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(54) **Multiple container assembly for domestic waste**

(57) The support for the container assembly includes a vertical and modular axis (1) wherein bushings (6) pertaining to arms (7 and 7') the free end of which is topped by pivots (9) housable in a bushing (10) pertaining to a support ring (11) of a receptacle (2), in such a manner

that the rotation of the bushings (6) and therefore of the receptacles (2) is carried out around a support (14) fixed to the side (16) of the piece of furniture, with the collaboration of spacers (5) envisaged between the bushings (6) and equally assembled on the modular vertical axis (1).

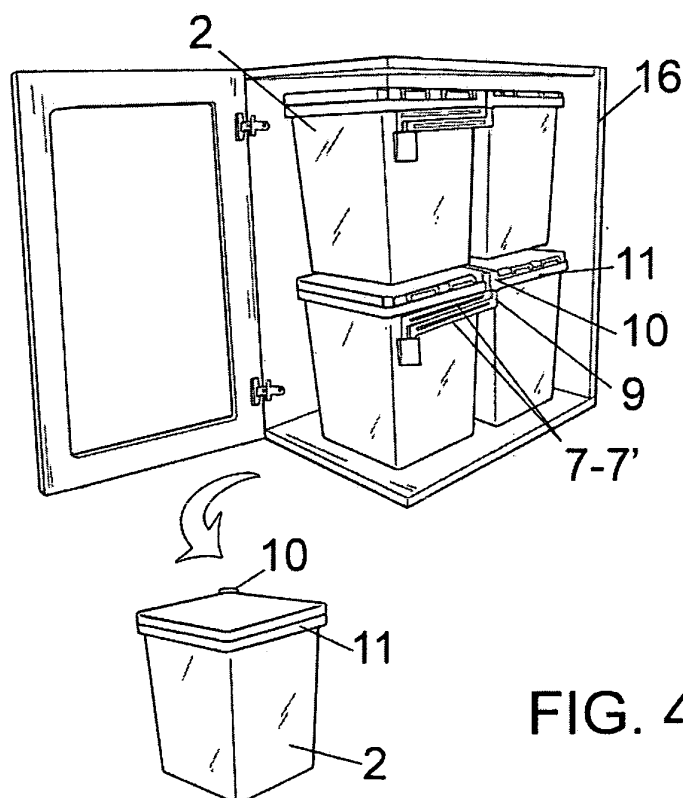


FIG. 4

DescriptionOBJECT OF THE INVENTION

[0001] The present invention relates to a multiple container for domestic waste, i.e. a container equipped with a plurality of receptacles, varying in number, capable of housing any kind of domestic products or waste deemed convenient.

[0002] The object of the invention is to improve the fixation means of said multiple container to the piece of furniture that contains it, in addition to facilitating the assembly of the different components of the container.

[0003] The invention is especially suitable for domestic waste containers, in order to classify said waste separating, on one hand, organic matter and, on the other, plastic, glass, cartons, etc.

BACKGROUND OF THE INVENTION

[0004] The applicant himself/themselves is/are the holder of Spanish Utility Model U 200700430, wherein a multiple container structured around a modular vertical axis, the modules of which are intercoupled by means of axial dovetailing, said axis comprising a support with rotation capacity for a plurality of bushings, conveniently separated with the help of spacers, each bushing finishing in one of the ends of an arm which at its other end has articulated coupling means for a ring that comprises the support, strictly speaking, of the corresponding receptacle.

[0005] In turn, the aforementioned arms may be simple or multiple and, on this basis, in addition to the length thereof, each ring and consequently each receptacle is susceptible to adopting multiple positions with respect to the axis that supports it, more specifically a limit position wherein the group of receptacles that comprise the container forms a block housed inside a piece of furniture, such as for example a kitchen furniture module, and any other position wherein any of the receptacles that participate in the multiple container are directly accessible for depositing waste in their interior or for removal thereof with a view to emptying.

[0006] This type of containers, although satisfactorily fulfilling the function for which they are intended, have the fundamental problem that in order to fix their structure to the piece of furniture that contains it, the tubes that comprise the spacers incorporate strips having an approximately Ω -shaped configuration and orifices at their ends, through which they are fixed to the piece of furniture by means of screwing. Obviously, said strips, in addition to the fixation screws, affect the aesthetics of the assembly in a very negative manner, which is of vital importance, especially when the multiple container is coupled to kitchen furniture with a designer finish.

