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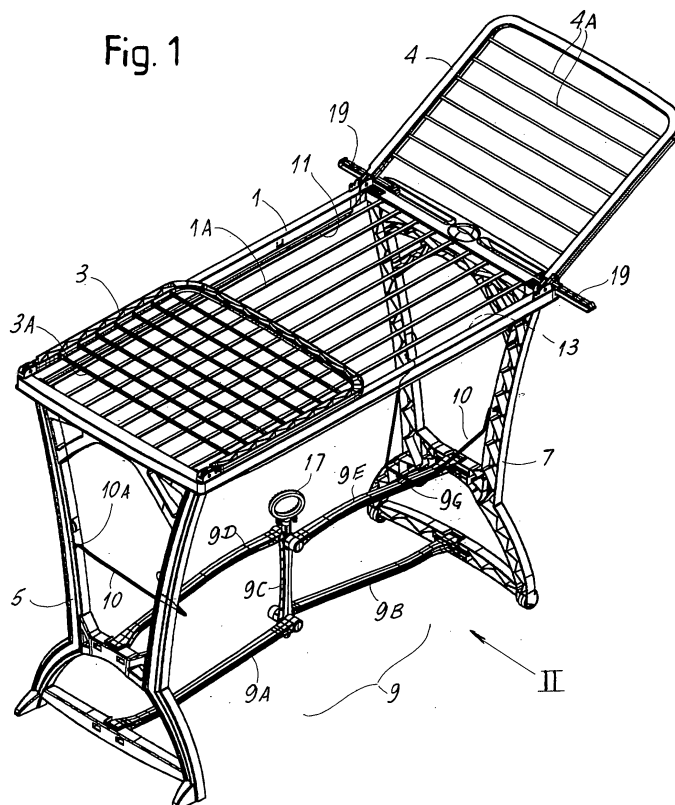
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(54) **A foldable clothes-drying rack**

(57) The clothes-drying rack comprises a horizontal frame (1) with tie rods (1A) for hanging clothes, a first and a second vertical side member (5, 7) and an assembly of tie rods-struts (9) lockable in the using position to support the frame and the side members. The first vertical side member (5) is constrained to the frame (1) by means

of a pair of hinges sliding in longitudinal guides on the frame, and the second vertical side member (7) is constrained to the frame (1) by means of releasable interlocking means. The assembly of tie rods-struts (9) comprises a pair of hinged quadrilateral linkages (9A, 9B) having a common vertical side (9C), and locking struts (10) hinged to respective side members (5, 7).

Fig. 1



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Description

[0001] The present invention relates to a foldable clothes-drying rack of the type comprising a rectangular shaped horizontal frame having a plurality of parallel tie rods spaced uniformly apart to receive clothes to be hung to dry, said frame being supported by a first and a second vertical side member and by an assembly of tie rods-struts, hinged to one another and to the side members, lockable in the using position to support the frame and the side members.

[0002] In general, in this type of clothes-drying rack, the operations to set up and fasten the clothes-drying rack in the using position and to fold it to be put away are somewhat complex. The object of the present invention is to provide a clothes-drying rack wherein these operations are simple and intuitive.

[0003] In the clothes-drying rack according to the invention, said first vertical side member is constrained superiorly to the frame by means of a pair of hinges sliding in longitudinal guides on the frame and the second vertical side member is constrained superiorly to the frame by means of releasable interlocking means. Moreover, said assembly of tie rods-struts forms a pair of parallelogram linkages having a common vertical side, the side opposite the vertical side being in practice formed by a respective side member. There are provided locking struts hinged to respective side members of the clothes-drying rack and suitable to be snap-inserted against locking pawls on the upper sides of the respective quadrilateral linkages to lock the assembly of tie rods in the using position of the clothes-drying rack. Setting up for use and folding away are also facilitated by a handle that can be operated vertically fitted to the extension of said common vertical side of said two parallelogram linkages.

[0004] Other characteristics of the clothes-drying rack according to the invention are described in dependent claims.

[0005] The invention will be better understood by following the description and accompanying drawing, which shows a non-limiting example of the invention. In the drawing:

Figure 1 shows a perspective view of the clothes-drying rack according to the invention, in a using position;

Figure 2 shows a side view of the clothes-drying rack according to the arrow II in Figure 1;

Figure 3 shows a plan view of the clothes-drying rack in Figure 2;

Figure 4 shows a side view of the clothes-drying rack analogous to the one in Figure 2, but during folding into the position suitable to be put away;

Figure 5 shows a view according to F3 in Figure 4, at the end of the operation to fold the clothes-drying rack to put it away;

Figures 6, 7 and 8 show sectional views of the clothes-drying rack respectively according to VI-VI,

VII-VII and VIII-VIII in Figure 3.

