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(54) **Clothes drying rack**

(57) A clothes drying rack (10), of the type comprising two longitudinal members (11, 12) for supporting two mutually opposite grids (13, 14), which can slide with respect to each other between a first configuration of substantial overlap, so as to define a single central hanging grid (15), and a second configuration of complete extraction, both grids being completely available for hanging, supporting means (16) for the clothes drying rack (10) being asso-

ciated with the longitudinal members. In this rack, each one of the two grids (13, 14) is defined by a quadrangular tubular frame (17, 18), which supports a plurality of rod-like or wire-like clothes hanging components, the lateral portions (19, 20, 21, 22) of the tubular frames (17, 18) being adapted to slide on corresponding guiding elements (23, 24, 25, 26, 27, 28, 29, 30) which are associated with the longitudinal members (11, 12).

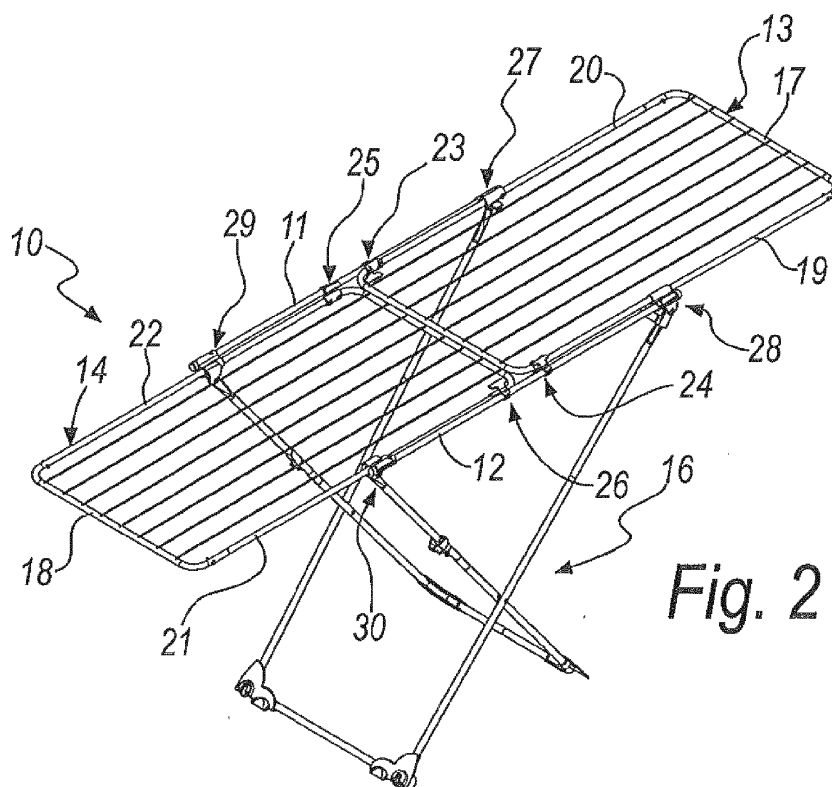


Fig. 2

Description

[0001] The present invention relates to a clothes drying rack.

[0002] Nowadays many types of clothes drying rack are present on the market.

[0003] Of these, a large part is of the type comprising a quadrangular frame structure, constituted by a pair of longitudinal members and by a pair of cross-pieces between which rod-like elements are arranged that, with the frame structure, define a grid for hanging the clothes. The longitudinal members are generally associated with pairs of foldable supporting legs.

[0004] In general clothes drying racks are provided with a main grid that is constituted, together with the rod-like elements, by the longitudinal members and by the cross-pieces, and two secondary grids, which have shorter rod-like hanging elements than the rod-like elements of the main grid (typically approximately half), such secondary grids being either hinged at the cross-pieces and foldable over the main grid, or slideable from the main grid.

[0005] The two secondary grids make it possible to use the clothes drying rack in an optimized manner, with a configuration that can be adjusted to the laundry load to be hung out to dry.

[0006] Both clothes drying racks with hinged secondary grids and clothes drying racks with slideable secondary grids exhibit the same drawback which is associated with the limited dimensions of the secondary grids.

[0007] In fact, in both cases, in order to make it possible for the clothes drying rack to maintain a stable equilibrium thereof even if only one secondary grid is open and loaded, each one of the lateral grids is generally about half the length of the main grid.

[0008] Thus such conventional secondary grids, although useful, do not have the same functionality as the main grid, since on them only small items of clothing can be hung, such as handkerchiefs, socks, T-shirts and the like, and not bedsheets, large towels and generally all those items of clothing which owing to their width can be hung only on the main grid.

[0009] In order to overcome these drawbacks, the same applicant has devised, and also disclosed and claimed in EPA 10150781.2, a clothes drying rack that is capable of overcoming the limitations of the cited conventional clothes drying racks.

