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(54) **Kitchen arrangement and method for providing a worktop for a kitchen**

Kücheneinrichtung und Verfahren zur Herstellung einer Küchenarbeitsplatte

Agencement de cuisine et procédé pour la fourniture d'un plan de travail de cuisine

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Description

[0001] The present invention relates to a kitchen arrangement comprising a metal worktop in which at least one through hole is provided, through which hole a gas burner extends, at least when used.

[0002] In a known kitchen arrangement comprising a metal worktop, a through hole is provided in the worktop, in which hole a (usually rectangular) hob generally provided with four, five or six burners is mounted. The hob is supported with its outer edge on an edge surrounding the through hole of the worktop. Present between the hob and the worktop is a cement, by means of which the cooking appliance may be glued to the worktop and which forms a thermal insulation layer between the cooking appliance and the worktop.

[0003] A drawback of the known kitchen arrangement is that it offers few options for positioning one or more gas burners in the worktop. The options are limited to commercially available cooking appliances approved by a competent agency. If a gas burner were to be installed in the worktop, radiation heat from the gas burner and a pan placed on the gas burner would heat the metal worktop in use, which is undesirable, not only in connection with the risk that a person who comes into contact with the worktop will burn his or her hand, but also because frequently foodstuffs which are sensitive to a relatively high temperature are placed or processed on the worktop.

[0004] Accordingly it is an object of the present invention to provide a kitchen arrangement as described in the introduction which provides a greater freedom of positioning said one or more gas burners than the known kitchen arrangement, without there being a risk of the entire metal worktop being heated when cooking. This object is accomplished by the present invention in that a through slot is provided in the metal worktop, which through slot at least substantially surrounds said at least one through hole so as to define a heat zone in the worktop between said at least one through hole and the through slot. As a result, the heat zone of the worktop is heated, to be sure, but the heat conduction from the heat zone to the rest of the worktop is interrupted by the through slot. As a result, hardly any heat transfer takes place between the heat zone near the gas burner and the rest of the worktop, which can be used for placing and/or preparing ingredients thereon. Since a separate through hole can be formed for each gas burner, two or more gas burners may be positioned as desired relative to each other. The object aimed at by the present invention is thus accomplished.

[0005] European patent application EP 0 954 201 A2 discloses a circular film heater and porcelain enamel cook top. The cook top is provided with circular heating zones having a layer of resistive thin film thereon. Slots in the cook top separate the heating zones from the surrounding areas of the cook top. As such, the slots directly surround the heating zones, which in fact are the burners of the cook top.

[0006] EP 0 969 253 A2 discloses a cooking device wherein a gas burner is secured in an aperture of a kitchen worktop. In a preferred embodiment of the present invention, the worktop is made of stainless steel. Stainless steel is excellently suitable for use as a worktop in a kitchen.

[0007] To realise a good insulation effect between the heat zone and the rest of the worktop it is preferable if the slot is filled with a thermal insulation material. In addition to the fact that thermal insulation material provides an even better insulation effect than air, the thermal insulation material fills the space of the through slot, so that a level worktop is provided.

[0008] In a preferred embodiment of the present invention, the thermal insulation material comprises silicone paste. Silicone paste provides a good insulation effect and is suitable for use in a hygienic environment, because it is non-absorbent and easy to clean.

[0009] If the slot exhibits two or more interruptions which provide a bridge between the heat zone of the worktop and the part of the worktop that surrounds the through slot, the worktop can be formed of one plate, in which through holes and slots can be cut. This is a simple and relatively inexpensive method for forming such a worktop. Furthermore preferably, the slot has three or four interruptions. Said interruptions provide load-bearing capacity for supporting the heat zone in the rest of the worktop.

[0010] To reduce the extent of heat transfer from the heat zone to the remaining part of the worktop, an interruption in the slot extends over a distance of at most 2 mm, furthermore preferably at most 1 mm.

[0011] Alternatively, or additionally, separate connecting means are provided for connecting the heat zone of the worktop to the part of the worktop that surrounds the heat zone. Said separate connecting means may be made of a thermal insulation material for reducing heat transfer between the heat zone and the part of the worktop that surrounds the heat zone.

[0012] The heat zone and the part of the worktop that surrounds the heat zone preferably lie in at least substantially the same plane.

[0013] A further slot may be provided, which further slot surrounds at least one through slot surrounding a through hole. Thus a second interruption to heat conduction is provided for phased minimisation of the heat transfer from the heat zone, via the part of the worktop that surrounds the heat zone, to the further part of the worktop surrounding said further through slot.

