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⑤④ **A tray, preferably of metal wire, and for instance serving as a drawer.**

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FR-A-2 072 467
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⑦③ Proprietor: **Inter-Ikea A/S**
Ny Strandvej 21
DK-3050 Humlebaeck (DK)

⑦② Inventor: **Weberg, Bengt**
Svanstigen 4
S-343 00 Älmhult (SE)

⑦④ Representative: **Eitle, Werner, Dipl.-Ing. et al**
Hoffmann, Eitle & Partner Patentanwälte
Arabellastrasse 4
D-8000 München 81 (DE)

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Description

The invention relates to a tray, preferably of metal wire, and for instance applicable as a drawer, said tray comprising a rectangular, optionally quadrangular bottom and circumferential side walls, the bottom and side walls being constituted by a wire frame, in which a plurality of substantially U-shaped wire lengths are secured on the inside thereof.

Such a tray is disclosed in French Patent Application No. FR—A—2 072 467, as published on 24.9.71.

It is known to manufacture wire trays comprising a bottom wall and vertical circumferential side walls but which do not allow piling of several identical wire trays according to the "drinking glass principle". When the trays are to be piled according to the "drinking glass principle" it is usually necessary that the side walls are slightly inclined outwards in such a manner that the trays disclose a slight slip. Such a slip implies, however, that the volume of each tray cannot be utilized to an optimum extent, especially not when the tray is to be used as a drawer. A cupboard containing the drawer cannot have its volume utilized to an optimum extent either.

The object of the present invention is to provide a tray of the above type which permits piling of several identical trays according to the "drinking glass principle" although the side walls of the tray are vertical.

The tray according to the invention indicated in the accompanying Claim 1. Such a tray can be characterised in that the bottom and the side walls are integrally formed since they are constituted by a wire frame, in which a plurality of substantially U-shaped wire lengths are secured on the inside thereof, the free wire webs of the U forming two opposing vertical side walls of the tray, whereas the bottom wire web of the U forms the bottom of the tray, and that the free wire webs of each side wall are located in pairs, whereby the wire webs (side limbs) of each pair converge downwards, and in that a slide bar set comprising preferably a fastened bar and a slidable bar is mounted on the outside of two opposing side walls at the lower rim of said walls, the fastened bar comprising parts, which snap a bottom wire web of an outlying U-shaped wire length in the bottom of the tray when said bar is pressed from the outside against the side wall in question. In this manner a tray is easily pilable on another tray according to the "drinking glass principle" since the pair of free wire webs of the first tray is located inside the wire frame of the second (lower) tray and from above can be made abutting the pair of free wire webs of the second tray. As the side walls are vertical, the volume of the tray can be utilized to an optimum extent, and when the tray serves as a drawer in a cupboard, for instance in a kitchen, the volume of the cupboard can be utilized to an optimum extent too.

In a particular embodiment of the invention, the bottom web of the U of an additional U-shaped

wire length at each end of the side walls is located in such a manner that seen in radial direction relative to the centre of the tray it is located a short distance inside a transverse side wall next to the two opposing side walls, and in that the free webs (side limbs) of said additional U-shaped wire length are part of two adjacent side walls and are located adjacent the ends of said walls converge downwardly. As a result, auxiliary parts, if any, are easy to mount on the outside of the tray, said parts overlapping and snapping around the said bottom web.

Moreover, the free wire webs of a side wall may alternately form an angle of $90^\circ + v/2$ and $90^\circ - v/2$ with the portion of the wire frame present in the side wall in question, the angle of convergence v of two succeeding free wire webs ranging from 5 to 40° , and preferably being 30° . In this manner a very reliable piling of the trays is permitted on top of and within each other.

Finally, the metal wire used can be coated with plastics, whereby the metal wire is suitably protected against oxidation.

The invention will be described below with reference to the accompanying drawing, in which Figure 1 is a perspective view of a tray according to the invention,

Figure 2 is a sectional view of the tray of Figure 1 taken along the line II—II of Figure 1, and

Figure 3 illustrates a portion of a side wall seen in the direction of the arrow A of Figure 1.

