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(71) Applicants:  
• **Farre Tonijoan, Jaume**  
**25331 Tornabous Lleida (ES)**  
• **Munté Conte, Cristina**  
**08006 Barcelona (ES)**  
• **Munté Conte, Rosa**  
**08006 Barcelona (ES)**

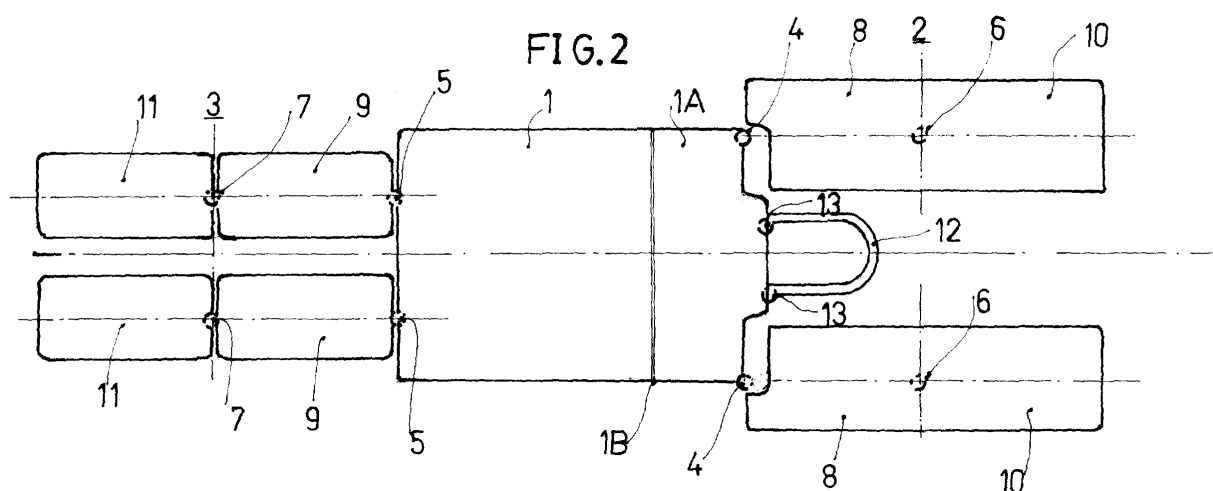
(72) Inventors:  
• **Farre Tonijoan, Jaume**  
**25331 Tornabous Lleida (ES)**  
• **Munté Conte, Cristina**  
**08006 Barcelona (ES)**  
• **Munté Conte, Rosa**  
**08006 Barcelona (ES)**

(74) Representative: **Manzano Cantos, Gregorio**  
**Cabinet Manzano**  
**Embajadores, 55**  
**28012 Madrid (ES)**

(54) **Articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments**

(57) An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments comprising a horizontally extended platform made up of a fixed central board for supporting the trunk of the body of the patient and an optional articulated back support of

respective extensions at each end, made up of different support parts for the upper and lower limbs of the patient which are articulated with respect to said fixed board and articulated to one another in order to adjust the position of said limbs in their very diverse anatomical angular positions.



## Description

### Object of the Invention

**[0001]** The field of the invention is that intended for the therapeutic treatment of the human body and more specifically to the therapist function in the application of massages in the conditional decubitus position, in prone decubitus as well as supine decubitus position, and particularly for the application of traditional, holistic or perceptive holistic massage therapies.

**[0002]** The invention solves in an effective, simple and inexpensive manner the traditional problem of adequately placing or positioning the upper and lower limbs of the patient which forces the therapist to propose a series of positions that are generally inappropriate for treatment of certain parts of the body, but most recommended for the effective manipulation of the muscle masses, tendons, nerves, bones or others when ideally the body and limbs should be stretched or extended in any of the decubitus positions in order to correctly, comfortably and effectively access all the anatomy of the individual from the cranial vault to the tips of the fingers or toes.

**[0003]** This is an anatomical position that is corrected in current means based on establishing that the upper limbs are placed falling over the sides of the stretcher, stretched alongside the body, stretched past the sides of the head, embracing the latter or underneath it, resting the heads on the arms, and that the lower limbs are either stretched out together or scarcely apart or out of the decubitus position, on the knees, squatting or the like.