DESCRIPTION OF THE INVENTION

[0007] The multiple container proposed by the invention is intended for and structured in such a manner as to solve the previously expounded problem, offering an optimum aesthetical finish wherein the fixation means thereof to the piece of furniture are invisible.

[0008] To this end and more specifically, based on a basic structure similar to that of the multiple container of the aforementioned Spanish Utility Model, the invention focuses on replacing the tubular and cylindrical spacers of said Utility Model with spacers having a semicircular section, wherein a cylindrical orifice has been disposed, coaxial with the semicircular sector and of a diameter coinciding with that of the modular axis of the container, while incorporating a groove with a throttled mouth in its stilted sector, preferably having an isosceles trapezoid section, wherein a support of identical section has been disposed, with orifices for fixation thereof by means of screwing to a piece of furniture, in such a manner that, once that said support has been screwed to the piece of furniture, it, and consequently the screw heads, will be hidden by the spacer itself.

[0009] On the other hand, the groove of the throttled mouth has been envisaged as being affected by indentation along part of its length, indentation that determines a widening of said groove in order to allow the support of complementary section to be disposed thereon, without sliding, and fixed to the side wall of the piece of furniture, thereby enabling the axial path for the assembly to be much smaller for the spacers, thereby facilitating the assembly itself.

[0010] The supports fixable to the side wall of the piece of furniture, in order to achieve a perfect vertical axial alignment thereof, have been envisaged as having a slot on one of their ends and a pin complementary to the slot at the opposite end, in such a manner that the two parts are coupled together in the axial assembly, thereby achieving the perfect vertical alignment of said supports.

[0011] In order to avoid the folding tendency of the corresponding axis, due to the weight of the receptacles, a head with a bayonet pin that is housed in the upper section of the assembly determined by the assembly means for the receptacle support arms has been envisaged, in such a manner that said head has orifices for fixation to the side of the piece of furniture, thereby preventing any tendency towards a side originated by the weight of the receptacles themselves.

[0012] In order to prevent the establishment of a separation between the corresponding support frame and the respective receptacle, and to which frame the end pivot of the corresponding rotation arm is joined, a flange that acts as a stop against a slot established for such purpose at the top part corresponding to the mouth of the receptacle, disposed on one of the corners and in correspondence with the inner part of the frame, has also been envisaged, thereby avoiding the separation of the frame from said mouth and therefore instability between

the two parts, i.e. between the frame and the mouth of the receptacle.

[0013] Finally, in order to achieve an optimum and exact fixation of the supports to the side of the piece of furniture, an assembly part or tool is included, configured at right angles, having a groove whereon the support is disposed by sliding, in such a manner that with the part at right angles the verticality of said support is ensured, in addition to the spacing with respect to the front edge of the piece of furniture whereon it must be fixed.

DESCRIPTION OF THE DRAWINGS

[0014] For the purpose of complementing the description below and helping to better understand the characteristics of the invention, a set of drawings in accordance with a preferred example of practical embodiment thereof has been included as an integral part of this specification, wherein the following has been represented in an illustrative and unlimitative manner:

- Fig. 1 shows a partially exploded perspective view of a multiple container embodied according to the object of the present invention;
- Fig. 2 shows a transverse sectional view of the axis at the height of one of the spacers;
- Fig. 3 shows, according to a schematic perspective view, a multiple container having four receptacles, one of which is rotated outwards, and duly coupled in the interior of a furniture module;
- Fig. 4 shows a representation according to a general perspective view of the multiple container that is the object of the invention assembled on a piece of kitchen furniture, which shows that it includes four receptacles, one of which is disposed in the exterior;
- Fig. 5 shows a perspective view of the two parts that constitute part of the assembly for the rotation axis and bushings of the support arms of the receptacles, showing the dovetail support that is fixed to the side of the piece of furniture, with a flange at one of its ends and a slot on the opposite side, in addition to the spacer with the corresponding groove having an indentation along one part of its length to allow the direct assembly thereof on the aforementioned support and then carry out the sliding there through, thereby reducing the axial path for the assembly of said spacer;
- Fig. 6 shows a perspective view of the head that is assembled on the upper end to prevent diversion of the rotation axis of the receptacle assembly;
- Fig. 7 shows a perspective view of the part at right angles that is used in combination with the dovetail support for the fixation thereof in a totally vertical manner and at the exact distance with respect to the front edge of the wall where-

on it is fixed; and

- Fig. 8 finally shows a detailed plan view of the receiving frame of each container, where the blocking flange between both elements can especially be observed.

