



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
02.05.2003 Bulletin 2003/18

(51) Int Cl.7: **A47B 77/02**

(21) Application number: **02079807.0**

(22) Date of filing: **28.10.2002**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
IE IT LI LU MC NL PT SE SK TR
 Designated Extension States:
AL LT LV MK RO SI

(72) Inventor: **Hoekstra, Johan Anton**
3871 AL Hoevelaken (NL)

(74) Representative: **Lips, Hendrik Jan George, Ir.**
HAAGSCH OCTROOIBUREAU
Breitnerlaan 146
2596 HG Den Haag (NL)

(30) Priority: **29.10.2001 NL 1019251**

(71) Applicant: **Landwijk Groep B. V.**
3822 EA Amersfoort (NL)

(54) **Worktop**

(57) Worktop (1) having its top side provided with a finishing layer (2), which is applied on a supporting plate (3) of a heat-conductive material, in particular aluminium. The supporting plate (3) is bonded on portions (5, 7, 10) of substantially U-shaped, adjacent or abutting profiles (4, 14). In a first embodiment, the profiles (4) form a connection with a further aluminium plate (15) mounted at a distance from the supporting plate (3) and in a second embodiment the legs (6) of adjacent profiles

(4) being square to said supporting plate (3) are connected to one another, in which they have further been provided with inwardly flanged edges (7). The U-shaped profiles (4, 14) are obtained by rolling aluminium plate. The walls of the profiles (4, 14), which have been bonded to the walls of an adjacent profile (4) or to the supporting plate (3) are provided with grooves (11). The U-shaped profiles (4, 14) are mounted against the supporting plate (3) in the same position or alternately and its body (5) can be provided with U-shaped bulges (8).

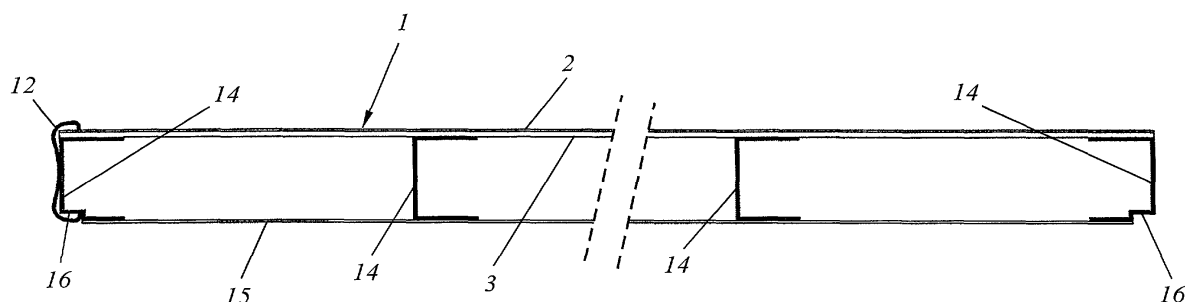


FIG. 1

Description

[0001] The invention relates to a worktop having its top side provided with a finishing layer, in which the part of the worktop underneath said finishing layer is almost completely comprised of a heat-conductive material, with stiffening parts for the worktop being provided.

[0002] Such a worktop is known from NL-A-1005890. With this known worktop, the finishing layer has been applied directly onto a hollow supporting member, which is obtained by extruding aluminium. Practice has shown, that manufacturing such an extrusion product in the desired sufficiently large dimensions causes difficulties. Namely, the wall thickness of the product will have to be two to three mm, as a result of which the weight and the cost of such a worktop will become relatively high.

[0003] The object of the invention is to remove these difficulties and to provide a worktop of the type described above which is of simple construction and low weight, as a result of which it can be manufactured at relatively low cost.

[0004] According to the invention, this is achieved in that the finishing layer is applied on a supporting plate of heat-conductive material, in particular aluminium, which supporting plate is bonded on portions of substantially U-shaped, spaced apart or abutting profiles.

[0005] According to a first embodiment, this is provided for, that a further aluminium profile is mounted parallel to the supporting plate, in which U-shaped profiles have their first leg mounted against the bottom side of the supporting plate and their second leg, being parallel to it, mounted against said further aluminium plate.