[0010] Such clothes drying rack comprises two longitudinal members for supporting two mutually opposite grids which can slide over each other, with mutual sliding means, between a first configuration of substantial overlap so as to define a single central hanging grid, and a second configuration of complete extraction, both grids being completely available for hanging, the longitudinal members being associated with supporting means for the clothes drying rack.

[0011] The clothes drying rack thus devised, while functional, exhibits room for improvement.

[0012] In fact such clothes drying rack is defined by a relatively complex structure, which is provided with two grids each one of which is defined by a tubular U-shaped element, which supports a plurality of rod-like or wire-like clothes hanging components, the lateral portions of the U-shaped tubular elements being adapted to be slid into the longitudinal members, there being defined, between the longitudinal members and the corresponding lateral portions, stroke limit means of restraint that are adapted to prevent the complete extraction of the grids from the longitudinal members.

[0013] Moreover, the means of mutual sliding are constituted by two cross-members which can slide and which are provided with corresponding sleeves for sliding on the longitudinal members, each one of the two sliding cross-members comprising locking seats for the free ends of the rods of a first grid, and slots for sliding with respect to the rods of the other, second, grid.

[0014] Such cited clothes drying rack is relatively speaking not very sturdy and is particularly complex to assemble.

[0015] The aim of the present invention is to provide a clothes drying rack that is sturdier, simpler to produce and assemble, and overall cheaper to produce.

[0016] Within this aim, an object of the invention is to provide a clothes drying rack the main grid of which is combined with a further grid which is bigger than conventional secondary grids.

[0017] Another object of the invention is to provide a clothes drying rack that is easy to use, in the same way as conventional clothes drying racks.

[0018] Another object of the invention is to provide a clothes drying rack that can be easily collapsed into the inactive configuration, in the same way as conventional clothes drying racks.

[0019] Another object of the invention is to provide a clothes drying rack that can be structurally made at low cost, with conventional technologies and systems.

[0020] This aim and this and other objects which will become better apparent hereinafter are achieved by a clothes drying rack of the type comprising two longitudinal members for supporting two mutually opposite grids which can slide with respect to each other between a first configuration of substantial overlap, so as to define a single central hanging grid, and a second configuration of complete extraction, both grids being completely available for hanging, supporting means for the clothes drying rack being associated with said longitudinal members, said improved rack being characterized in that each one of said two grids is defined by a quadrangular tubular frame, which supports a plurality of rod-like or wire-like clothes hanging components, the lateral portions of said tubular frames being adapted to slide on corresponding guiding elements which are associated with said longitudinal members.

[0021] Further characteristics and advantages of the invention will become better apparent from the description of a preferred, but not exclusive, embodiment of the

clothes drying rack according to the invention, which is illustrated by way of non-limiting example in the accompanying drawings wherein :

Figure 1 is a perspective view of the clothes drying rack according to the invention, in a first configuration of use;

Figure 2 is a perspective view of the clothes drying rack according to the invention, in a second configuration of use;

Figure 3 is a perspective view of a detail of the two mutually opposite grids of the clothes drying rack according to the invention;

Figure 4 is a detail of the guiding elements of the rack according to the invention;

Figures 5 and 6 are cross-sectional views of corresponding elements for guiding the rack according to the invention.

[0022] With reference to the figures, a clothes drying rack according to the invention is generally designated with the reference numeral 10;

[0023] Figures 7 and 8 show further elements for guiding the rack according to the invention.

[0024] The clothes drying rack 10 is of the type comprising two longitudinal members 11 and 12, for supporting two mutually opposite grids 13 and 14 which can slide with respect to each other, with mutual sliding means, between a first configuration of substantial overlap so as to define a single central hanging grid 15, as in Figure 1, and a second configuration of complete extraction, as in Figure 2, with both the grids 13 and 14 completely available for hanging.

[0025] The longitudinal members are associated with supporting means 16 for the improved clothes drying rack 10, supporting means which should be understood as being of the known type, such as for example scissor-hinged foldable legs or other, similar solutions.

[0026] The peculiarity of the rack 10 lies in the fact that each one of the two grids 13 and 14 is defined by a tubular frame 17 and 18 respectively, quadrangular in particular, which supports a plurality of rod-like or wire-like clothes hanging components.

[0027] The lateral portions 19, 20, 21, 22 respectively of the tubular frames 17, 18 are adapted to slide on corresponding guiding elements 23, 24, 25, 26, 27, 28, 29, 30, better described hereinbelow, which are associated with the longitudinal members 11, 12.

[0028] The guiding elements 23, 24, 25, 26, 27, 28, 29, 30 define two sliding sleeves for each lateral portion 19, 20, 21 and 22 of the grids, as can clearly be seen in Figure 3.