PREFERRED EMBODIMENT OF THE INVENTION

[0015] In light of the foregoing figures, we can observe that the preconised container consists of a modular axis (1), with modules having a length adapted to the height of the receptacles (2) to be used, such as for example of the receptacles for recycling waste, each module of said axis (1) being materialised in a metal rod that ends in a neck or appendix (3), smaller in diameter and coaxial with the axis itself, while its other end incorporates an axial and blind (4) orifice capable of receiving the neck (3) of the adjacent module.

[0016] A plurality of spacers (5) are disposed on the modular axis (1), establishing bushings (6) between the spacers (5) that top the end of the arms (7-7'), having different lengths, arms that end in expansions (8) having respective pivots (9) similar to the necks (3) that top the axis (1) modules, pivots (9) that are destined to fit into small rings or cylindrical receptacles (10) disposed at an adequate point of respective rings (11), formal and dimensionally adequate to receive therein the aforementioned receptacles (2), in such a manner that in the practical example of embodiment represented in the drawings they are quadrangular, but can equally be rectangular, circular, etc.

[0017] Therefore, the spacers (5) are structured based on tubular bodies with a stilted semicircular section, as can be observed especially in Figure 2, having a circular orifice (12) wherein the modular axis (1) is tightly coupled, said circular orifice (12) being coaxial with the axis (1) itself and with the semicircular sector of the spacer (5), which incorporates a groove (13) in its rectangular zone, that opposed to the semicircular zone, wherein a support (14) is tightly coupled, materialised in turn in an isosceles trapezoid profile, with orifices (15) having a countersunk mouth for the passage of respective screws or lag screws for fixation to the wall of the piece of furniture (16), in such a manner that the spacers (5) and consequently the bushings (6) disposed between them are immobilised in the piece of furniture through these supports (14), the fixation means being invisible and allowing free tilting of the arms (7-7'), so that the different rings (11) with their corresponding receptacles (2) can adopt any desired position, either inside or outside of the piece of furniture (16), to facilitate its accessibility, as can be observed especially in Figure 3.

[0018] In a variant of embodiment shown in Figure 5, the supports (14) have a slot (17) at the ends thereof that complements a flange (18) disposed at the opposite end, in such a manner that, during the vertical assembly of the different supports (14), these interfit by means of the aforementioned slots (17) and flanges (18), in order to

achieve perfect verticality throughout the length of the support, when it is carried out by several elements or modules, which allows the correct and perfect sliding of the spacers (5) along their groove (13), complementary to the trapezoid conformation of the support (14).

[0019] To reduce the trajectory along an axial direction with the corresponding assembly of the spacers (5), said spacers (5) have been envisaged as being affected by a grooved (13') section of greater width, exceeding the width of the support (14) itself, in which case the coupling can be carried out directly and then the sliding through the groove (13) of the spacer (5) with respect to the support (14).

[0020] On the other hand, it has been envisaged that, in order to avoid the separation between the corresponding receptacle (2) with respect to the ring (11) whereon it is assembled, a plectrum (23) that fits into a slot disposed for such purpose at the mouth of the receptacle itself will be incorporated at one of its ends, thereby establishing the attachment between the receptacle and the ring itself.

[0021] On the other hand, it has been envisaged that a head (19) with a pair of orifices (20) for fixation to the corresponding side of the piece of furniture, i.e. the side wherein the support (14) is fixed, will be disposed on the upper end of the assembly formed by the spacers (5), in such a manner that said head (19) is attached to the upper end of the spacer (5) assembly by means of a bayonet pin (21) projecting from said head (19) for the housing thereof in the orifice (12) of the separator (5) or in the upper bushing of the respective arm (7 or 7'), in such a manner that, in any case, said head (19), when fixed to the side (16) of the piece of furniture and assembled as described, prevents any type of sliding or tendency toward lateral diversion of the rotation axis of the different bushings of the receptacle (2) support arms, and the displacement or tendency toward diversion of which would be originated by the weight of the content of the aforementioned receptacles (2).