[0006] According to a second embodiment, it is provided for, that the substantially U-shaped profiles are connected to one another through the legs of the adjacent profiles, said legs being square to the supporting plate and being provided with inwardly flanged edges.

[0007] With both embodiments a relatively stiff worktop can be obtained, in which a good discharge of heat from the finishing layer to the supporting plate and onwards is guaranteed. Due to this, the temperature of the finishing layer will remain below a certain level, even if a hot object is placed on it. The substantially U-shaped profiles provide for a large contact surface between the support plate and the profiles and between these and the further aluminium layer and/or the surrounding air.

[0008] The substantially U-shaped profiles can be obtained in a simple way by rolling aluminium plate.

[0009] Certain walls of the profiles may be provided with grooves extending in longitudinal direction of the walls. These can be particularly those walls, which are bonded to either the supporting plate or the further aluminium plate.

[0010] The profile is reinforced by the grooves and at the same time the grooves are filled with adhesive during bonding so that a good thermal contact between the various parts is established.

[0011] Due to the fact that the legs of the substantially

U-shaped profile in the second embodiment have their free ends provided with an inwardly flanged edge, the profile and thus the supporting plate are stiffened.

[0012] According to a further elaboration, the substantially U-shaped profiles can be mounted against the supporting plate either in the same position or alternately, in such a way that in the last case with the second embodiment one profile has its body abutting the supporting plate and the adjacent profile has the inwardly flanged edges abutting said supporting plate.

[0013] In particular, it can be provided for, that the body of a U-profile is bulged in U-shape between its legs, in such a way that the body of the secondary U-shaped part is aligned with the flanged edges of the legs of the U-profile.

[0014] The body of one single U-profile can therefore have a relatively large width without any adverse influence on the profile stiffness. Additionally, the number of profiles to be used will be reduced and less profiles need be connected to one another. Yet the desired stiffness of the worktop provided with said profiles will be obtained.

[0015] Further, US 2.492.541 can be referred to, which discloses a worktop comprising a finishing layer being mounted on a supporting plate, and having its longitudinal edges flanged, its bottom side being provided with one single, substantially U-shaped stiffening element, its legs being flanged outwardly for connecting the profile to the plate. Thus, no adjacent mutually connected profiles are employed for stiffening the supporting plate.

[0016] The invention is further explained by way of an embodiment, illustrated in the drawing, in which:

- Fig. 1 shows a cross-section across a part of a worktop according to the first embodiment;
- Fig. 2 shows a cross-section across a part of a worktop according to the second embodiment;
- Fig. 3 shows a cross-section, on a larger scale, across one single U-profile, applied with the worktop according to Fig. 2.

[0017] The worktop 1 illustrated in fig. 1 comprises a relatively thin top layer 2, of plastic, for example. The top layer is applied on a supporting plate 3 of a highly heat-conductive material, such as aluminium in particular. The supporting plate 3 has been stiffened by substantially U-shaped profiles 14 and an aluminium plate 15 mounted at the opposite sides of the profiles 14.

[0018] The profiles 14 mounted along the edges of the worktop 1 have their bottom sides provided with a recessed portion 16, intended for securing a finishing edge 12.

[0019] The worktop 1 shown in fig. 2 also comprises a relatively thin top layer 2, e.g. of plastic. The top layer has been applied to supporting plate 3 made of a highly heat-conductive material, such as aluminium in particular. In this embodiment, the supporting plate 3 is stiff-

ened by substantially U-shaped profiles 4, one of which being shown in fig. 3, on an enlarged scale.

[0020] The profile 4 comprises the body 5 with legs 6, provided with flanged edges, extending square to said body. The body 5 is stiffened by a secondary U-shaped bulge 8, formed by the legs 9 and the body 10. The outer surface of the body 10 will be aligned with the outer surface of the flanged edges 7.

[0021] Some walls of the U-profile, in particular walls 5, 6, 1 and 10, will be provided with grooves 11 for stiffening the profile, in particular in its longitudinal direction. Further, the grooves 11 can serve for receiving glue on connecting the profiles 4 to the supporting plate 3 and to one another. Such grooves can likewise be made in the legs of the profiles 14 for the same purposes.