**[0004]** Ultimately there is no recommendable position for placing said limbs in the suitable location for the appropriate massage therapy or massage treatment, with the specific angular aperture expression, stretching, location or position that allows accessing the precise anatomical area without forcing the patient to adopt a forced unusual position that, as well as being uncomfortable, prevents the required anatomical access.

### Background of the Invention

**[0005]** Therefore, in the review of the previous state of the art background, no precedent in use has been located that affects the features of the proposed invention, more particularly a stretcher, static in principle but a manner of folding could equally be studied, which has the main condition of securing the suitable position of the limbs, open or extended, in any anatomically possible angular aperture in the prone and supine decubitus options.

**[0006]** Mentioned as references and in an irrelevant category and far from the features set forth are the following documents: Spanish Utility Model document U9402781, of S.O.R. Internacional, S.A., for "Improved structure for aesthetics and medicine stretcher" is a raisable stretcher with slightly reclining back and feet planes; U.8902497 of José Mallorqui Pol for: "Table for medical examination, beauty treatments and the like" which is a

planar stretcher of folding supports with a slightly reclining back; WO 02/051347 A1 of Matunaga Manufactory Co. Ltd., for a "stretcher" which has a reclining mechanism for the stretcher bed surface; and WO 02/34191 A1 of Neil Mansell Transport PTY Ltd. for "Variable Height Folding undercarriage for a stretcher" comprising a servomotor to extend or fold the support legs with wheels.

**[0007]** Clinical beds of very diverse features have been found, but as their definition indicates these are intended to function as beds, not as stretchers specially designed for massage therapy or the like.

### Description of the Invention

**[0008]** The multipositional stretcher object of the invention comprises a central platform in which the trunk or anatomical area comprised between the neck and the start of the lower limbs of the individual fit, which is supported by the corresponding frame supported by respective reinforcements, more specifically, legs located at corresponding balanced load points to ensure the levelling of said platform which has as extensions of said frame at its respective ends, essentially articulated and projected extensions for bearing respective supports for the limbs and which in the upper third portion optionally has an articulated back rest in order to place it in a convenient inclined position.

**[0009]** The stretcher has extensions of a length suitable for the limbs of an adult, preferably an adult of average build, which may be provided for different heights, even for children, and which are provided with articulated means laterally opening and closing by means of ball joints controlled by position-fixing members to ensure the point or aperture angle recommended according to the position of the limbs, arms or legs, necessary for correct therapeutic treatment.

**[0010]** According to the invention, the extensions are made up of two sections articulated to one another and with respect to the central board, which have respective superimposed support fragments for the position of the arm and forearm, said articulations coinciding with the shoulder and the elbow in such that it is possible to adopt any angular position or to keep the arm stretched from a straight position along the body to an open position of 180°, and for the position of the legs, to support the thigh and the calf, said articulations corresponding to the sacroiliac joint and the knee in order to adopt an angular position up to where the legs may open given the anatomical characteristics of the patient.

**[0011]** According to the invention the articulations have side opening ball joints on a respective pivoting axis which has a threaded part where a corresponding knob acts in order to secure the positions which have been chosen, and having the double mission of articulating on the upper platform for the articulations of the arm or leg section extensions, and on its intermediate parts for the elbows and knees, all this allowing bending the arms and knees over themselves adopting combined positions in

a range of possibilities that is as wide as the anatomical range allows.

**[0012]** Another feature of the invention is that on the end of the board corresponding to the arm extensions it has a centrally arranged adaptation provided with a head rest formed by a fork that equally has on its arms articulation means for positioning it with different inclinations to place the head, either in a coplanar position to the central board or inclined over or even below the latter. These articulation means are secured on the frame with their respective position-fixing members.

**[0013]** Another detail of the invention is that said ball joints may also rotate on a vertical plane with the angle required to provide to the limbs the previously mentioned conditions as well as others for the upward or downward bending of the limbs with all or part of the same possibilities of said limb.

**[0014]** Another detail of the invention is that the frame and the support means of the central board may be supported by an auxiliary cabinet configured and provided with supplements in order to allow the housing of tools, products, items and other utensils needed by the professional in order to work or for other purposes.