[0022] Finally, in order to achieve the exact positioning of the supports (14) on the side (16) of the piece of furniture, an assembly tool (22) consisting of a part at right angles has been envisaged, as represented in Figure 7, being affected by a slot that is complementary to the section of the support (14) itself, for sliding thereon of said part at right angles (22) or assembly tool strictly speaking, in such a manner that it will be disposed on the edge of the side (16) of the piece of furniture, establishing the exact spacing with respect to said edge in the fixation of the support (14) and, on the other hand, the perfect verticality thereof.

Claims

1. Multiple container for domestic waste, of the type that is materialised in a vertical modular axis, whereon spacers are disposed for a plurality of bushings

solidly joined to radial and tilting arms that incorporate joining means at its free end articulated to respective support rings of as many other receptacles susceptible to being overlapped and/or adjacent in the interior of the piece of furniture, or emerging at the exterior thereof by means of tilting of the arms that support them, **characterised in that** said spacers (5) have a stilted semicircular section, with a coaxial circular orifice having its own semicircular section and being dimensionally coincident with the modular axis (1) that it must house, while a groove (13) with a throttled mouth is defined in the stilted sector, wherein a support (14) of identical section fits tightly, having orifices (15) with a countersunk mouth for fixation by means of screwing to the side wall (16) of the piece of furniture or supporting element of the multiple container.

2. Multiple container for domestic waste, according to claim 1, **characterised in that** the groove (13) of the spacers (5), in addition to the supporting (14) section that is housed in the interior of said groove (13), adopts an isosceles trapezoid section.

3. Multiple container for domestic waste, according to the preceding claims, **characterised in that** a section of the groove (13) of the spacers (5) has an indentation that determines a groove (13') of greater width than the section of the supports (14) fixed to the side (16) of the piece of furniture, allowing an initial assembly by confrontation and subsequent sliding, with reduction of downward axial displacement of the spacers (5) on the supports (14) fixed to the side (16) of the piece of furniture.

4. Multiple container for domestic waste, according to the preceding claims, **characterised in that** a head (19) is assembled at the upper end of the spacer (5) assembly, with a bayonet pin (21) through which the orifice (12) of the upper end of the respective spacer (5) is positioned, or else on the bushing of the corresponding arm (7-7'), said head (19) being affected by a pair of orifices (20) for fixing by means of screwing to the corresponding side (16) of the piece of furniture, comprising a means of avoiding the tendency toward diversion of the respective modular assembly and rotation axis (1) for the support arms (7 and 7') of the receptacles (2).

5. Multiple container for domestic waste, according to the preceding claims, **characterised in that** the supports (14) have a slot (17) at one of their ends and a complementary flange (18) at the opposite end, interlinkable when said supports (14) are disposed vertically, establishing a perfect alignment there between.

6. Multiple container for domestic waste, according to

the preceding claims, **characterised in that** the ring (11) whereon the receptacle (2) rests has a plectrum (23) on one of its corners that stops against a slot corresponding to the vertex of the upper part or mouth of the receptacle, preventing uncoupling between said ring (11) and receptacle (2). 5

7. Multiple container for domestic waste, according to the preceding claims, **characterised in that** a tool or part at right angles (22), having a dovetail slot that is coupled by means of sliding to the respective support (14), intervenes in the fixation of the supports (14) on the side (16) wall of the piece of furniture, comprising a means of exact positioning for said support with respect to the front edge of the side (16) panel of the piece of furniture to which it is fixed and the perfect verticality of the aforementioned support. 10 15