[0022] As appears from the left-hand part of fig. 2, the two profiles 4 present there can be mounted against the supporting plate 3 in the same position, in such a way, that its legs 1 will be aligned.

[0023] The two profiles 4 located at the right in fig. 2 have been mounted alternately. In that case one profile 4 has the outer parts of body 5 abutting the supporting plate 3 and the profile 4 at the far right has the flanged edges 1 and the body 10 of the secondary bulge 8 abutting the supporting plate 3.

[0024] As indicated in fig. 2, the end edges of the worktop have been provided with a finishing edge 12. The longitudinal edges of the worktop will be finished in a corresponding way.

[0025] Naturally, the shape of the profiles 4, 14 can be changed when this is desired for manufacturing or other reasons. The profiles 4 can e.g. be obtained by rolling from an aluminium plate having a thickness from 0.75 to 1 mm. The thickness of the supporting plate 3 can e.g. be 2 mm. The thickness of the further aluminium plate 15 can e.g. be 1 mm.

[0026] It will be clear, that only two possible embodiments of a worktop according to the invention have been illustrated in the drawing and described above and that many changes can be made without leaving the inventive idea, as it has been indicated in the claims.

Claims

1. Worktop (1) having its top side provided with a finishing layer (2), in which the part of the worktop (1) underneath said finishing layer is almost completely comprised of a heat-conductive material (3, 4), with stiffening parts (4, 14) for the worktop being provided, **characterized in that** the finishing layer (2) is applied on a supporting plate (3) of heat-conductive material, in particular aluminium, which supporting plate (3) is bonded on portions (5, 7, 10) of substantially U-shaped, spaced apart or abutting profiles (4, 14).

2. Worktop according to claim 1, **characterized in**

that a further aluminium profile (15) is mounted parallel to the supporting plate (3), in which U-shaped profiles (14) have a first leg mounted against the bottom side of the supporting plate (3) and their second leg, being parallel to it, mounted against said further aluminium plate (14).

3. Worktop according to claim 1, **characterized in that** the substantially U-shaped profiles (4) are connected to one another through the legs (6) of the adjacent profiles, said legs being square to the supporting plate (3) and being provided with inwardly flanged edges (7).

4. Worktop according to claims 1-3, **characterized in that** the substantially U-shaped profiles (4, 14) are obtained by rolling aluminium plate.

5. Worktop according to claims 3-4, **characterized in that** certain walls of the profiles (4, 14) are provided with grooves (11) extending in the longitudinal direction of the walls.

6. Worktop according to claim 5, **characterized in that** the grooved (11) walls of the profiles (4, 14) are the walls which are glued to the walls of an adjacent profile (4) or to the supporting plate (3).

7. Worktop according to claims 1-6, **characterized in that** the substantially U-shaped profiles (4, 14) have been mounted against the supporting plate (3) in the same positions or alternately.

8. Worktop according to claims 3-7, **characterized in that** in case of profiles (4) alternately mounted to the supporting plate (3), one profile has its body (5) abutting the supporting plate (3) and the adjacent body has its body abutting the inwardly flanged edges (7).

9. Worktop according to claims 3-8, **characterized in that** the body (5) of a U-profile (4) is bulged in U-shape between its legs (6) in such a way that the body (10) of the secondary U-shaped part (8) is aligned with the flanged edges (7) of the legs of the U-profile (4).

10. Worktop according to claims 1-9, **characterized in that** the portions of the substantially U-shaped profiles (4, 14) located at the edges of the supporting plate (3), the worktop (5) and/or the further aluminium plate (15) are provided with recesses (16) for being able to receive a finishing edge (12).