[0029] In the embodiment of the invention described herein, which is intended to be by way of non-limiting example of the invention, the guiding elements 23, 24, 25, 26, 27, 28, 29, 30 comprise four central guiding elements 23, 24, 25, 26, which are fixed in the central regions of the longitudinal members 11, 12, and four end guiding

elements 27, 28, 29, 30, which are fixed to the ends of the longitudinal members 11, 12.

[0030] In particular, each one of the guiding elements comprises, as can be seen for example in Figures 4, 5 and 6 for the guiding elements 23 and 25, a first portion 31 or 32, with parts that define mutually opposite jaws, for fixing to a longitudinal member for example 11, a second portion 33 or 34, substantially tubular, of guide for a first lateral portion, for example 20 or 22 as in the aforementioned Figures, of a frame 17 or 18 of a first 13 or second 14 grid, and a third, sliding portion 35 or 36 for a lateral portion of the frame of the other grid.

[0031] Preferably, and advantageously, the first portions 31 or 32, second portions 33 or 34, and third portions 35 or 36, of the guiding elements 23 and 25, are provided monolithically, by molding plastic material.

[0032] For the central guiding elements 23, 24, 25 and 26, and for two of the end guiding elements, designated in Figures 1 and 8 with the reference numerals 27 and 28, the second portion 33 and 34 has a substantially C-shaped cross-section from the ends of which the corresponding jaw-like parts 37 and 38 extend, these latter items being adapted so as to define the first portion 31 and 32 and to arrange themselves so as to partially surround on opposite sides a corresponding longitudinal member 11 or 12.

[0033] The third portion 35 and 36, and 39 for the end guiding element 27 and 28, is constituted by a tab extending from one of the jaw-like parts 37 or 38, or, for the end guiding element 27 and 28, from an appendage 40 for the pivoting of the supporting means 16, so as to define, with the overlying or underlying outer surface of the corresponding second portion, a sliding region for a lateral portion of a frame of a grid.

[0034] The end guiding elements 27, 28, 29 and 30 are all provided with an appendage 40, which extends downward in the configuration for use of the clothes drying rack and is adapted to the pivoting of the ground support legs.

[0035] For the peculiar embodiment of the invention exemplified above, attention is drawn to the fact that, as can be clearly seen from the figures, the central guiding elements 23, 24, 25 and 26 are identical to each other, with first central guiding elements 23 and 24 mounted with the second tubular portion directed upward, in order to guide the first grid 13, while the second two identical central guiding elements 25 and 26 are mounted with the second tubular portion directed downward, in order to guide the second grid 14 to perform a translational motion on an arrangement parallel to and located below that of the first grid 13.

[0036] First end guiding elements 27 and 28 have the second tubular portion placed in an upward region, and cooperate with the first central guiding elements 23 and 24 in the translational motion of the first grid 13, while second end guiding elements 29 and 30 have, as in Figure 7, the second tubular portion placed in a downward region and cooperate with the second central guiding el-

elements 25 and 26 in the translational motion of the second grid 14.

[0037] Abutment recesses 41 and 42 are defined on the guiding elements for corresponding stroke limit projections 43, see for example Figure 4, which protrude radially from the corresponding lateral portions of the frames of the grids.

[0038] In a different embodiment of the invention, not shown for simplicity, the guiding elements are constituted, for each lateral portion of the frame of the grid, by a single sleeve that is extended so as to affect a longitudinal member with which it is associated between a central region and an end of the same longitudinal member.

[0039] In this case there is a single guiding element for each one of the two opposite sliding sides of a grid, for a total of four guiding elements in all.

[0040] Such single sleeve can be made as a part of the longitudinal member, i.e. longitudinal member and guiding element can be made monolithically for example by molding plastic material.

[0041] In practice it has been found that the invention fully achieves the intended aim and objects.

[0042] In fact, with the invention a clothes drying rack is provided that, thanks to the grids each of which comprises a frame in a single piece composed of tubular elements, and thanks to the guiding elements which can be easily and cheaply made by molding plastic material, is quicker and cheaper to assemble with respect to the clothes drying rack disclosed in the above mentioned patent application.

[0043] What is more, the clothes drying rack according to the invention keeps the two grids capable of doubling the capacity of the central grid, which is defined by the overlaying of the two grids, as in the above mentioned patent application.

[0044] Moreover, with the invention a clothes drying rack is provided that is easy to use, in the same way as conventional clothes drying racks.

[0045] Naturally the clothes drying rack according to the invention can be easily collapsed into the inactive configuration, in the same way as conventional clothes drying racks.

[0046] Last but not least, with the invention a clothes drying rack is provided that can be structurally made at low cost, with conventional technologies and systems.

