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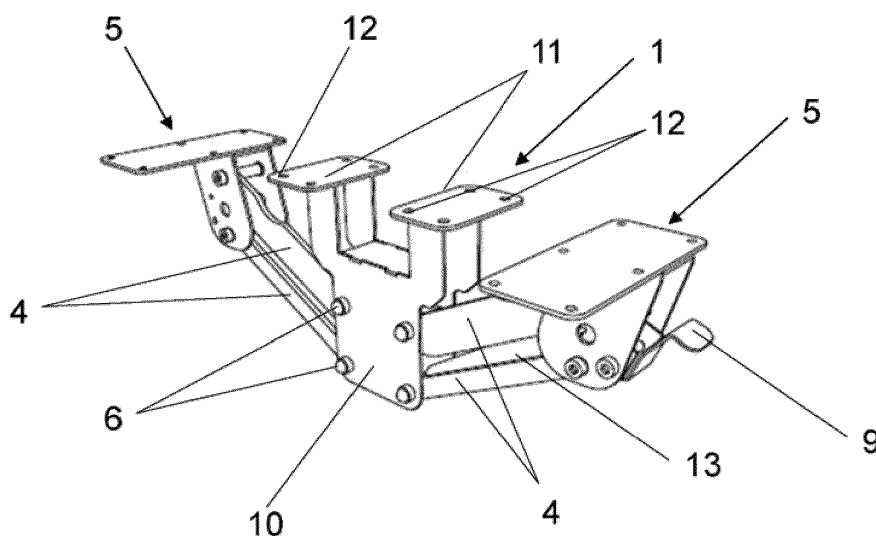
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(54) **COLLAPSIBLE ARMREST DEVICE FOR STRETCHERS AND STRETCHER PROVIDED WITH SAID DEVICE**

(57) The invention relates to a collapsible armrest device for stretchers comprising a support base intended to be coupled to the frame of a stretcher, a pair of armrest surfaces arranged on both sides of the support base, and a drive mechanism intended to move the two armrest surfaces from a first position to a second position, and fastening means intended to support the base support to the stretcher. Said drive mechanism has a parallelo-

gram articulated mechanism that has a plurality of bars extending from the support base, which are rotatably articulated at one end to the support base while the opposite end is articulated to corresponding plates that are linked to the armrest surfaces, opposite bars being linked to a respective plate articulated to each other, such that the movement of the two plates is carried out in a synchronised manner.

**FIG. 1**



## Description

### OBJECT OF THE INVENTION

[0001] The object of the present application is to provide a collapsible armrest device for stretchers, as well as a stretcher provided with said device.

[0002] More specifically, the invention proposes the development of a collapsible armrest device for stretchers of those used for physiotherapy, osteopathy, chiropractic and the like, which have a mechanism that enables the adjustment thereof to support the arms of the patient.

### BACKGROUND OF THE INVENTION

[0003] Stretchers used for physiotherapeutic treatments which have multiple adjustment mechanisms to make it easier for the therapist to perform treatment on a patient are well known.

[0004] On the market, some of these stretchers used have position adjustable armrests, to enable the neck and shoulder muscles to relax. However, the systems used to move the armrests are complex, i.e., they require a greater number of components, such that the manufacturing and assembly system requires more time and is more expensive, such that there is a need to resolve these drawbacks.

[0005] Furthermore, the applicant is currently unaware of an invention that has all the features described in this specification.

### DESCRIPTION OF THE INVENTION

[0006] The present invention has been developed with the aim of providing a collapsible armrest device for stretchers which is configured as a novelty within the field of application and solves the aforementioned drawbacks, further contributing other additional advantages which will be obvious from the description below.

[0007] An object of the present invention is to therefore provide a collapsible armrest device for stretchers comprising a support base intended to be coupled to the frame of a stretcher, a pair of armrest surfaces arranged on both sides of the support base, and a drive mechanism intended to move the two armrest surfaces from a first position to a second position, characterised in that the drive mechanism has a parallelogram articulated mechanism that has a plurality of bars extending from the support base, which are rotatably articulated at one end to the support base while the opposite end is articulated to corresponding plates that are linked to the armrest surfaces, opposite bars being linked to a respective plate articulated to each other, such that the movement of the two plates is carried out in a synchronised manner.

[0008] Thanks to these features, the two armrests are moved by means of a mechanism that is simple to manufacture and easy to handle by the user, so that the man-

ufacturing costs thereof are lower. Also, it should be noted that the movement made by the plates of the armrests from the lower to the upper position, or vice versa, is practically vertical, such that it is not uncomfortable for the user in the case of having the arms placed on the armrest.

[0009] Additionally, the device includes a damping means linked to the aforementioned interlocking means, which has a manually driven ratchet, the movement of which frees the movement of the bars.

[0010] In order to avoid the bars are moved in a sudden way, a damping means is arranged, preferably a pneumatic piston cylinder that is fixed to the support base at one end and the opposite end thereof is fixed to one of the two plates. This piston cylinder is compressed and decompressed depending on the desired position.

[0011] Another object of the invention is to provide a stretcher for physiotherapy, osteopathy, chiropractic and the like, which comprises a main frame that has a support structure having at least one horizontal resting platform, comprising an armrest device coupled to the support structure.

[0012] Preferably, the horizontal platform has at least one support region for the head of the user and a second adjacent region, the width of the support region being less than the width of the adjacent region, such that it defines two empty side regions intended for the arrangement of armrest surfaces. In this way, the armrests do not protrude the full width of the stretcher.

[0013] Thus, the collapsible armrest device that is described represents an innovative structure with structural and constituent features heretofore unknown for its intended purpose, reasons which, taken together with its usefulness, provide it with sufficient grounds for obtaining the requested exclusivity privilege.