[0006] With reference to the drawings, and in particular to Figures 1 to 3, the clothes-drying rack comprises: a rectangular shaped horizontal frame 1 having a plurality of parallel tie rods 1A spaced uniformly apart to receive clothes to be hung to dry; a first side member 5 and a second side member 7 vertical when operative; and an assembly of tie rods-struts 9 hinged to one another and to the side members. The first vertical side member 5 is constrained superiorly to the frame 1 by means of a pair of end hinges 5A (Figures 3 and 8) sliding in longitudinal guides 11, 13 on the frame; the second vertical side member 7 is constrained superiorly to the frame 1 by means of releasable interlocking means, which will be described in detail below.

[0007] The assembly of tie rods-struts 9 forms a pair of quadrilateral linkages 9A, 9B having a common vertical side 9C, and in each quadrilateral the side opposite this common vertical side is formed by a respective side member 5, 7. There are provided two locking struts 10 hinged to respective side members 5, 7, which are suitable to be snap-inserted against locking pawls 9F, 9G on the upper sides 9D, 9E of the respective quadrilaterals, to lock the assembly 9 of tie rods in the using position of the clothes-drying rack.

[0008] On the extension of said common vertical side 9C of said parallelograms, above said side, the assembly of tie rods-struts 9 comprises a handle 17 that can be operated vertically to facilitate setting up and folding away the clothes-drying rack.

[0009] Said means for interlockingly engaging the side member 7 with the frame 1 comprise two lateral upper projections 7A (Figures 5 and 7) of the side member 7, suitable to be inserted from below in two corresponding openings 1B in the frame 1, and a central upper projection 7B of the side member 7 provided with a pawl 7C suitable to snap-fit in an opening 1C (Figure 6) in a vertical wall 1D of the frame 1, to lock/release said interlocking means.

[0010] To fold away the clothes-drying rack from the using position in Figure 1 to the position in Figure 5, minimizing its overall dimensions to store it easily, by pressing the pawl 7C (Figure 6) with a finger and bending it beyond the edge 1E of the opening 1C, the frame 1 can be detached from the side member 7 and rotated upward according to the arrow F1 in Figure 4. Then, by pulling the handle 17 upward (arrow F5), the side members 5 and 7 are drawn toward each other and the frame 1 with the hinges 5A is made to slide according to the arrow F2 on the guides 11-13 thereof, to position it against the external face of the side member 5, reaching the folded position shown in Figure 5.

[0011] Hinged to the short sides of the frame 1 are two additional frames 3, 4 (Figure 1) provided with tie rods 3A, 4A for hanging clothes, said frames being suitable to be rotated to the position projecting from the frame to increase the possibilities of use of the clothes-drying

rack.

[0012] Moreover, hinged to at least one of the short sides of the frame 1 are short bars 19 suitable to be rotated in a position projecting from said frame (see Figures 1 and 3) for hanging clothes hangers or the like, or to be folded away in specific recesses on the frame when not in use.

[0013] It is understood that the drawing only shows an example provided by way of a practical demonstration of the invention and that said invention can vary in forms and arrangements without however departing from the scope of the concept underlying this invention. Any reference numbers in the appended claims are provided for the purpose of facilitating reading of the claims with reference to the description and do not limit the scope of protection represented by the claims.