[0014] In a preferred embodiment of the present invention, two or more through holes for a gas burner are provided, which each have a separate heat zone defined by a through slot. The total heat zone of a worktop with two or more burners can thus be limited.

[0015] Alternatively, two or more through holes for a gas burner may share a common heat zone. In such an embodiment, it is possible to divide the worktop in to a

heat zone and a working zone thermally insulated therefrom, using only one surrounding through slot.

[0016] The present invention, according to a second aspect thereof, relates to a method for providing a worktop for a kitchen, comprising the steps of:

a) providing a metal plate;
b) forming at least one through hole for a gas burner in said metal plate;
c) installing the metal plate in a cooking space; and
d) positioning a gas burner in said at least one through hole.

[0017] Such a method is known from the installation of a worktop as described in the introduction and has the advantages already described in the foregoing. Accordingly, it is an object of the second aspect of the present invention to provide such a method wherein one or more gas burners can be positioned in the worktop with a relatively great freedom of design without any risk of burning to a person preparing food on the worktop and without the risk of foodstuffs on the worktop being heated, possibly resulting in accelerated decay thereof. This object is accomplished by the present invention in that in said metal plate also a through slot substantially surrounding said at least one through hole is formed. The sequence of the method steps can be adapted as desired, so that it is for example possible to form the through slot first and only then the through hole. As discussed in the preceding paragraphs, the slot need not be a continuous slot, but it may be locally interrupted for the purpose of providing a connection between the heat zone and the part of the worktop surrounding the heat zone.

[0018] The present invention will be explained in more detail hereinafter with reference to the drawings, in which

Figure 1 is a top plan view of a worktop according to the present invention;
Figure 2 is a perspective view of a worktop according to the present invention, in which a gas burner is mounted; and
Figure 3 is a side view of the worktop with a gas burner of figure 2.

[0019] Figure 1 shows a worktop 1 according to the present invention, which worktop is provided with two through holes 2 for a gas burner (not shown in figure 1), through slots 3 surrounding the through holes 2 and two through holes 4 for control knobs (not shown in figure 1), by means of which gas burners mounted in the through holes 2 can be operated in use.

[0020] Figure 2 shows a cooking appliance 10 with a worktop 11 according to the present invention, in which a gas burner 15 and control knobs 16 for operating the gas burner 15 are provided. A pan support 17 is placed over the through slot (shown in dotted lines 13). The gas burner 15 is supported on the worktop 11 via a ring 18 consisting of silicone paste. The pan support 17 is provided with a layer of insulation material 19 on the underside. Present inside the casing 20 are the usual elements for operating the gas burner 15 by means of the control knobs 16. The casing 20 is provided with levelling elements 21.

[0021] Figure 3 is a side view of the cooking appliance 10 of figure 2, in which like elements are indicated by the same numerals. Furthermore, a connection 22 for a gas pipe (not shown) is provided.

[0022] With reference now to figure 1, there is shown a 4 mm thick stainless steel worktop 1 , in which two through holes 2 for gas burners, two through slots surrounding the through holes 2 and through holes 4 for control knobs are cut. The through slots 3 are each made up of four slots 3a, 3b, 3c, 3d, which each extend over a quarter circle and which jointly form a substantially continuous circular slot 3 around the through hole 2. Between the slots 3a, 3b, 3c and 3d, respectively, 0.6 mm wide bridges 6 are present, so that the slots 3a, 3b, 3c and 3d come quite close to each other but do not blend into each other. Thus the worktop 1 is divided, as it were, into two heat zones 7 and a cold zone 8, which are connected by means of bridges 6. The slots 3a, 3b, 3c, 3d are sealed with silicone paste.