**[0015]** Similarly, the parts intended to support the body of the patient, central board, limb support boards and fork at the head, are covered with a corresponding cushioning for the respective ease and comfort of the patient

**[0016]** A broader idea of the features of the invention will be described below.

## Description of the Drawings

### [0017]

Figure 1 is a schematic view of the development of the stretcher surface showing the fixed central part (1) and the articulated extensions (2 and 3).

Figure 2 is a plan view of the superficial development of the stretcher at 90° with respect to the previous representation.

Figure 3 is a side elevational view of the stretcher structure.

Figure 4 is an upper plan view of said stretcher structure at 90° with respect to Figure 3.

Figure 5 is a perspective view of a detail of a ball joint (6) example.

Figure 6 is a perspective view of the assembled stretcher foreshortened from its upper ends.

Figure 7 is a side perspective view of the cushioned stretcher on a cabinet body.

Figure 8 is a perspective view of the cushioned stretcher on a cabinet seen from the head with the extensions extended and folded.

Figure 9 is a perspective view similar to the latter seen from the lower extremities, with the extensions open and extended in an obtuse angle.

## Preferred embodiment of the invention

**[0018]** A preferred embodiment of the invention as proposed in this patent would consist of a horizontal surface comprising a fixed central board (1) with dimensions so that the upper trunk of the body of an adult fits, and two double extensions (2) and (3) at the upper end and at the lower end, respectively, as well as a section (1A) equivalent to a support with articulation (1B) and inclination (1C) means. The first ones project parallel to their respective axes of symmetry aligned with the longitudinal beams of the central board (1) and the second ones project parallel to the axes of symmetry centred with respect to the lower crossbeam of said central board (1). Said extensions (2) and (3) are articulated with the central board (1) by means of ball joints (4) and (5) and to one another by means of ball joints (6) and (7). The extensions (2) have support boards (8) for the arms and (10) for the forearms, articulation (4) serving for the shoulder and articulation (6) for the elbow; extension (3) has respective support boards (9) for the thighs and (11) for the calves, articulation (5) serving for the sacroiliac joint and articulation (7) for the knee.

**[0019]** The assembly is supported by a corresponding frame, preferably a light and strong tubular metallic framework made of aluminium. The fixed central board (1) is supported by a frame (15) with crossbars (15A) for its securing and resting on respective legs (14). The support boards (8) and (10) are supported by corresponding arms (16) and (18) that have crossbars (16A) and (18A) for their fixing and the support boards (9) and (11) have crossbars (17A) and (19A) for their fixing, and ball joints (4 and 6) have position-fixing members (20) and ball joints (5 and 7) have position-fixing members (21).

**[0020]** A headrest fork (12) is distinguished on the front of the frame (15), articulated on ball joints (13) in order to assure different inclined positions that may be fixed by means of position-fixing members (22) (Figure 4).

**[0021]** Figure 5 shows an example of a possible construction of a ball joint in an effective and simple manner, having several double (16B) and single (18B) members of semicircular profiles, a parallel double section in the arms (16) and a single section in the arms (18) that is coupled by assembly between the other two arms (16B) and are associated by means of an axially rotating pin (6A) related in turn with a corresponding position-fixing member (20).

**[0022]** Additionally the support (14) for the main framework (15) can be replaced by a cabinet body (23) preferably compartmentalised for the diverse material needs of the specialist that may be stored therein and be on hand when needed.

**[0023]** Both the legs (14) and the body of the cabinet (23) may be provided with lockable rolling means in order to allow optional movement of said assembly. The assembly can also be demounted for easy storage and transportation.