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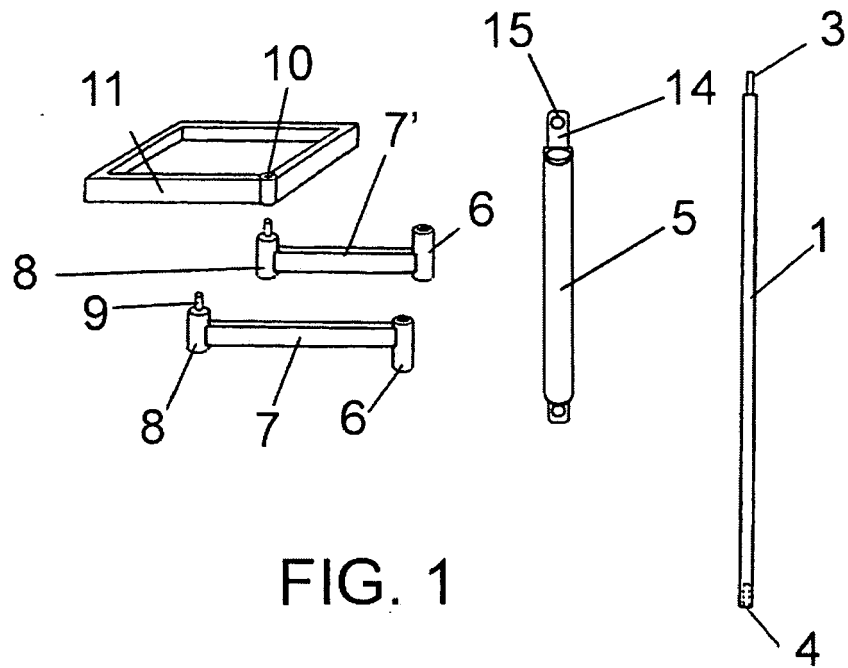