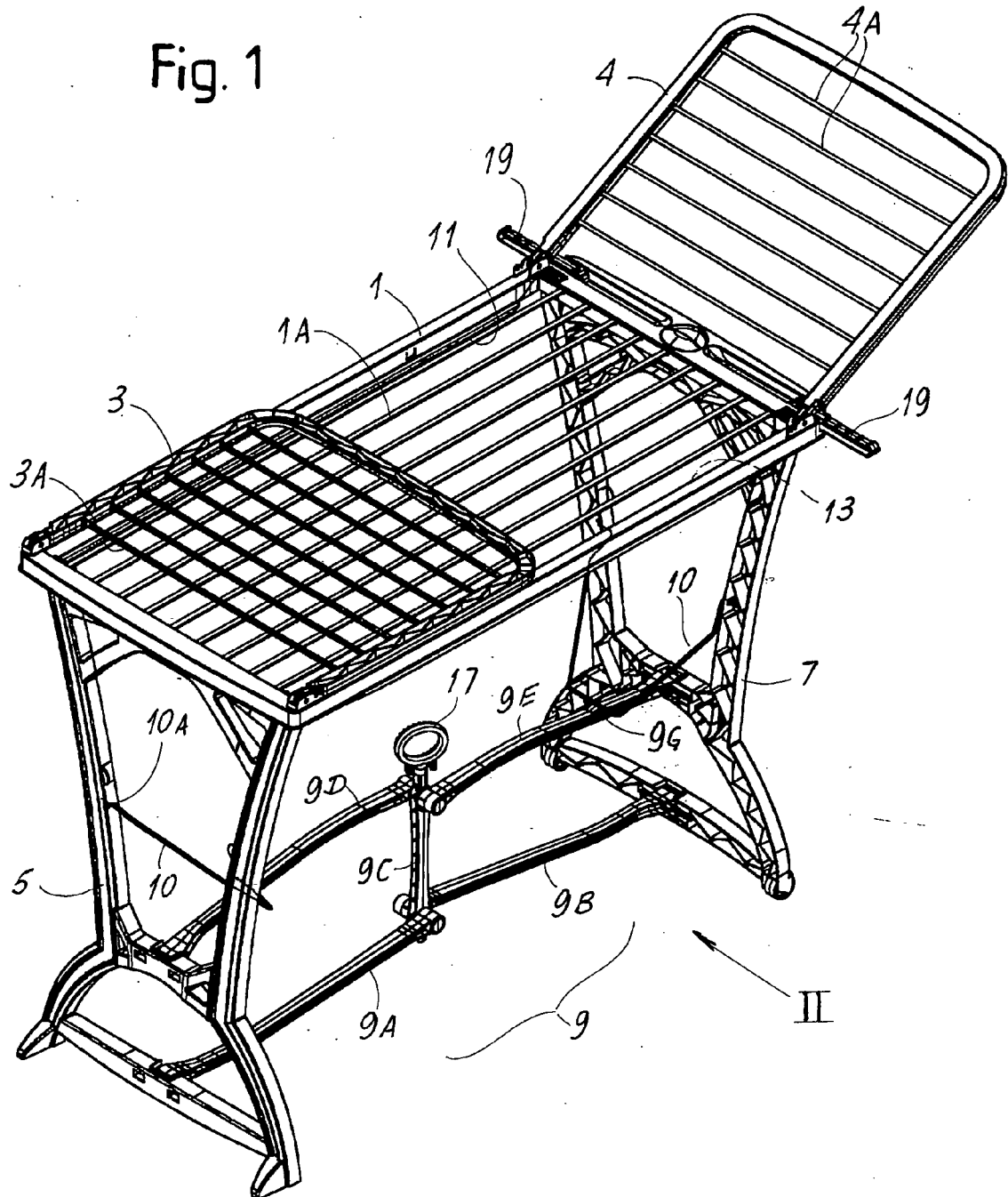
Claims

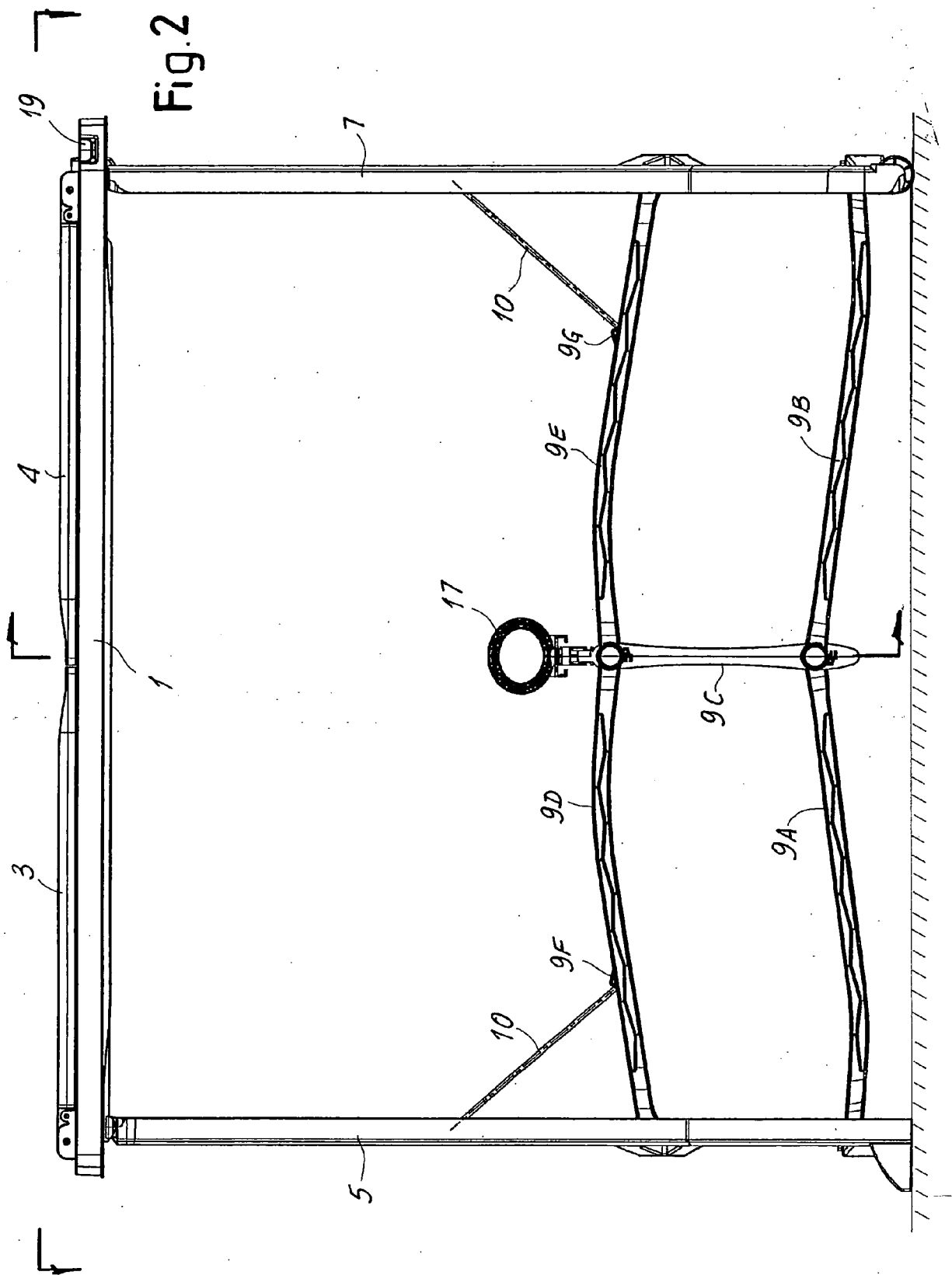
1. A foldable clothes-drying rack comprising: a rectangular shaped horizontal frame (1) having a plurality of parallel tie rods (1A) spaced uniformly apart to receive clothes to be hung to dry; a first and a second vertical side member (5, 7) and an assembly of tie rods-struts (9) hinged to one another and to the side members, the assembling being lockable in the using position to support the frame and the side members; **characterized in that** in combination said first vertical side member (5) is constrained superiorly to the frame (1) by means of a pair of hinges sliding in longitudinal guides (11, 13) on the frame, while the second vertical side member (7) is constrained superiorly to the frame (1) by means of releasable interlocking means (1B, 1C; 7A, 7B, 7C) and said assembly of tie rods-struts (9) comprises a pair of quadrilateral linkages (9A, 9B) having a common vertical side (9C), and locking struts (10) hinged to respective side members (5, 7) and suitable to be snap-inserted against locking pawls (9F, 9G) on the upper sides (9D, 9E) of the respective quadrilateral linkages (9A, 9B) to lock the assembly of tie rods (9) in the using position of the clothes-drying rack.
2. Clothes-drying rack as claimed in claim 1, **characterized in that** the assembly of tie rods-struts (9) comprises a handle (17) that can be operated vertically to facilitate setting up and folding away the clothes-drying rack, said handle being fitted on the extension of said common vertical side (9C) of said quadrilateral linkages.
3. Clothes-drying rack as claimed in claim 1 or 2, wherein said means for interlockingly engaging the side member (7) with the frame (1) comprise two lateral upper projections (7A) of the side member (7), suitable to be inserted from below in two corresponding openings (1B) in the frame (1), **characterized in**

that said means for interlocking engagement also comprise a central upper projection (7B) on the side member (7) provided with a pawl (7C) suitable to snap-fit in an opening (1C) in a vertical wall (1D) of the frame (1), to lock/release said interlocking means.

4. Clothes-drying rack as claimed in one or more of the preceding claims, **characterized in that** hinged to the sides of the frame (1) are at least two additional frames (3, 4) provided with tie rods (3A, 4A) for hanging clothes, said frames being suitable to be rotated to the position projecting from said frame to increase the possibilities of use of the clothes drying-rack.
5. Clothes-drying rack as claimed in one or more of the preceding claims, **characterized in that** hinged to the frame (1) are bars (19) suitable to be rotated in a position projecting from said frame for hanging clothes hangers or the like.
6. A foldable clothes-drying rack; all as described above and represented by way of example in the accompanying drawing.