The tray illustrated in Figure 1 is preferably made of metal wire and may for instance be used as a drawer. It comprises a rectangular bottom 1 and circumferential side walls 2a, 2b, 2c, 2d. As illustrated, the bottom and the side walls are integrally formed. They consist of a wire frame 4 and a plurality of substantially U-shaped wire lengths 5, cf. Figure 2, secured to the inside of said frame 4. For the sake of clarity, only a few wire lengths have been provided with the reference numeral 5. In Figure 2 only one wire length is illustrated, but in Figure 1 it is shown that the tray may comprise for instance 2×14 U-shaped wire lengths. The free wire webs of the U form two opposing vertical side walls, cf. the side walls 2b and 2d of Figure 1. The bottom wire web 5c of Figure 2 forms the bottom 1 of the tray. The "free" wire webs 5a of each side walls 2b are located in pairs, the wire webs of each pair converging downwards, which has been particularly illustrated in Figure 3. The wire webs of a pair have been indicated by 5a' and 5a''. The free wire webs 5a, 5b are secured to the wire frame 4 at the side 14 radially facing inwards of the latter.

The U-shaped wire length 15 is, however, single and its free webs 15a and 15b in a pair of opposing side walls 2a and 2d are located adjacent one end of said walls (in Figure 1 said end is the left end of the walls 2b and 2d). The bottom web of this wire length is situated in such a manner that seen in radial direction relative to the centre of the tray it is located a short distance inside the transverse side wall 2a adjacent the two opposing side walls. The distance that the bottom

web is located inside said wall is indicated by *m* in Figure 1.

When the tray is to be used as a drawer, cf. Figure 1, a slide bar set 16 is mounted at the lower rim of two opposing side walls 2a and 2c on the outside thereof. Each set comprises a bar 16a fastened on the tray as well as a bar 16b slidable relative to the bar 16a. The bar 16a comprises parts 17, which overlap and snap the bottom wire web 15c of an outlying U-shaped wire length 15 in the bottom 1 of the drawer when the bar 16a has been pressed against the side wall 2a from the outside.

The free wire webs 5a', 5a'' in a side wall, e.g. the side wall 2b of Figure 3, are located in such a manner that alternatively they form an angle of $90^\circ + v/2$ and $90^\circ - v/2$ with the portion of the wire frame 4 present in the side wall in question. The angle of convergence *v* of two succeeding free wire webs 5a' and 5a'' is approximately 30° in Figure 3. Usually, *v* is in the range of 5 to 40° .

The piling of two identical trays according to the "drinking glass principle" has been indicated by dotted lines in Figure 3, whereby the dotted inclined free wire webs associated with the piled tray abut the inclined free wire webs 5a' and 5a''.

The metal wire used in the tray according to the invention may be coated with plastics, whereby the tray is more chemical-resistant. The invention may be varied in many ways without thereby deviating from the scope of the invention. Thus cast plastics may be used instead of metal wire.

Concerning the securing of the free wire webs 5a, 5a', 5a'', 5b to the wire frame 4 at the inwardly facing side of said frame, it should be noted that as far as metal wire is concerned said securing may be welding or soldering.

Claims

1. A tray, preferably of metal wire, said tray comprising a rectangular, optionally quadrangular bottom (1) and peripheral side walls (2a, 2b, 2c, 2d), the bottom (1) and the side walls (2a, 2b, 2c, 2d) being constituted by a wire frame (4), in which a plurality of substantially U-shaped wire lengths (5) are secured on the inside thereof, the wire side limbs (5a, 5b) of the U-shaped lengths forming two opposing vertical side walls (2b and 2d) of the tray, whereas the bottom wire webs (5c) of the U-shaped lengths form the bottom (1) of the tray, the wire side limbs (5a, 5a', 5a'') of each side wall (2b) being located in pairs (5a', 5a'') and characterized in that the wire side limbs of each pair converge downwards, and in that a slide bar set (16) comprising a fastened bar and a slidable bar (16a, 16b) is mounted on the outside of two opposing side walls (2a, 2c) at the lower rim of said walls, the fastened bar comprising parts (17), which overlap and snap onto a bottom wire web (15c) of an outlying U-shape wire length (15) in the bottom of the tray when said bar is pressed from the outside against the side wall (2a) in question, whereby the tray can be used as a drawer or a plurality of similar trays can be stacked in a nesting fashion.