**[0024]** A broader idea of the features of the invention

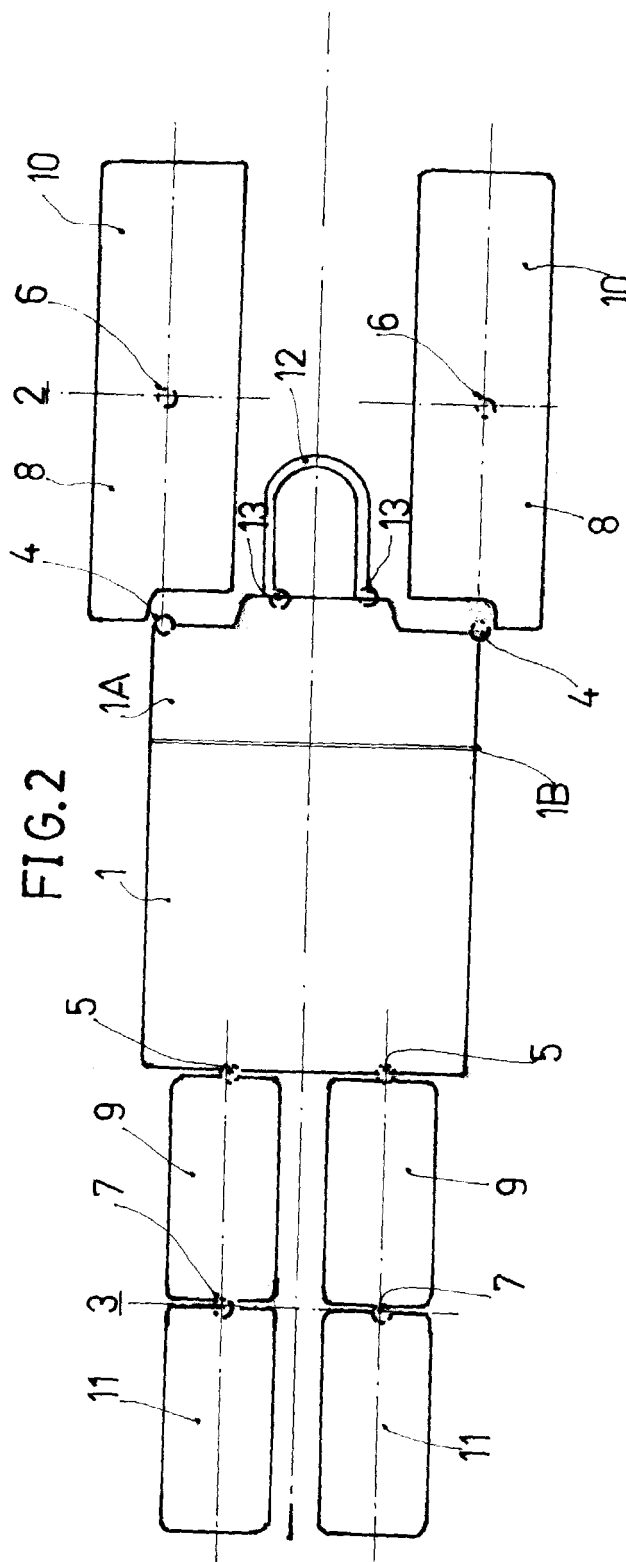
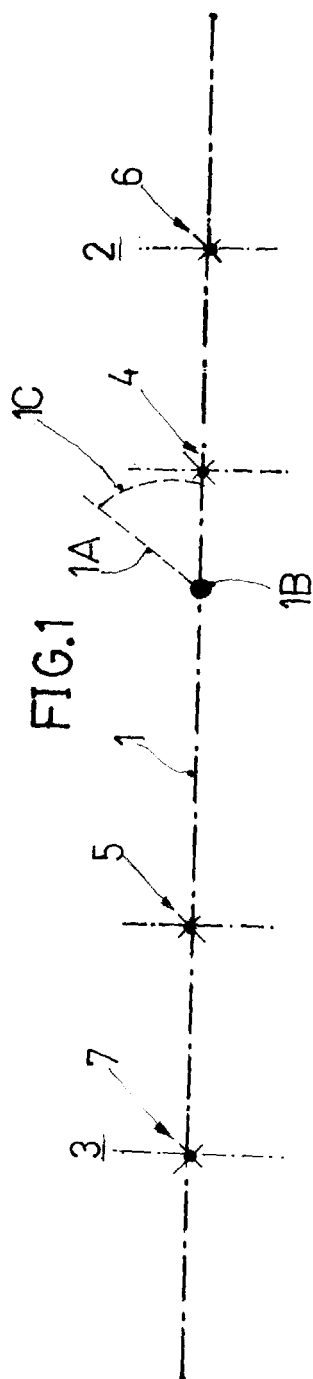
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## Claims

1. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments, comprising the complete horizontal development of the stretcher and having a general support structure of the assembly, preferably metallic, tubular and made of aluminium, **characterised in that** it has a fixed central board (1) for the trunk of the body with an section (1A) articulated by manner of a reclinable back and with double extensions at the ends thereof for the upper (2) and lower (3) limbs which are parallel to one another and each one made up of corresponding support boards for each limb: (8) for the arm and (10) for the forearm, (7) for the thigh and (9) for the calf, and these with corresponding laterally functioning articulations to open or close in angles of varying degree with respect to the fixed central board (1), and others with respect to the support boards of the limbs (8-10) and (9-11) to one another, as well as an equally articulated head piece (12).
2. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments according to claim 1, the referred articulations **characterised in that** they are ball joints (4) and (5) rotating laterally with respect to the fixed central board (1) and ball joints (6) and (7) between the support boards (8-10) and (9-11), respectively.
3. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments according to claim 2, ball joints (4) and (6) of extension (2) are **characterised in that** their axes of symmetry are aligned with the sides of the fixed central board (1) and are parallel to each other and have position-fixing members (20).
4. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments according to claim 2, ball joints (5) and (7) of extension (3) are **characterised in that** their axes of symmetry are aligned with the centre of the lower crossbar of the fixed central board (1) and are parallel to each other and comprise position-fixing members (21).
5. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments according to claims 2 to 4, the ball joints of a simple model are **characterised in that** they are formed by a double set of semicircular members (16B) and another simple set (18B) in the arms (16) and (18), respectively, assembled to one another and correspondingly articulated by means of an axial pin (6A) that the corresponding position-fixing member (20)

incorporates.

6. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments according to claims 1 and 5, the metallic structure of the assembly is **characterised in that** it has a central frame (15) supported by corresponding support legs (14), longitudinally and laterally projecting from the front end are articulated extensions (2) for the upper limbs and centrally from the opposite end are the extensions (3) for the lower limbs; respectively made up of arms (16) and (17) articulated with the central frame (15) and arms (18) and (19) articulated with their homologues (16) and (18) to one another.
7. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments according to claim 6, said frame and articulated arms are **characterised in that** they complementarily have small crossbars (15A) ; (16A and 18A); (17A and 19A) to fix the central board (1) and the support boards (8 and 10) and (9 and 11).
8. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments according to claims 1 and 6, the head piece or head rest is **characterised in that** it is a fork-shaped part (12) the pins of which are anchored and articulated (13) in the centre of the front end of the central frame (15) beam and equally present a position-fixing member (22) to assure the different inclinations thereof.
9. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments according to claim 6, the bearing and support framework of the assembly is **characterised in that** it may be replaced by a suitably compartmentalised cabinet-body (23).
10. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments according to claim 1, the optional back support section is **characterised in that** it has articulation means (1B) and inclination control means (1C).
11. An articulated sanitary stretcher for multipositional decubitus (prone/supine) therapeutic treatments according to claim 1, the fixed central board (1), support boards (8-10),(9-11) and head board (12) are **characterised in that** they are covered with suitable cushioning filled with a spongy material or the like for the ease and comfort of the patient.