Fig. 1





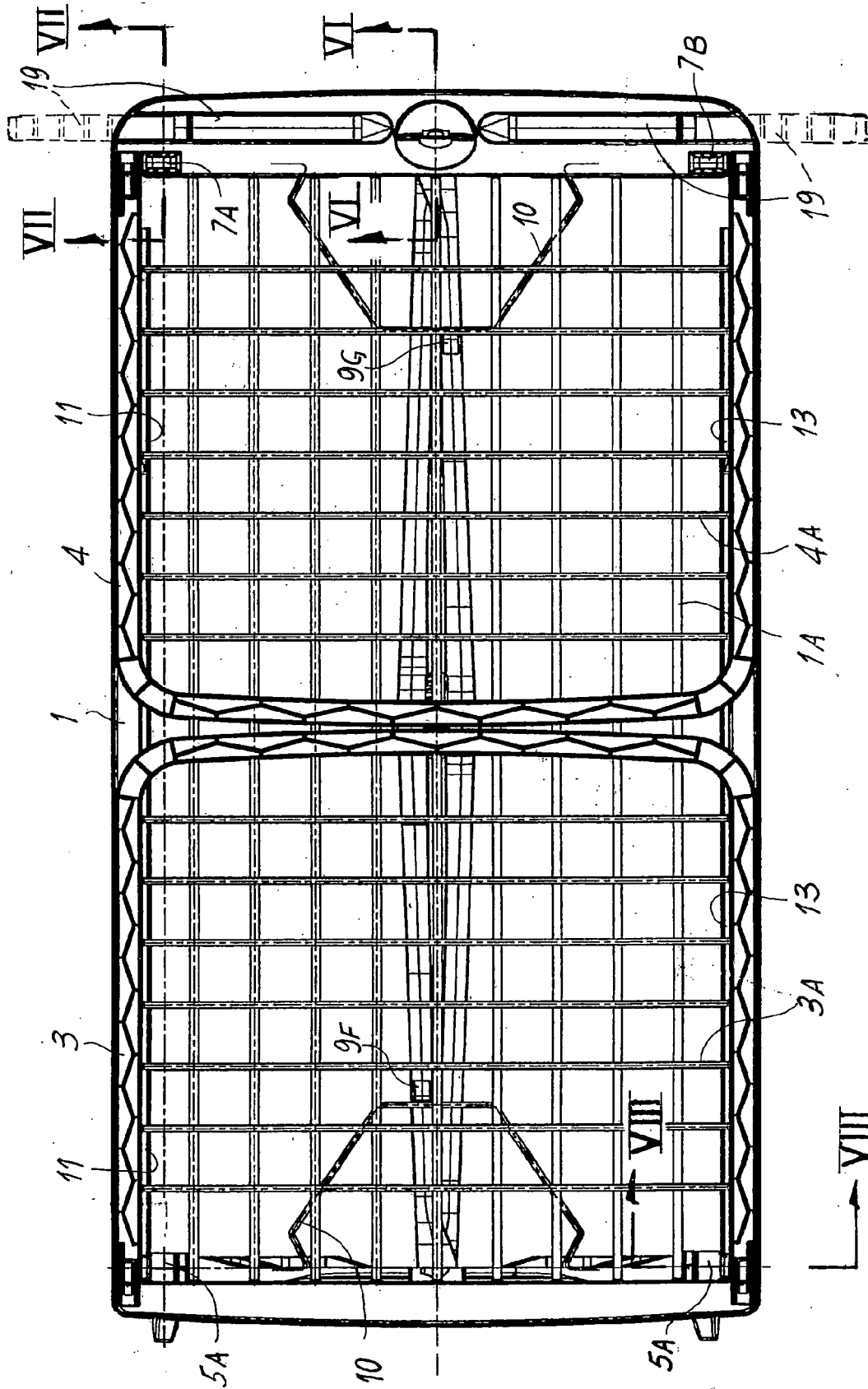


Fig. 3