2. A tray as claimed in Claim 1, characterized in

that the bottom web (15c) of the U of an additional U-shaped wire length (15) at each end of the side walls is located in such a manner that seen in radial direction relative to the centre of the tray it is located a short distance inside a transverse side wall (2a) next to the two opposing side walls (2b, 2d) and in that the side limbs of said additional U-shaped wire length are part of two adjacent side walls (2b, 2c) and are located adjacent the ends of said walls and converge downwardly.

3. A tray as claimed in one or more of the preceding claims 1 to 2, characterized in that the wire side limbs (5a', 5a'') of a side wall (2b) alternately form an angle of $90^\circ + v/2$ and $90^\circ - v/2$ with the portion of the wire frame (4) present in the side wall in question, the angle of convergence *v* of two succeeding wire side limbs being in the range from 5 to 40° , and preferably being 30° .

4. A tray as claimed in one or more of the preceding Claims 1 to 3, characterized in that the metal wire used is coated with plastics.

Patentansprüche

1. Flacher Drahtkorb mit einem rechteckigen, eventuell auch quadratischen Boden (1) und Seitenwänden (2a, 2b, 2c, 2d) am Umfang, wobei der Boden (1) und die Seitenwände (2a, 2b, 2c, 2d) durch einen Drahtrahmen (4) gebildet werden, an dem eine Vielzahl von im wesentlichen U-förmigen Drahtabschnitten (5) auf dessen Innenseite befestigt werden, wobei die Drahtseitenteile (5a, 5b) der U-förmigen Abschnitte zwei gegenüberliegende vertikale Seitenwände (2b und 2d) des Drahtkorbs bilden, wohingegen die unteren Drahtstege (5c) der U-förmigen Abschnitte den Boden (1) des Drahtkorbs bilden, wobei die Drahtseitenteile (5a, 5a', 5a'') von jeder Seitenwand (2b) in Paaren (5a, 5a') angeordnet sind, dadurch gekennzeichnet, daß die Drahtseitenteile eines jeden Paares nach unten verlaufend konvergieren und eine Gleitschienenengruppe (16) aus einer befestigten Schiene und einer verschiebbaren Schiene (16a, 16b) auf der Außenseite von zwei gegenüberliegenden Seitenwänden (2a, 2c) am unteren Rand der Wände befestigt ist, wobei die befestigte Schiene Teile (17) umfaßt, die einen Drahtsteg (15c) am Boden eines ausgelegten U-förmigen Drahtabschnitts im Boden des Drahtkorbs überlappen und einrasten, wenn die Schiene von außen gegen die Seitenwand (2a) gedrückt wird, wodurch der Drahtkorb als Schublade verwendet werden kann oder eine Vielzahl von ähnlichen Drahtkörben verschachtelt gestapelt werden können.

2. Drahtkorb nach Anspruch 1, dadurch gekennzeichnet, daß der Bodensteg (15c) des U eines zusätzlichen U-förmigen Drahtabschnitts (15) an jedem Ende der Seitenwände so angeordnet ist, daß er, gesehen aus einer radialen Richtung in bezug auf den Mittelpunkt des Drahtkorbs, einen kurzen Abstand innerhalb von der vorbeilaufenden Seitenwand (2a) neben den zwei gegenüberliegenden Seitenwänden (2b, 2d) angeordnet ist und die Seitenteile des zusätzlichen U-förmigen

Drahtabschnitts Teile von zwei benachbarten Seitenwänden (2b, 2c) und benachbart zu den Enden der Seitenwände und nach unten konvergierend angeordnet sind.

3. Drahtkorb nach einem der vorhergehenden Ansprüche 1 oder 2, dadurch gekennzeichnet, daß die Drahtseitenteile (5a', 5a'') der Seitenwand (2b) abwechselnd einen Winkel von $90^\circ + v/2$ und $90^\circ - v/2$ mit den Bereichen des Drahtrahmens (4) bildet, der in der entsprechenden Seitenwand vorhanden ist, wobei der Konvergenzwinkel v von zwei aufeinanderfolgenden Drahtseitenteilen im Bereich von 5 bis 40° liegt und bevorzugt 30° beträgt.

4. Drahtkorb nach einem der vorhergehenden Ansprüche 1 bis 3, dadurch gekennzeichnet, daß der verwendete Metalldraht mit einem Kunststoff überzogen ist.