[0023] Figure 2 shows the cooking appliance 10 with a worktop 11, which is configured according to the principle of the worktop shown in figure 1. Only one through hole (not shown in figure 2) with a gas burner 15 is shown in the worktop 11. When the cooking appliance 10 is to be used, a pan (not shown) is placed on the pan support 17 and the gas burner 15 is activated by means of the control knob 16. The burning gas of the gas burner 15 generates heat, which is mainly guided upwards towards the pan, but part of which also radiates to the heat zone 23. Heat is radiated in the direction of the heat zone 23 also from the bottom of the pan being heated by the fire. As a result of the above effects, the stainless steel worktop 10 is heated in the heat zone 23. Since stainless steel is a good heat conductor, the heat will tend to spread over the entire worktop 11. The through slot 13 prevents heat from spreading into the cold zone 24 from the heat zone 23. Heat can be conducted by the bridges (see figure 1) between the heat zone 23 and the cold zone 24, to be sure, but because the bridges are only 0.6 mm wide this effect is minimal to prevent heat being transferred from the heat zone 23 to the cold zone by the pan support 17, the pan support 17 is made of a low heat-conducting material and/or provided on the underside with a thermal insulation layer 19. Said thermal insulation layer 19 also prevents heat being transferred to the cold zone 24via the pan support 17. The gas burner 15 is supported on the worktop 11 of the cooking appliance 10 via a ring 18 of silicone paste within the heat zone 23. The ring 18 provides a thermal insulation effect as well, albeit between the gas burner 15 and the heat zone 23. Means for supplying gas to the gas burner 15 and operating the gas burner 15, as well as the casing 20, are suspended from the burner 15. The levelling elements 21 are pro-

vided so as to make it possible to level the cooking appliance 10.

[0024] It will be understood that many variants, which may or may not be obvious to those skilled in the art, are possible within the scope of the present invention, which is defined in the appended claims.

Claims

1. A kitchen arrangement (10) comprising a metal worktop (11) in which at least one through hole (2) is provided, through which hole a gas burner (15) extends, at least when used, **characterised in that** a through slot (3a, 3b, 3c, 3d) is provided in the metal worktop, which through slot at least substantially surrounds said at least one through hole so as to define a heat zone (7) in the worktop between said at least one through hole and the through slot.

2. A kitchen arrangement according to claim 1, **characterised in that** the worktop is made of stainless steel.

3. A kitchen arrangement according to claim 1 or 2, **characterised in that** the slot is filled with a thermal insulation material.

4. A kitchen arrangement according to claim 3, **characterised in that** said thermal insulation material comprises silicone paste.

5. A kitchen arrangement according to one or more of the preceding claims, **characterised in that** the slot exhibits two or more interruptions which provide a bridge between the heat zone of the worktop and the part of the worktop that surrounds the through slot.

6. A kitchen arrangement according to claim 5, **characterised in that** an interruption in the slot extends over a distance of at most 15 mm.

7. A kitchen arrangement according to one or more of the preceding claims, **characterised in that** separate connecting means are provided for connecting the heat zone of the worktop to the part of the worktop that surrounds the heat zone.

8. A kitchen arrangement according to one or more of the preceding claims, **characterised in that** the heat zone and the part of the worktop that surrounds the heat zone lie in at least substantially the same plane.

9. A kitchen arrangement according to one or more of the preceding claims, **characterised in that** a further slot is provided, which further slot surrounds at least one through slot surrounding a through hole.

10. A kitchen arrangement according to one or more of the preceding claims, **characterised in that** two or more through holes for a gas burner are provided, which each have a separate heat zone defined by a through slot.

11. A kitchen arrangement according to one or more of the preceding claims, **characterised in that** two or more through holes for a gas burner share a common heat zone.

12. A method for providing a worktop (11) for a kitchen, comprising the steps of:

    a) providing a metal plate;
    b) forming at least one through hole (2) for a gas burner in said metal plate;
    c) installing the metal plate in a cooking space; and
    d) positioning a gas burner (15) in said at least one through hole,

    characterised in that c) in said metal plate also a through slot (3a, 3b, 3c, 3d) substantially surrounding said at least one through hole is formed.

Patentansprüche

1. Kücheneinrichtung (10), die eine Arbeitsplatte (11) aus Metall umfasst, in der mindestens eine Durchgangsbohrung (2) vorgesehen ist, durch welche sich ein Gasbrenner (15), zumindest im Gebrauch, erstreckt, **dadurch gekennzeichnet, dass** ein Durchgangsschlitz (3a, 3b, 3c, 3d) in der Arbeitsplatte aus Metall vorgesehen ist, wobei der Durchgangsschlitz die mindestens eine Durchgangsbohrung zumindest im Wesentlichen umgibt, um einen Erhitzungsbereich (7) in der Arbeitsplatte zwischen der mindestens einen Durchgangsbohrung und dem Durchgangsschlitz zu definieren.

2. Kücheneinrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die Arbeitsplatte aus Edelstahl gefertigt ist.

3. Kücheneinrichtung nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** der Schlitz mit einem Wärmeisolierungsmaterial gefüllt ist.

4. Kücheneinrichtung nach Anspruch 3, **dadurch gekennzeichnet, dass** das Wärmeisolierungsmaterial Silikonpaste umfasst.

5. Kücheneinrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Schlitz zwei oder mehr Unterbrechungen aufweist, die eine Brücke zwischen dem

Erhitzungsbereich der Arbeitsplatte und dem Teil der Arbeitsplatte, der den Durchgangsschlitz umgibt, bilden.

6. Kücheneinrichtung nach Anspruch 5, **dadurch gekennzeichnet, dass** eine Unterbrechung im Schlitz sich über einen Abstand von höchstens 15 mm erstreckt.

7. Kücheneinrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** getrennte Verbindungsmittel zum Verbinden des Erhitzungsbereichs der Arbeitsplatte mit dem Teil der Arbeitsplatte, der den Erhitzungsbereich umgibt, vorgesehen sind.

8. Kücheneinrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Erhitzungsbereich und der Teil der Arbeitsplatte, der den Erhitzungsbereich umgibt, zumindest im Wesentlichen in derselben Ebene liegen.

9. Kücheneinrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** ein weiterer Schlitz vorgesehen ist, wobei der weitere Schlitz mindestens einen eine Durchgangsbohrung umgebenden Durchgangsschlitz umgibt.

10. Kücheneinrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** zwei oder mehr Durchgangsbohrungen für einen Gasbrenner vorgesehen sind, die jeweils einen getrennten Erhitzungsbereich aufweisen, der von einem Durchgangsschlitz definiert ist.

11. Kücheneinrichtung nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** zwei oder mehr Durchgangsbohrungen für einen Gasbrenner sich einen gemeinsamen Erhitzungsbereich teilen.

12. Verfahren zum Bereitstellen einer Arbeitsplatte (11) für eine Küche, das die folgenden Schritte umfasst:

a) Bereitstellen einer Metallplatte;
b) Bilden mindestens einer Durchgangsbohrung (2) für einen Gasbrenner in der Metallplatte;
c) Installieren der Metallplatte in einem Kochbereich; und
d) Positionieren eines Gasbrenners (15) in der mindestens einen Durchgangsbohrung,

dadurch gekennzeichnet, dass c) in der Metallplatte auch ein Durchgangsschlitz (3a, 3b, 3c, 3d), der die mindestens eine Durchgangsbohrung im Wesentlichen umgibt, gebildet wird.

Revendications

1. Agencement de cuisine (10) comprenant un plan de travail métallique (11), ledit plan de travail métallique comprenant au moins :

un orifice débouchant (2) dans lequel un brûleur à gaz (15) s'étend, au moins, lors de l'utilisation, l'agencement de cuisine étant **caractérisé en ce que** le plan de travail métallique comprend une fente débouchante (3a, 3b, 3c, 3d), ladite fente débouchante entourant au moins sensiblement ledit au moins un orifice débouchant de manière à définir une zone de chaleur (7) dans le plan de travail entre ledit au moins orifice débouchant et la fente débouchante.

2. Agencement de cuisine selon la revendication 1, **caractérisé en ce que** le plan de travail est en acier inoxydable.

3. Agencement de cuisine selon la revendication 1 ou 2, **caractérisé en ce que** la fente est remplie d'un matériau d'isolation thermique.

4. Agencement de cuisine selon la revendication 3, **caractérisé en ce que** ledit matériau d'isolation thermique comprend une pâte de silicone.

5. Agencement de cuisine selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** la fente présente au moins deux interruptions qui assurent un pont entre la zone de chaleur du plan de travail et la partie du plan de travail qui entoure la fente débouchante.

6. Agencement de cuisine selon la revendication 5, **caractérisé en ce qu'**une interruption dans la fente s'étend sur une distance d'au plus 15 mm.

7. Agencement de cuisine selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** des moyens de connexion indépendants sont fournis pour connecter la zone de chaleur du plan de travail à la partie du plan de travail qui entoure la zone de chaleur.

8. Agencement de cuisine selon une ou plusieurs des revendications précédentes, **caractérisé en ce que** la zone de chaleur et la partie du plan de travail qui entoure la zone de chaleur reposent dans au moins sensiblement le même plan.

9. Agencement de cuisine selon une ou plusieurs des revendications précédentes, **caractérisé en ce qu'**il comprend une autre fente, ladite autre fente entourant au moins une fente débouchante entourant un orifice débouchant.

10. Agencement de cuisine selon une ou plusieurs des revendications précédentes, **caractérisé en ce qu'**il comprend au moins deux orifices débouchants pour un brûleur à gaz, ayant chacun une zone de chaleur indépendante définie par une fente débouchante.