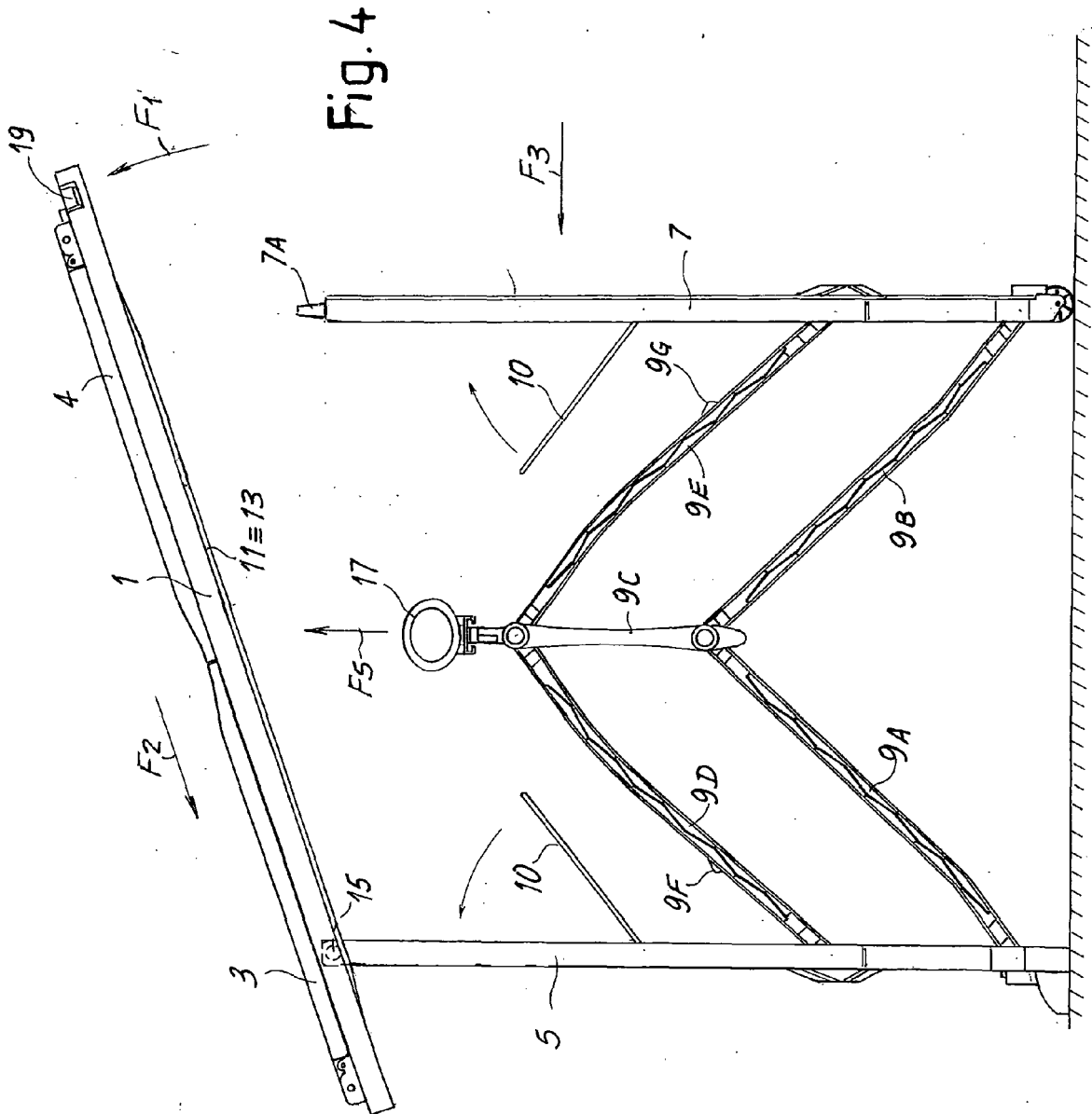
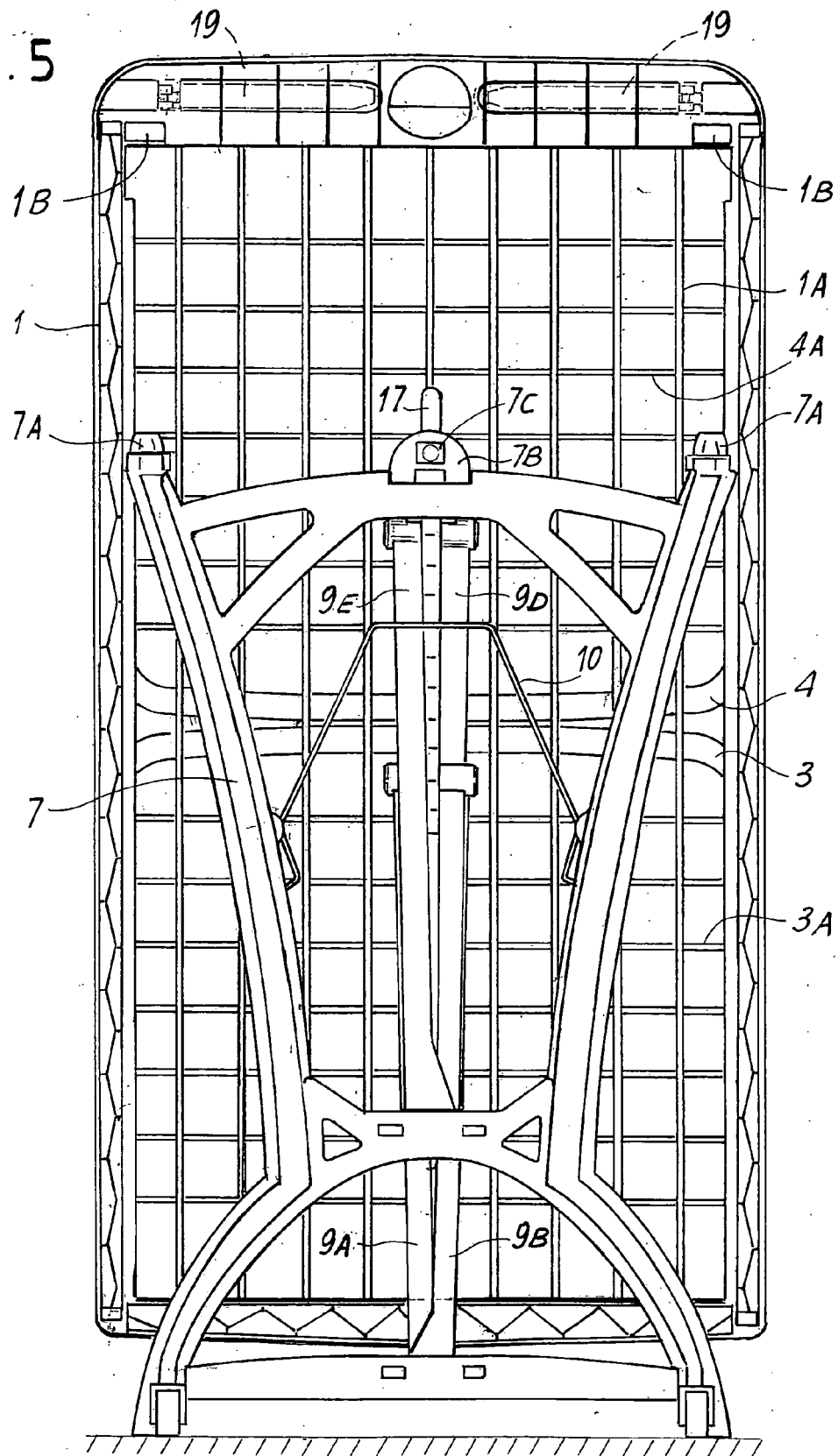