Revendications

1. Plateau, de préférence en fil métallique, ce plateau comprenant un fond (1) rectangulaire, facultativement quadrangulaire, et des parois latérales, périphériques (2a, 2b, 2c, 2d), le fond (1) et les parois latérales (2a, 2b, 2c, 2d) étant constituées par un cadre (4) en fil, sur le côté intérieur duquel sont fixées une pluralité de longueurs (5) de fil métallique, sensiblement en forme de U, les branches latérales (5a, 5b) des longueurs en forme de U formant deux parois latérales verticales opposées (2b et 2d) du plateau, tandis que les âmes (5c) des longueurs en forme de U forment le fond (1) du plateau, les branches latérales (5a, 5a', 5a'') de chaque paroi latérale (2b) étant disposées par paires (5a, 5a''), caractérisé en ce que les branches latérales de chaque paire convergent vers le bas et en ce qu'un ensemble de glissières (16) comprenant une barre fixe (16a) et une barre coulissante (16b) est monté

sur l'extérieur des deux parois latérales opposées (2a, 2c) aux bords inférieurs desdites parois, la barre fixe comprenant des parties (17), qui recouvrent et s'enclenchent sur une âme inférieure (15c) d'une longueur périphérique (15) de fil métallique en forme de U du fond du plateau lorsque ladite barre est pressée de l'extérieur contre la paroi latérale (2a) en question, grâce à quoi le plateau peut être utilisé comme tiroir où une pluralité de plateaux similaires peuvent être empilés de façon emboîtée.

2. Plateau selon la revendication 1, caractérisé en ce que l'âme inférieure (15c) de la longueur supplémentaire (15) de fil métallique en forme de U se trouvant à chaque extrémité des parois latérales est disposée de manière telle que, vue dans une direction radiale par rapport au centre du plateau, elle est située à une courte distance à l'intérieur d'une paroi latérale transversale (2a) immédiatement voisine aux deux parois latérales opposées (2b, 2d) et en ce que les branches latérales de ladite longueur supplémentaire de fil métallique en forme de U font partie des deux parois latérales adjacentes (2b, 2c) et sont contiguës aux extrémités desdites parois et convergent vers le bas.

3. Plateau selon une ou plusieurs des revendications précédentes 1 à 2, caractérisé en ce que les branches latérales (5a', 5a'') d'une paroi latérale (2b) forment, alternativement, un angle de $90^\circ + v/2$ et $90^\circ - v/2$ avec la partie du cadre (4) présente dans la paroi latérale en question, l'angle de convergence v de deux branches latérales successives étant compris entre 5 et 40° et étant, de préférence, de 30° .

4. Plateau selon une ou plusieurs des revendications précédentes 1 à 3, caractérisé en ce que le fil métallique utilisé est revêtu de matière plastique.

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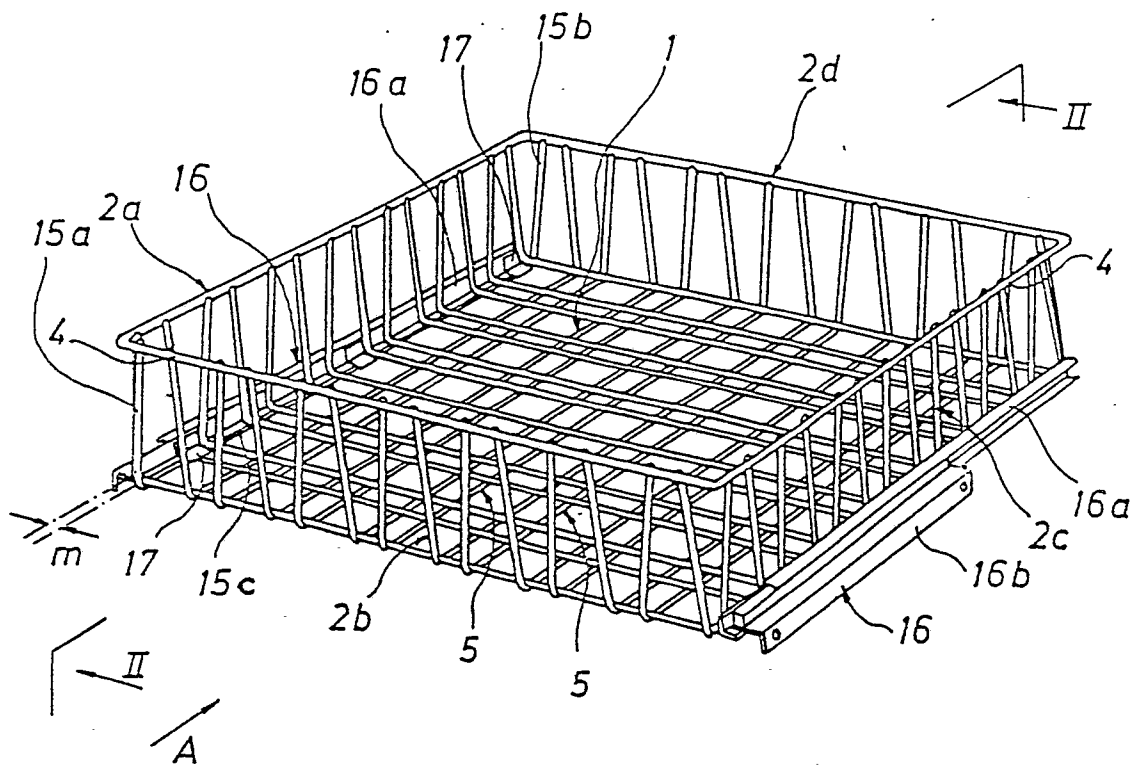