FIG. 1

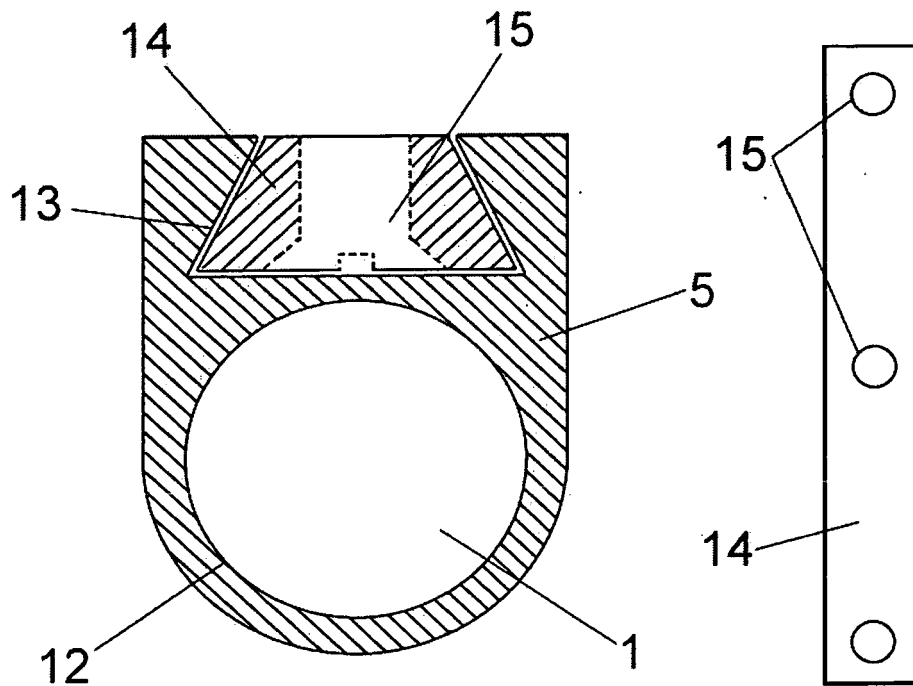


FIG. 2

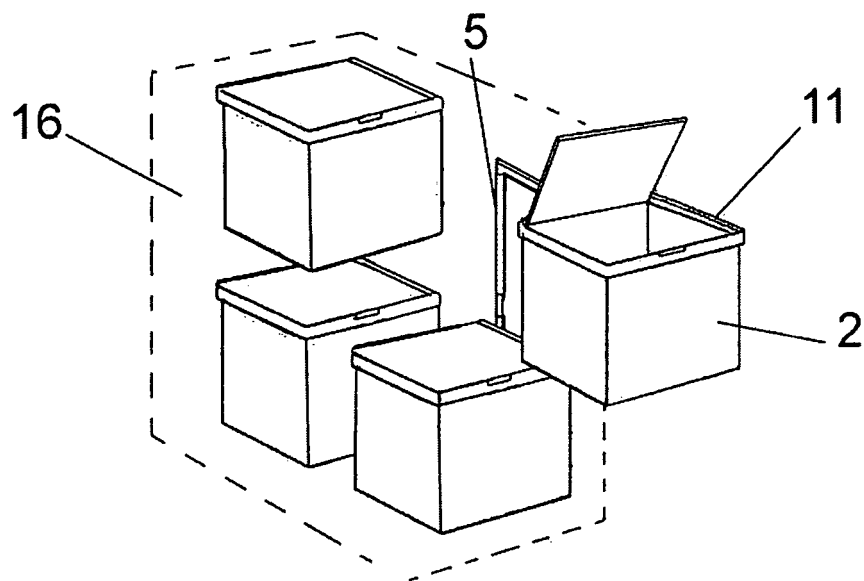


FIG. 3

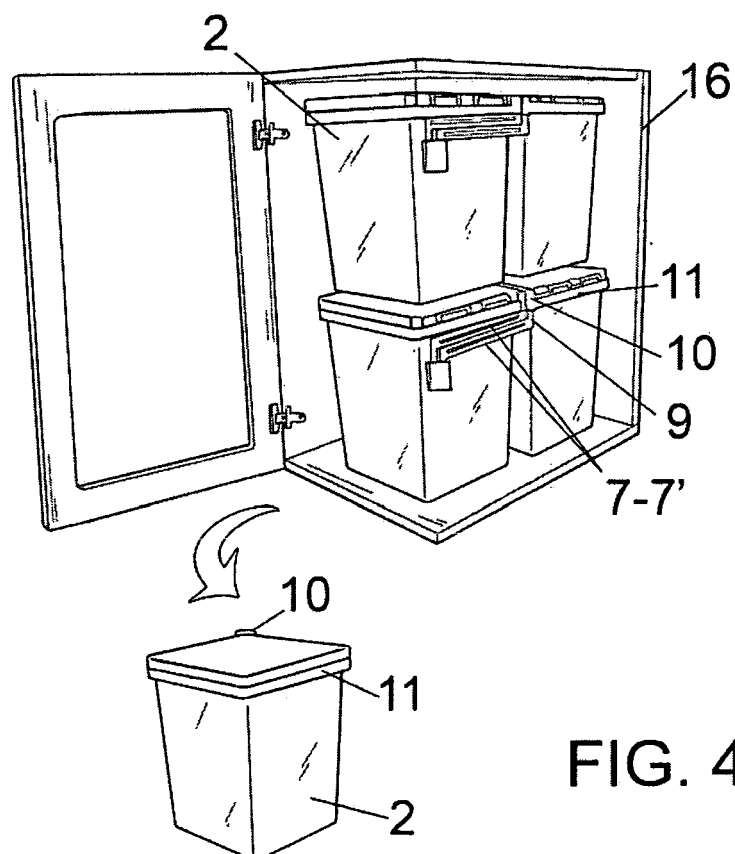


FIG. 4

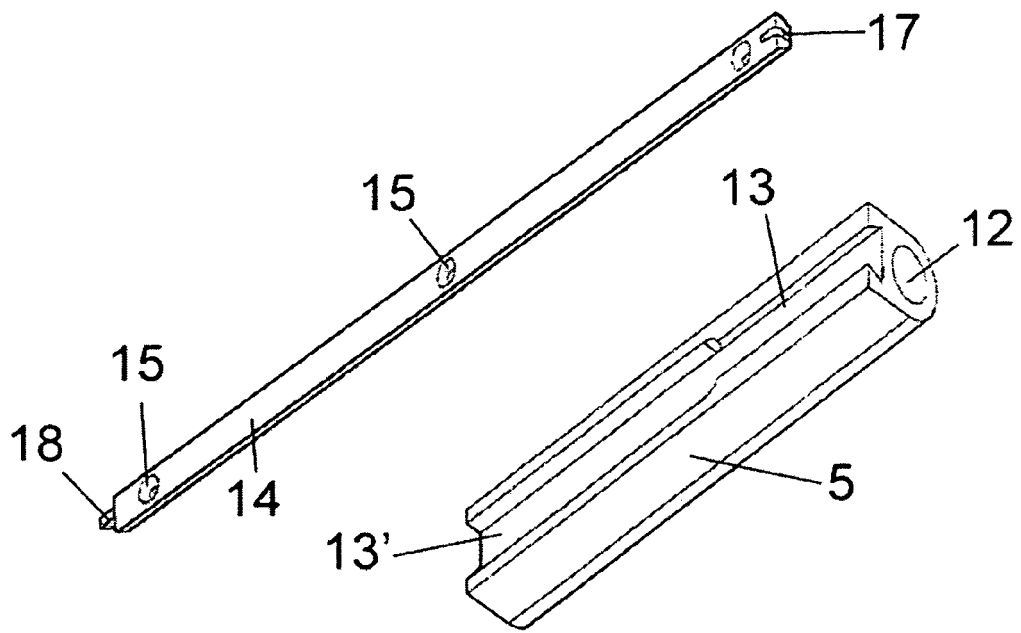


FIG. 5

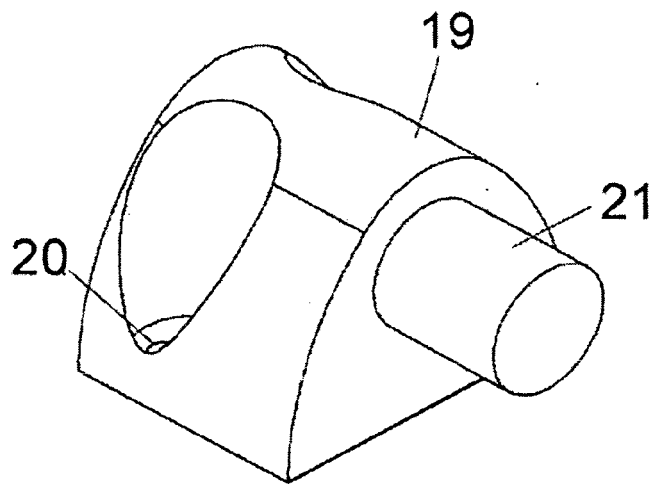


FIG. 6

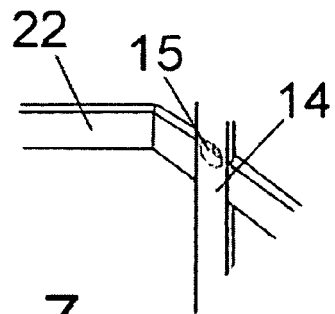


FIG. 7

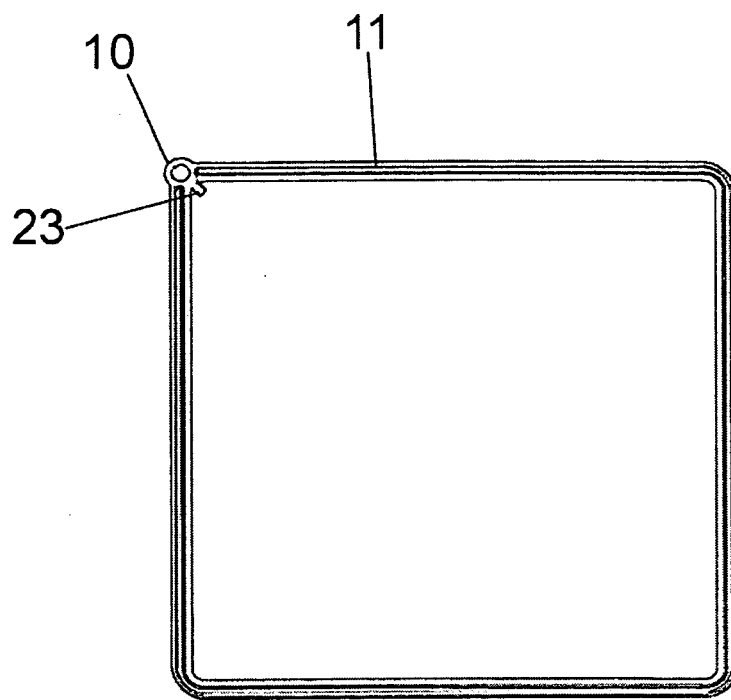


FIG. 8



EUROPEAN SEARCH REPORT

Application Number
EP 09 38 0026

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	----- EP 0 608 461 A (SCHLOSSER & CO GMBH) 3 August 1994 (1994-08-03) * figures *	1	
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			TECHNICAL FIELDS SEARCHED (IPC)
			B65F A47B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		29 May 2009	Smolders, Rob
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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 38 0026

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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29-05-2009

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