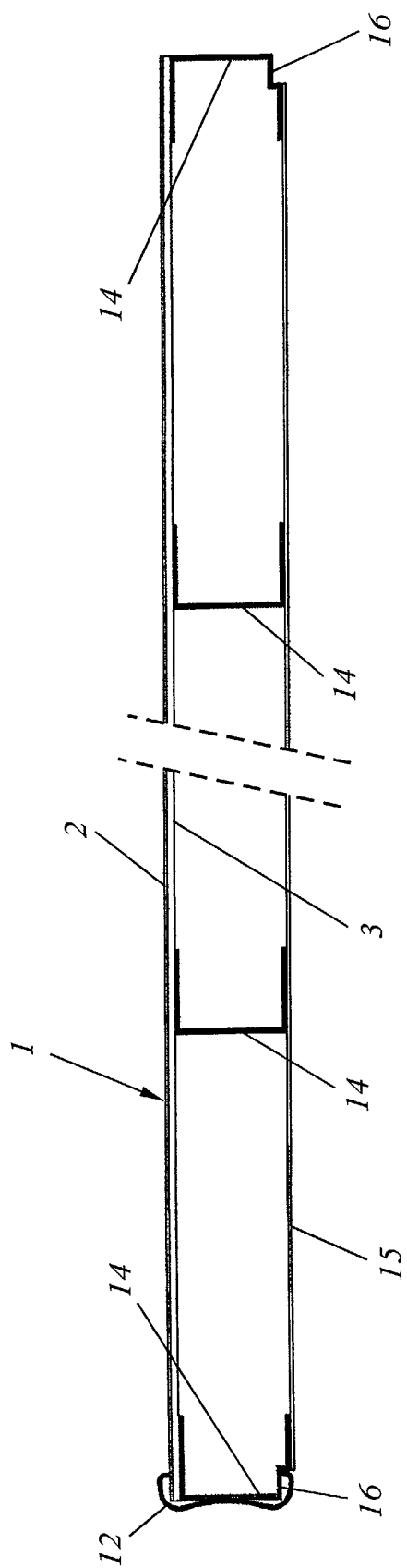


FIG. 1

FIG. 2

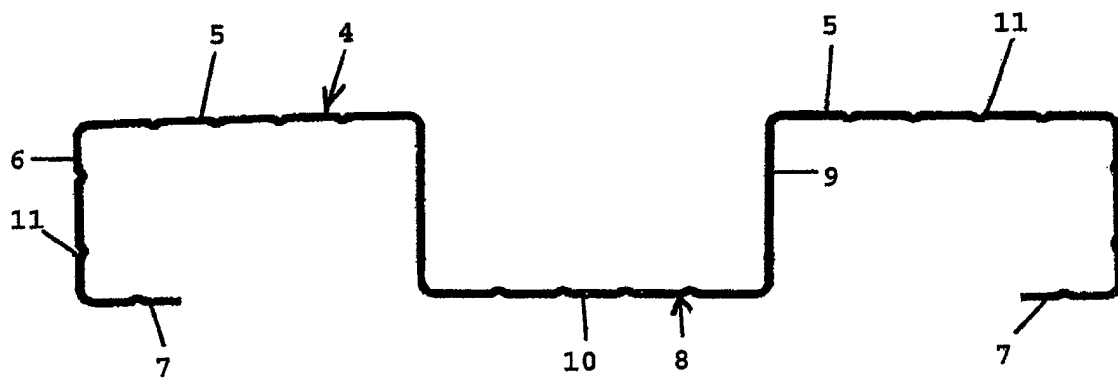
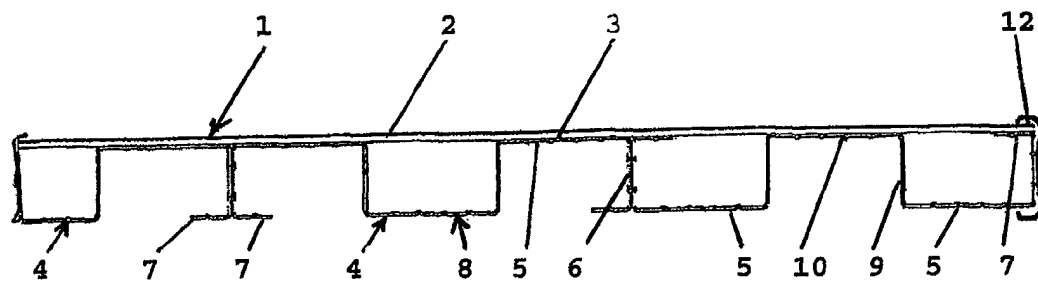


FIG. 3