11. Agencement de cuisine selon une ou plusieurs des revendications précédentes, **caractérisé en ce qu'**il comprend au moins deux orifices débouchants pour un brûleur à gaz, qui partagent une zone de chaleur commune.

12. Procédé de fourniture d'un plan de travail (11) pour une cuisine, comprenant les étapes consistant à :

a) fournir une plaque métallique ;
b) former au moins un orifice débouchant (2) pour un brûleur à gaz dans ladite plaque métallique ;
c) installer la plaque métallique dans un espace de cuisson ; et
d) positionner un brûleur à gaz (15) dans ledit au moins un orifice débouchant, le procédé étant **caractérisé en ce que** c) une fente débouchante (3a, 3b, 3c, 3d) entourant sensiblement ledit au moins un orifice débouchant est également formée dans ladite plaque métallique.

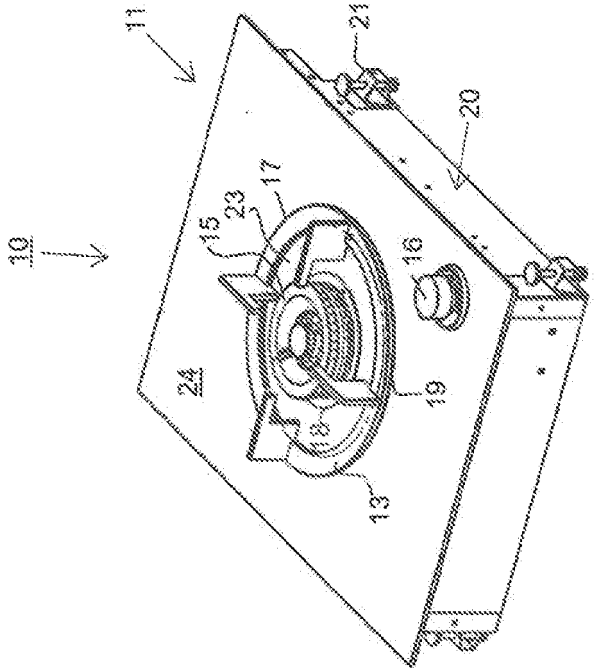


Fig. 2

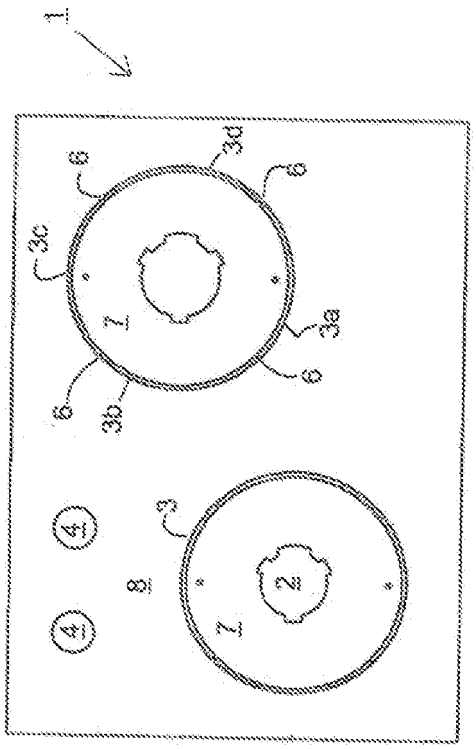


Fig. 1

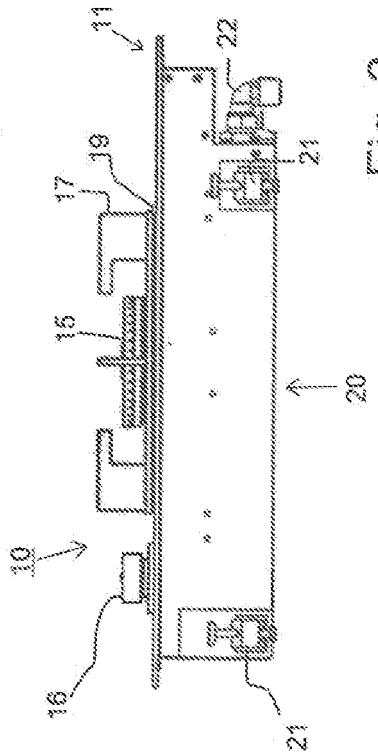


Fig. 3

REFERENCES CITED IN THE DESCRIPTION

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