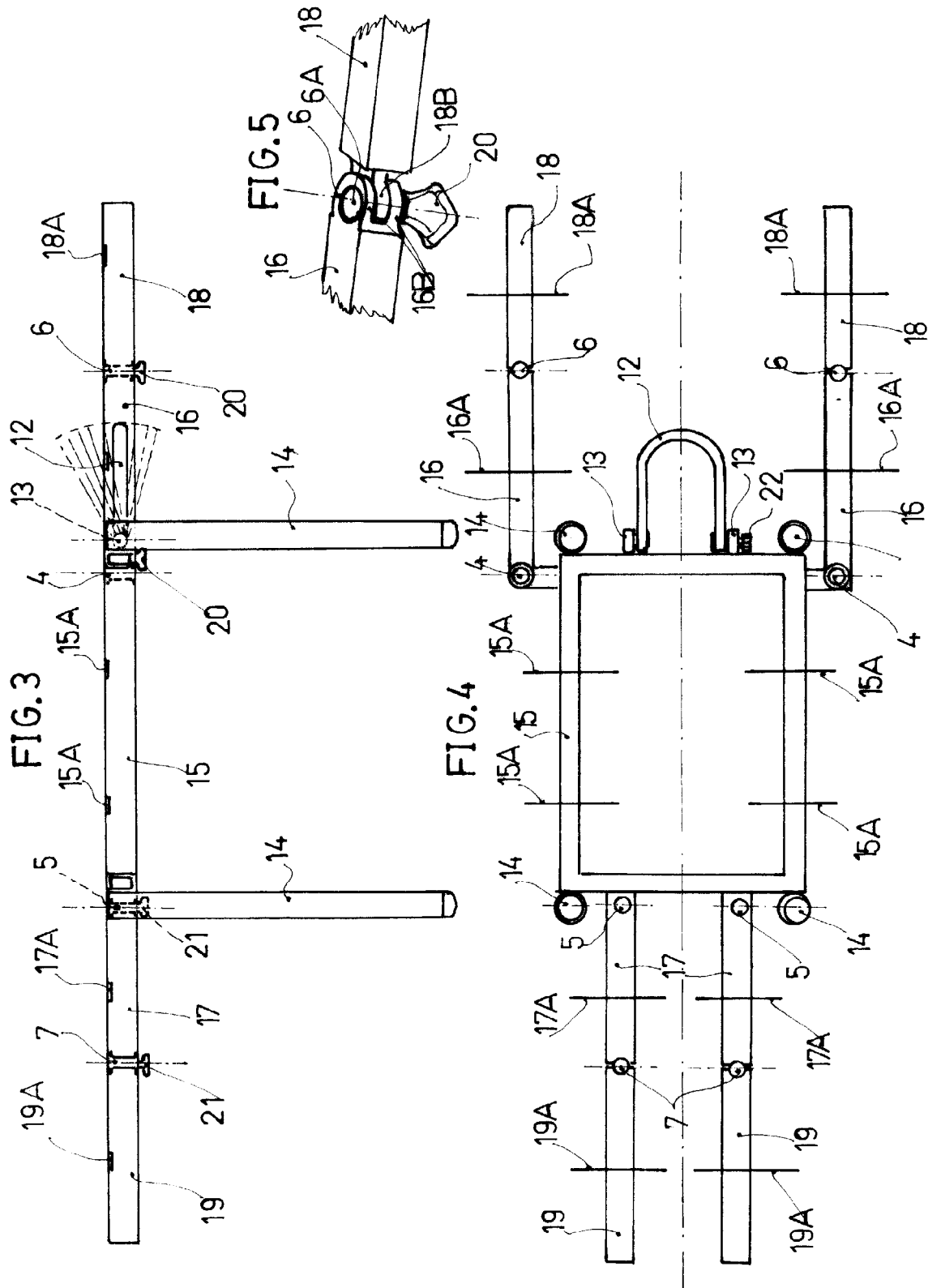


FIG.6

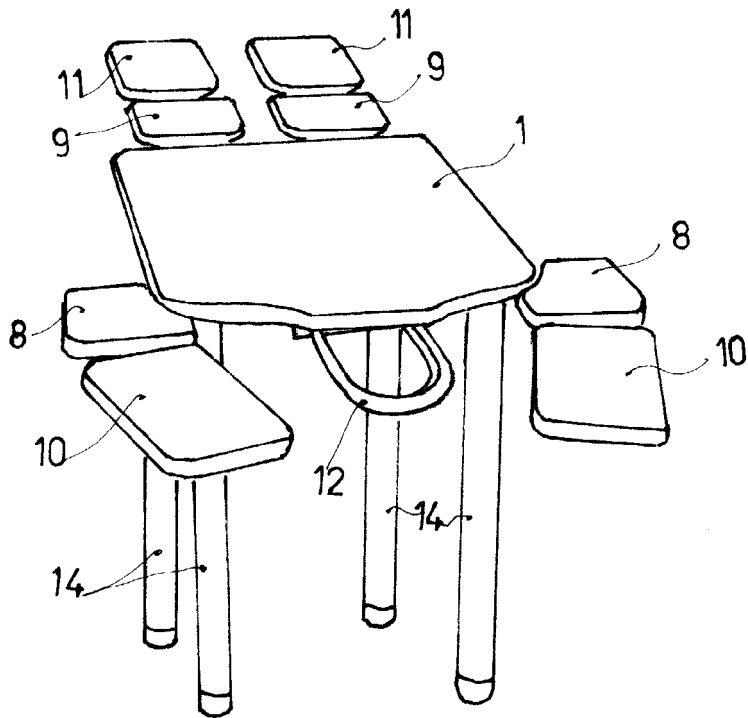
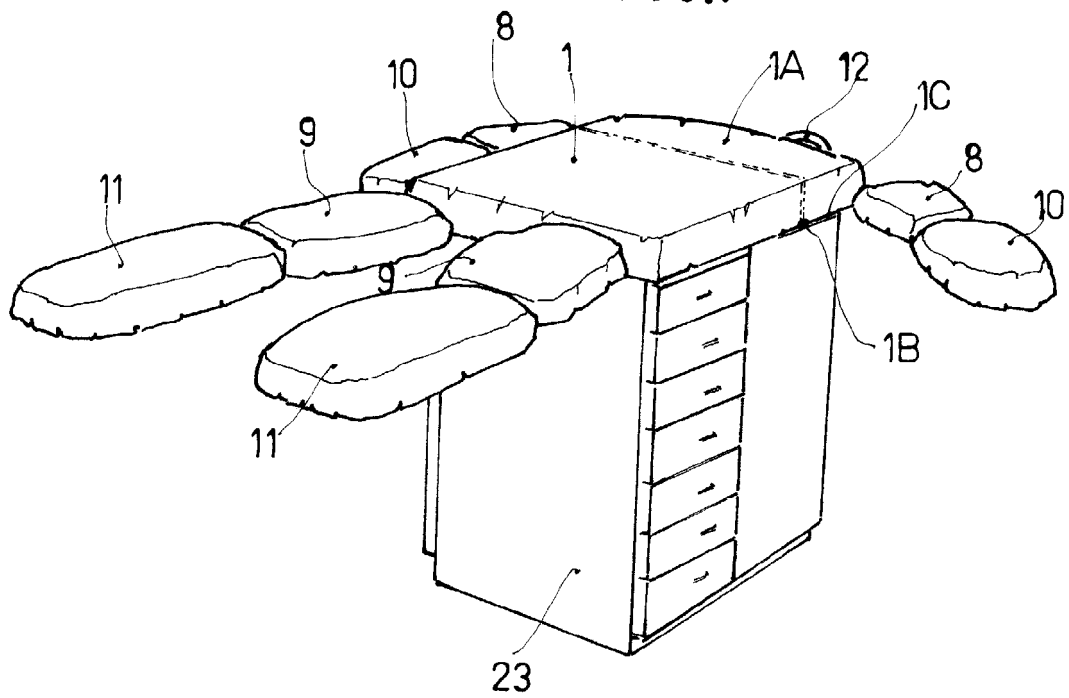
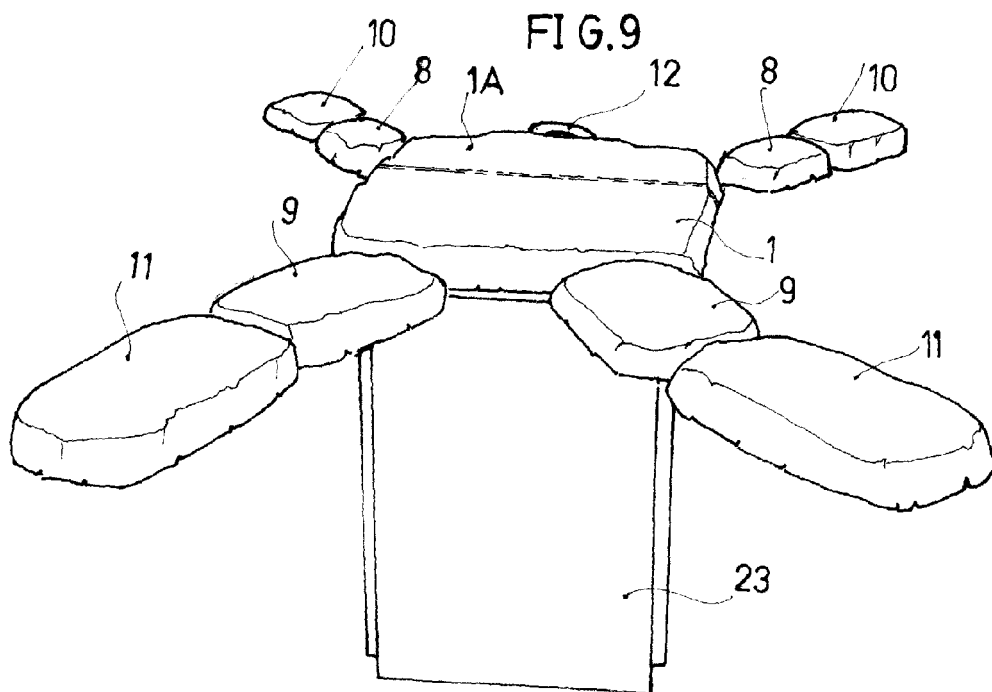
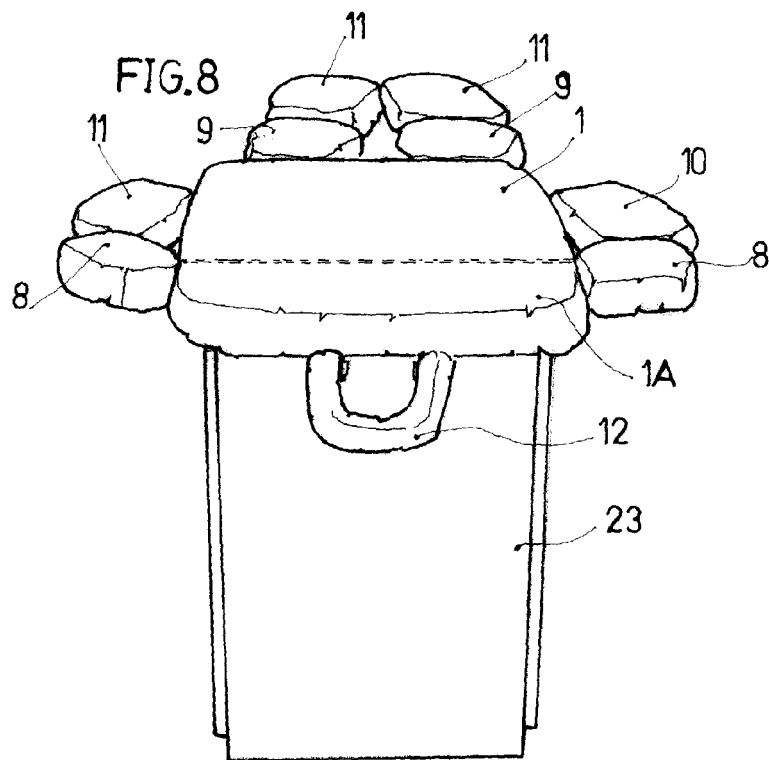


FIG.7









European Patent  
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# EUROPEAN SEARCH REPORT

Application Number  
EP 05 38 0033

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	US 3 227 440 A (SCOTT JAMES H) 4 January 1966 (1966-01-04) * column 3, line 48 - line 58 * * column 5, line 20 - line 31 * * column 6, line 41 - line 46 * * figures 4-7 * -----	1-11	A61G13/00 A61G13/12
Y	DE 102 53 906 A1 (MAQUET GMBH & CO. KG) 3 June 2004 (2004-06-03) * paragraph [0019] * * figures 1,2,5 * -----	1-11	
A	DE 298 18 536 U1 (HWK HAGSFELDER WERKSTAETTEN & WOHNUNGEMEINSCHAFTEN KARLSRUHE GGMBH, 7632) 24 December 1998 (1998-12-24) * page 7, line 3 - line 10 * * figure 3 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A61G A61M
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 14 July 2005	Examiner Ong, H.D.
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 (P04C01)

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

EP 05 38 0033

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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14-07-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3227440	A	04-01-1966	NONE	
DE 10253906	A1	03-06-2004	WO 2004045482 A1	03-06-2004
DE 29818536	U1	24-12-1998	NONE	