[0047] The invention, thus conceived, is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims. Moreover, all the details may be substituted by other, technically equivalent elements.

[0048] In practice the materials employed, as well as the contingent dimensions and shapes, may be any according to requirements and to the state of the art.

[0049] The disclosures in Italian Patent Application No. PD2011A000018 from which this application claims priority are incorporated herein by reference

[0050] Where technical features mentioned in any claim are followed by reference signs, such reference

signs have been inserted for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A clothes drying rack (10) of the type comprising two longitudinal members (11, 12) for supporting two mutually opposite grids (13, 14), which can slide with respect to each other between a first configuration of substantial overlap, so as to define a single central hanging grid (15), and a second configuration of complete extraction, both grids being completely available for hanging, supporting means (16) for the clothes drying rack (10) being associated with said longitudinal members, said rack being **characterized in that** each one of said two grids (13, 14) is defined by a quadrangular tubular frame (17, 18), which supports a plurality of rod-like or wire-like clothes hanging components, the lateral portions (19, 20, 21, 22) of said tubular frames (17, 18) being adapted to slide on corresponding guiding elements (23, 24, 25, 26, 27, 28, 29, 30) which are associated with said longitudinal members (11, 12).
2. The rack according to claim 1, **characterized in that** said guiding elements (23, 24, 25, 26, 27, 28, 29, 30) comprise at least one sliding sleeve for each lateral portion of the grids.
3. The rack according to claim 1, **characterized in that** said guiding elements (23, 24, 25, 26, 27, 28, 29, 30) define two sliding sleeves for each lateral portion of the grids.
4. The rack according to claim 1, **characterized in that** said guiding elements (23, 24, 25, 26, 27, 28, 29, 30) comprise four central guiding elements (23, 24, 25, 26), which are fixed in the central regions of the longitudinal members (11, 12), and four end guiding elements (27, 28, 29, 30), which are fixed to the ends of said longitudinal members (11, 12).
5. The rack according to claim 1, **characterized in that** said guiding elements comprise a first portion (31, 32), with parts that define mutually opposite jaws, for fixing to a longitudinal member (11), a second, substantially tubular guiding portion (33, 34) for a first lateral portion (20, 22) of a frame (17, 18) of a first (13) or second (14) grid, and a third sliding portion (35, 36) for a second lateral portion of the frame of the second grid.
6. The rack according to claims 4 and 5, **characterized in that** said first (31, 32), second (33, 34) and third

(35, 36) portions of said guiding elements are provided monolithically by molding plastic material.

7. The rack according to claim 4, **characterized in that** for said central guiding elements (23, 24, 25, 26) and for at least two of said end guiding elements (27, 28) said second portion (33, 34) has a substantially C-shaped cross-section, from the ends of which said corresponding jaw-like parts (37, 38) extend, which are adapted to define the first portion (31, 32) and to arrange themselves so as to partially surround, on opposite sides, a corresponding longitudinal member (11, 12), said third portion (35, 36, 39) being constituted by a tab that protrudes from one of said jaw-like parts (37, 38), so as to define, with the overlying or underlying outer surface of said second portion, a sliding region for a lateral portion of a frame of a grid.
8. The rack according to claim 4, **characterized in that** said end guiding elements have an appendage (40) for the pivoting of supporting elements (16).
9. The rack according to claims 1 and 2, **characterized in that** said guiding elements are constituted, for each lateral portion of the frame of the grid, by a single sleeve that is extended so as to affect a longitudinal member with which it is associated between a central region and an end of said longitudinal member.
10. The rack according to claim 9, **characterized in that** said single sleeve is part of the same longitudinal member.