Fig. 1

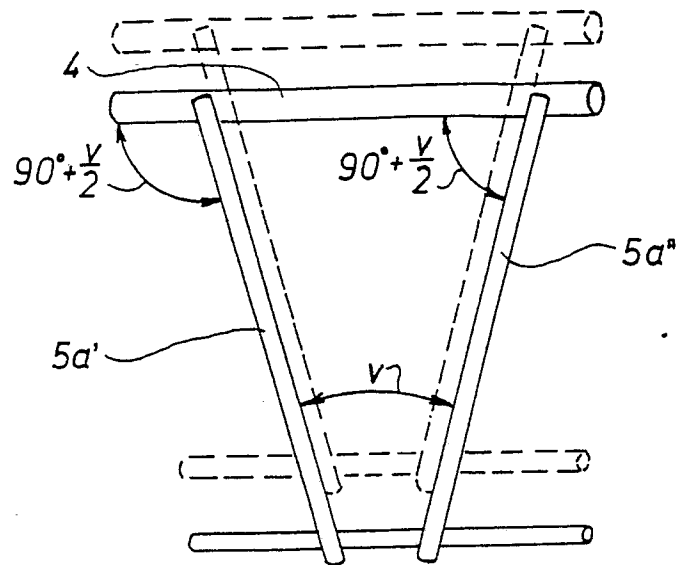


Fig. 3

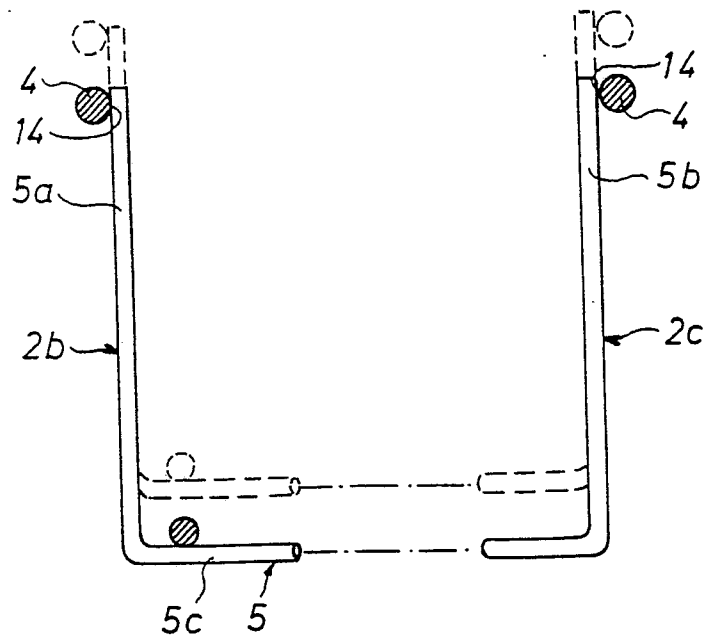


Fig. 2