Fig. 5



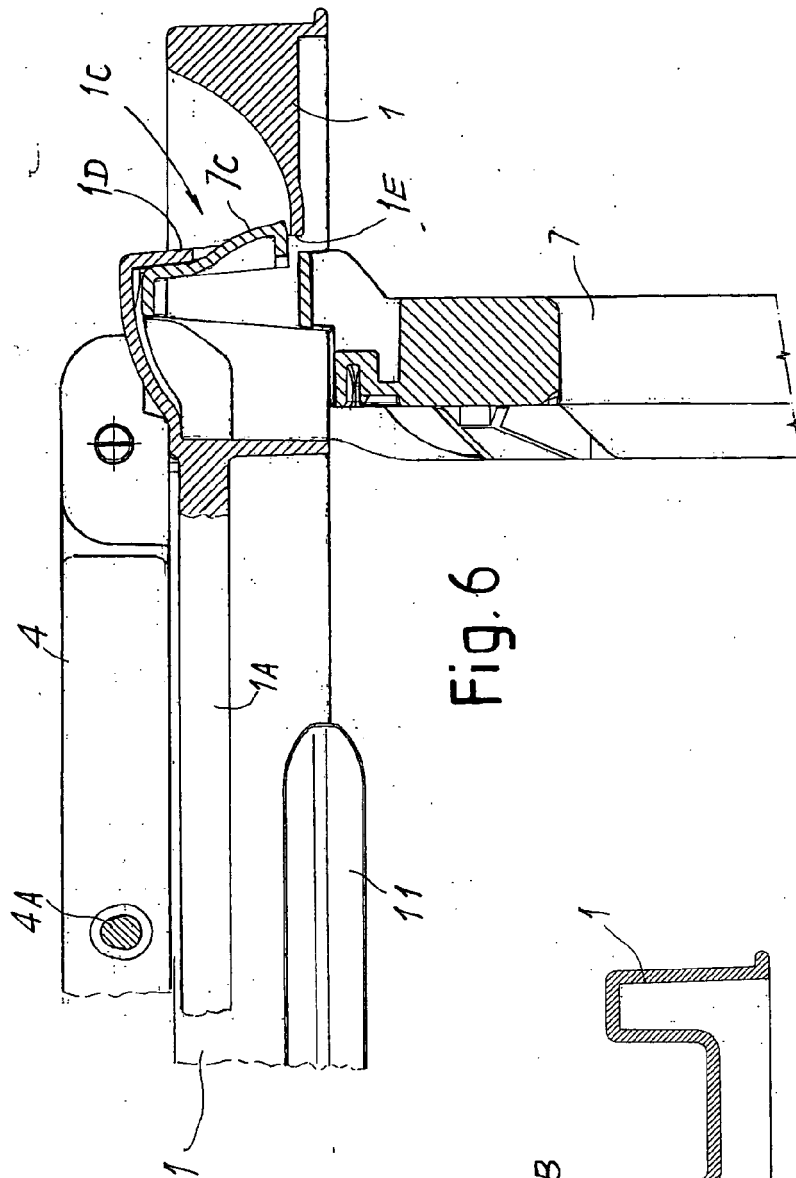


Fig. 6

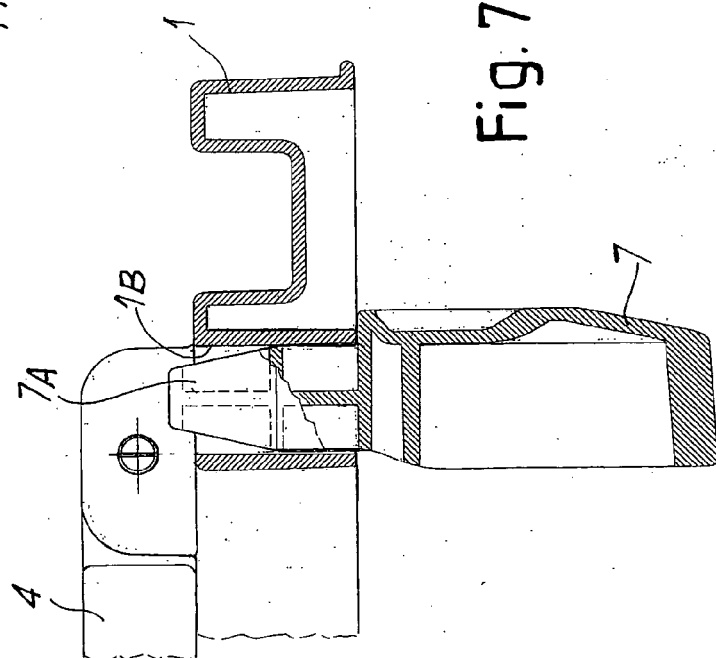
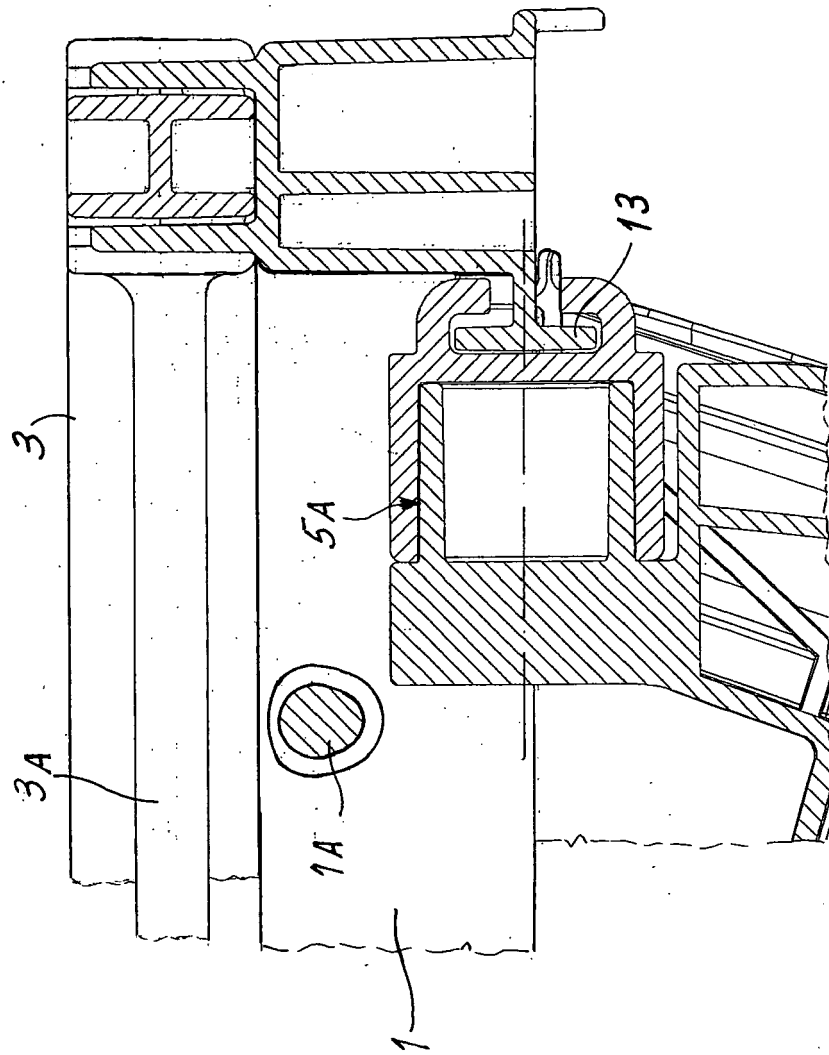


Fig. 7

Fig. 8





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 08 42 5065

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	GB 887 621 A (WILLIAM GEORGE GUNNER; FREDERICK ARTHUR GUNNER) 24 January 1962 (1962-01-24) * the whole document *	1	INV. D06F57/08
A	WO 2004/109007 A (VAN EIJK MARINUS [NL]) 16 December 2004 (2004-12-16) * the whole document *	1	
A	US 4 807 766 A (COMPAGNUCCI ROSSANO [IT]) 28 February 1989 (1989-02-28) * the whole document *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			D06F
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		16 July 2008	Stroppa, Giovanni
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503.03.82 (P04G01)

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

EP 08 42 5065

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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16-07-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 887621	A	24-01-1962	NONE

WO 2004109007	A	16-12-2004	CA 2524978 A1 16-12-2004
			CN 1798888 A 05-07-2006
			EP 1629148 A1 01-03-2006
			NL 1023594 C2 07-12-2004
			US 2007012638 A1 18-01-2007

US 4807766	A	28-02-1989	NONE