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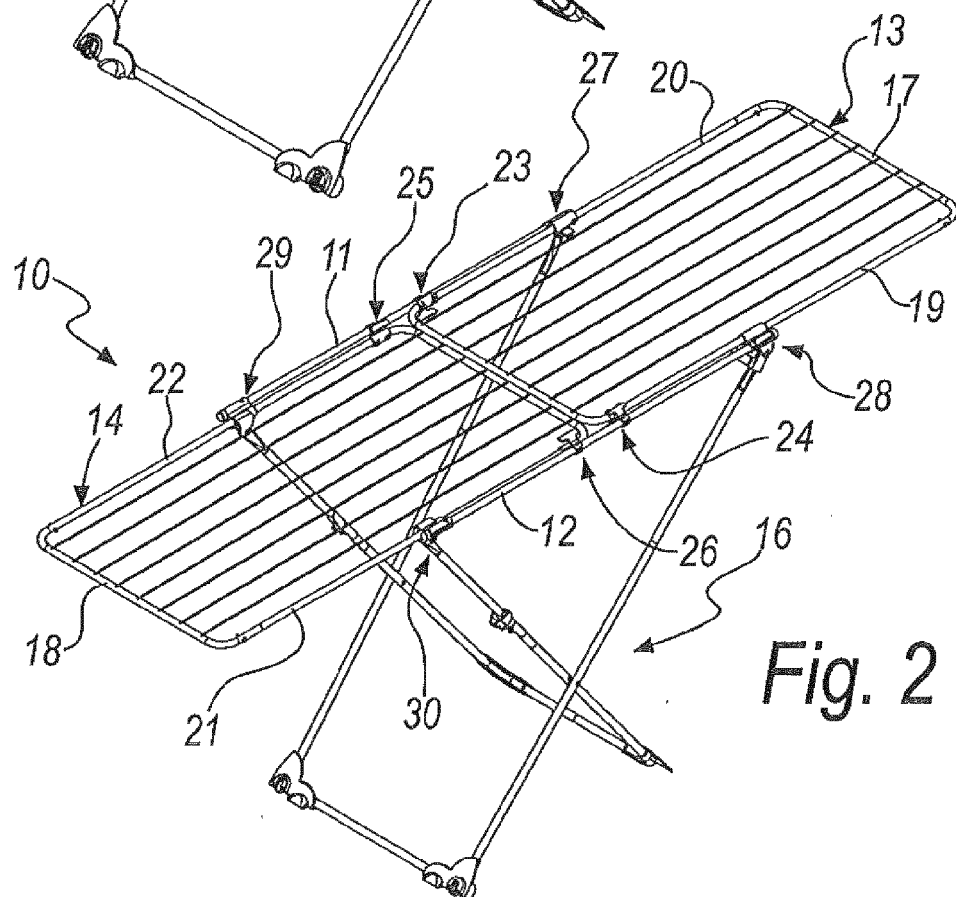
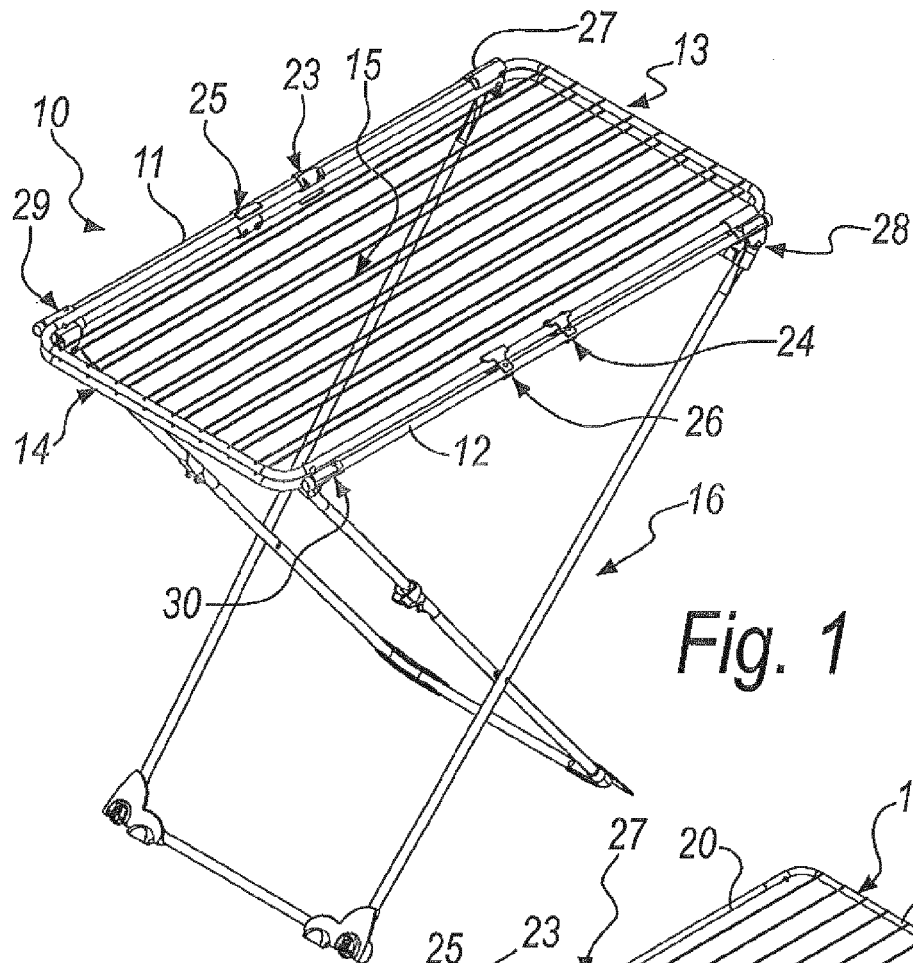
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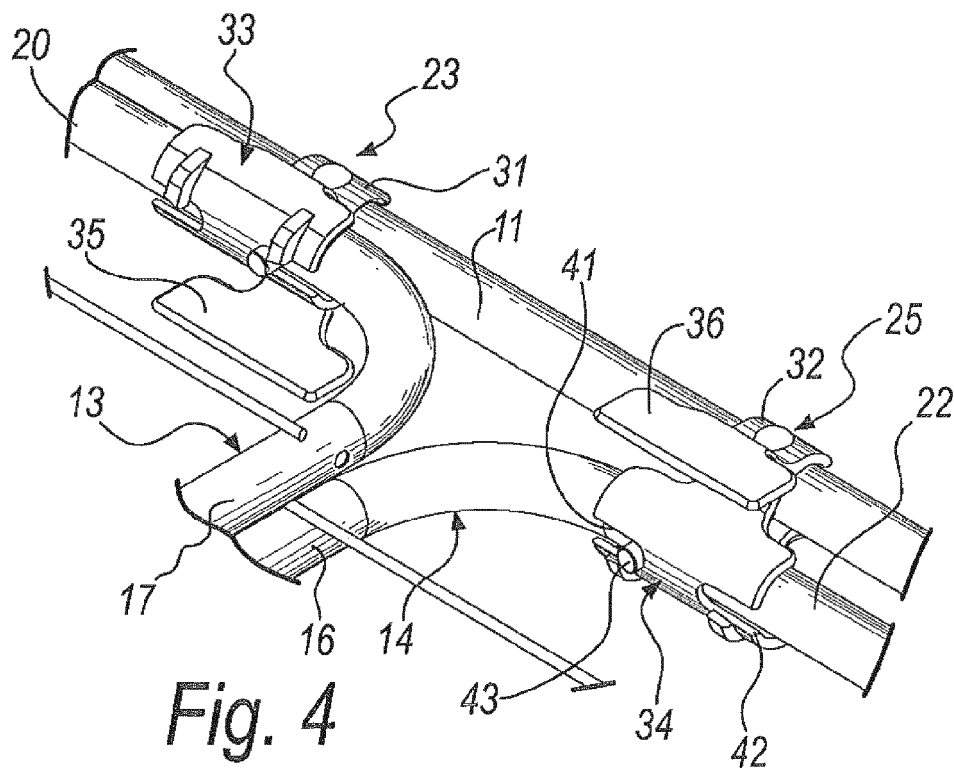
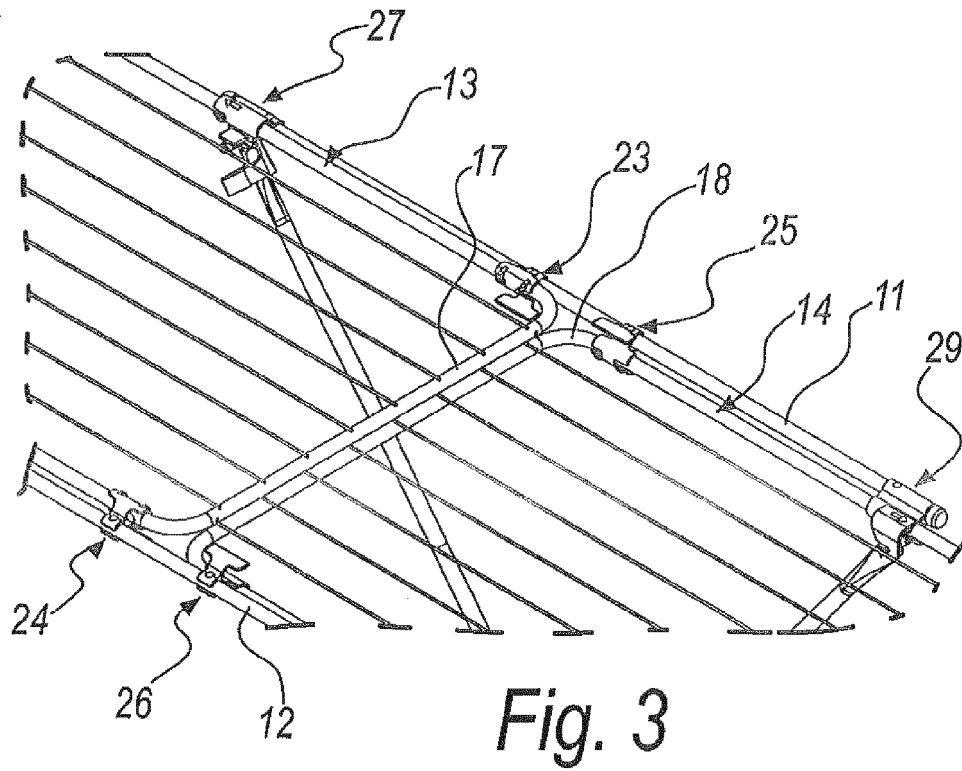
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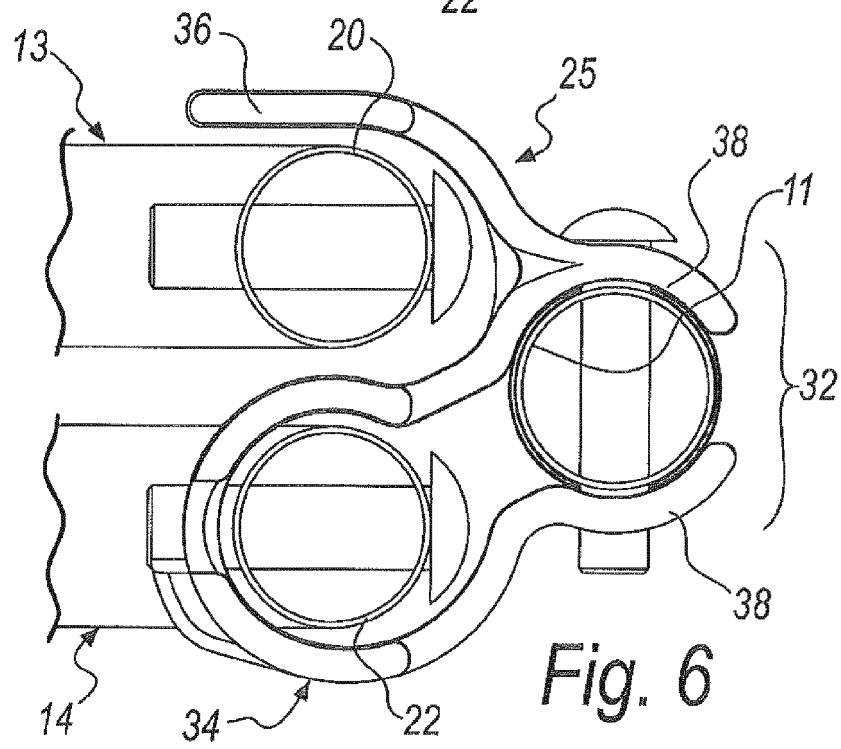
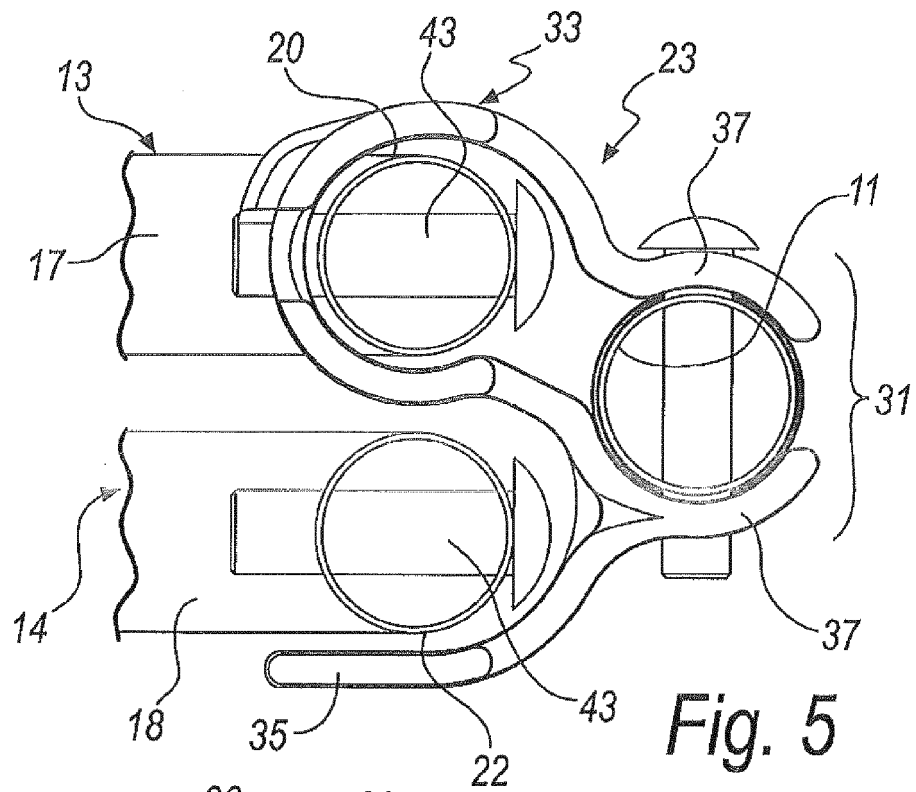
