection on the support.

5. A hob according to claim 4 wherein each of the



said other component and the support has a confronting surface and wherein the drip tray has a bore with the surrounding peripheral surfaces defining the bore clamped between the confronting surfaces when the said other component is engaged with the projection on the support.

6. A hob according to claim 4, wherein the drip tray is supported by the said other component.

7. A hob according to any preceding claim wherein the drip tray includes a central catchment region which includes at least one rib extending inwardly from the rim.

8. A hob according to anyone of claims 4 to 7 wherein the bore in the said other component serves to lead gas from the inlet passage, to the array of flame holes via the distribution channel.

9. A hob according to any preceding claim including a secondary gas burner disposed substantially centrally relatively to the two inter-engageable annular components and above the support, and passage means for leading gas from the inlet passage to the secondary gas burner.