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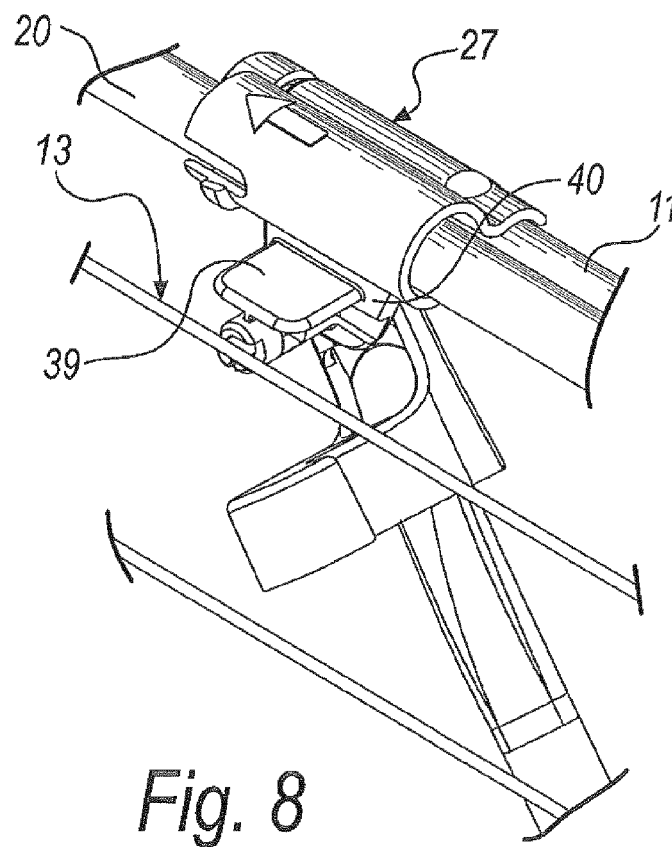
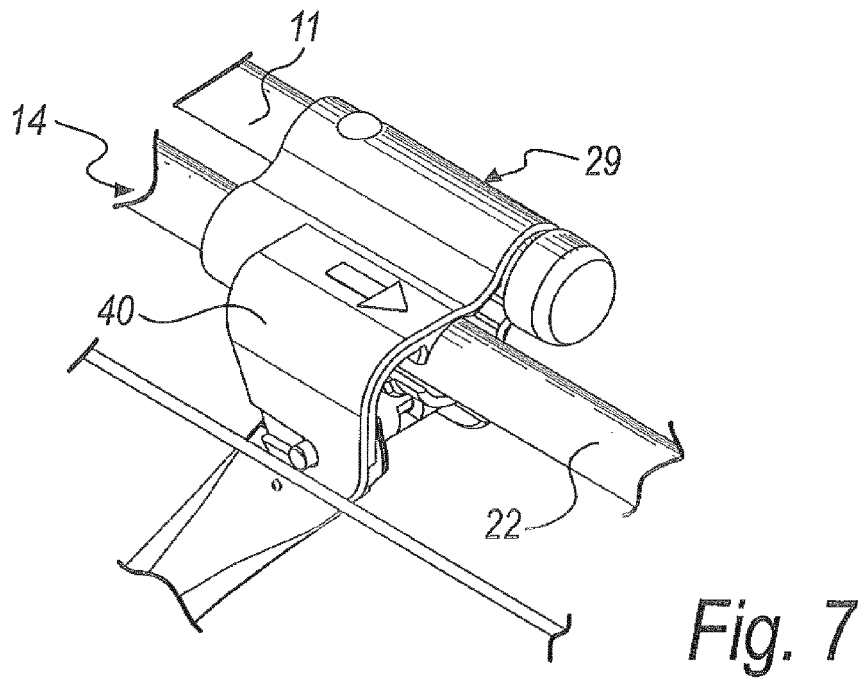
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EUROPEAN SEARCH REPORT

Application Number
EP 12 15 2529

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A,D	EP 2 208 820 A1 (GIMI S P A [IT]) 21 July 2010 (2010-07-21) * paragraph [0016] - paragraph [0039]; figures 1,2,4 *	1-10	INV. D06F57/08
A	----- EP 2 078 785 A1 (GIMI S P A [IT]) 15 July 2009 (2009-07-15) * paragraph [0010] - paragraph [0025]; figures 1-3 *	1-10	
A	----- DE 20 2004 011846 U1 (SUPERBETA S P A [IT]) 30 September 2004 (2004-09-30) * paragraph [0030] - paragraph [0061]; figures 1-4 *	1-10	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			D06F
Place of search		Date of completion of the search	Examiner
Munich		29 May 2012	Hannam, Martin
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EPO FORM 1503 03.82 (P04C01)

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

EP 12 15 2529

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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29-05-2012

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REFERENCES CITED IN THE DESCRIPTION

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