[0014] Other features and advantages of the device object of the present invention will be evident in light of the description of a preferred, but not exclusive, embodiment which is illustrated by way of a non-limiting example in the drawings which are attached, wherein:

### BRIEF DESCRIPTION OF THE DRAWINGS

[0015]

Figure 1 is a perspective view of an embodiment of the collapsible armrest device according to the present invention;

Figure 2 is an exploded view of the collapsible armrest device shown in Figure 1;

Figure 3 is a front elevation view of the collapsible armrest device;

Figure 4 is a perspective view of a stretcher for therapeutic treatments provided with the armrest device according to the invention, the armrests being in the lowest position; and

Figure 5 is an upper plan view of the stretcher shown in Figure 4.

## DESCRIPTION OF A PREFERRED EMBODIMENT

[0016] In light of the aforementioned figures, and in accordance with the adopted numbering, one may observe therein a preferred exemplary embodiment of the invention, which comprises the parts and elements indicated and described in detail below.

[0017] Additionally, the terms first, second, third and the like in the description and in the claims are used to distinguish between similar items and not necessarily to describe a sequential or chronological order. The terms may be interchanged in appropriate circumstances and the embodiments of the invention may operate in other sequences than those described or illustrated in the present specification.

[0018] As can be seen in Figures 1 to 3, the collapsible armrest device for stretchers essentially comprises a support base (1) intended to be coupled to the frame of a stretcher, a pair of armrest surfaces provided with pads (2) for arranging the arms of the patient to relax the neck and shoulder muscles, which are arranged on both sides of the support base (1) and a drive mechanism intended to move the two armrest surfaces from a first position to a second position, the positioning of which will depend on the treatment of the user or patient.

[0019] The support base (1) is made of metal and has a main body (10) with a substantially Y-shaped longitudinal cross section provided with two flat regions (11) with a plurality of through holes (12), which are intended to be crossed through by screw elements (not shown) intended to be fixed to a portion of the frame of the stretcher, generally indicated with reference (3), with the arrangement of holes and screw elements acting as fastening means.

[0020] With particular reference to the drive mechanism, as seen in Figures 1 to 3, it has a parallelogram articulated mechanism that has four metal bars (4) extending from the support base (1). These bars (4), grouped in two sets, wherein each set is made up of two bars (4), are rotatably articulated to the support base (1) at one end by means of axes (6) while the opposite end is articulated by means of second axes (7) to corresponding plates (5) that are linked to the armrest surfaces. Opposite bars of each set linked to a respective plate (5) are articulated to each other by means of an attachment bar (8) of shorter length, such that the upward and/or downward movement of the two plates (5) is carried out in a synchronised manner.

[0021] Each of the plates (5) has a first section (50) in an inverted "U" shape and a second flat section (51) provided with a plurality of through holes (52) intended to be crossed through by screw elements (not represented) intended to be fixed to the pads (2) in a manner known per se, such that no more detail will be provided in the description thereof.

[0022] To make it easier for the user to drive the mechanism, there is an interlocking means that has a ratchet (9) easily accessible to the user, the movement of which

frees the movement of the bars (4).

[0023] Additionally, a pneumatic piston cylinder (13) is provided which is fixed to the support base at one end and the opposite end thereof is fixed to one of the two plates, the cylinder being linked to the ratchet (9) for compressing and decompressing the pneumatic piston cylinder (13).

[0024] Figures 4 and 5 show a stretcher (3) for therapeutic treatments comprising a main frame that has a support structure (30) resting on a base (31) that has a horizontal resting platform (32).

[0025] The horizontal platform (32) has at least one support region for the head of the user (33) and a second adjacent support region, the width of the support region being less than the width of the second adjacent region, such that it defines two empty side regions intended for the arrangement of the two armrest surfaces with the pads (2), so that the armrests do not protrude from the perimeter defined by the horizontal platform (32) and do not represent an obstacle.

[0026] The details, shapes, dimensions and other accessory elements, used to manufacture the device of the invention, may be suitably substituted for others which do not depart from the scope defined by the claims which are included below.

## Claims

1. A collapsible armrest device for stretchers comprising a support base (1) intended to be coupled to the frame of a stretcher, a pair of armrest surfaces arranged on both sides of the support base (1), and a drive mechanism intended to move the two armrest surfaces from a first position to a second position, and fastening means intended to support the support base (1) to the stretcher, **characterised in that** the drive mechanism has a parallelogram articulated mechanism that has a plurality of bars (4) extending from the support base (1), which are rotatably articulated at one end to the support base (1) while the opposite end is articulated to corresponding plates that are linked to the armrest surfaces, opposite bars being linked to a respective plate articulated to each other, such that the movement of the two plates is carried out in a synchronised manner.
2. The collapsible armrest device according to claim 1, **characterised in that** it includes an interlocking means that has a ratchet (9), the movement of which frees the movement of the bars (4).
3. The collapsible armrest device according to any of the preceding claims, **characterised in that** it includes a damping means linked to the interlocking means.
4. The collapsible armrest device according to claim 3,

**characterised in that** the damping means is a pneumatic piston cylinder (13) that is fixed to the support base (1) at one end and the opposite end thereof is fixed to one of the two plates.

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5. A stretcher for physiotherapy, osteopathy, chiropractic and the like, comprising a main frame that has a support structure having at least one horizontal resting platform (32), **characterised in that** it comprises an armrest device coupled to the support structure (30).

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6. The stretcher according to claim 5, **characterised in that** the horizontal platform has at least one support region for the head of the user and a second adjacent support region, the width of the support region being less than the width of the second adjacent region, such that it defines two empty side regions intended for the arrangement of the two armrest surfaces.

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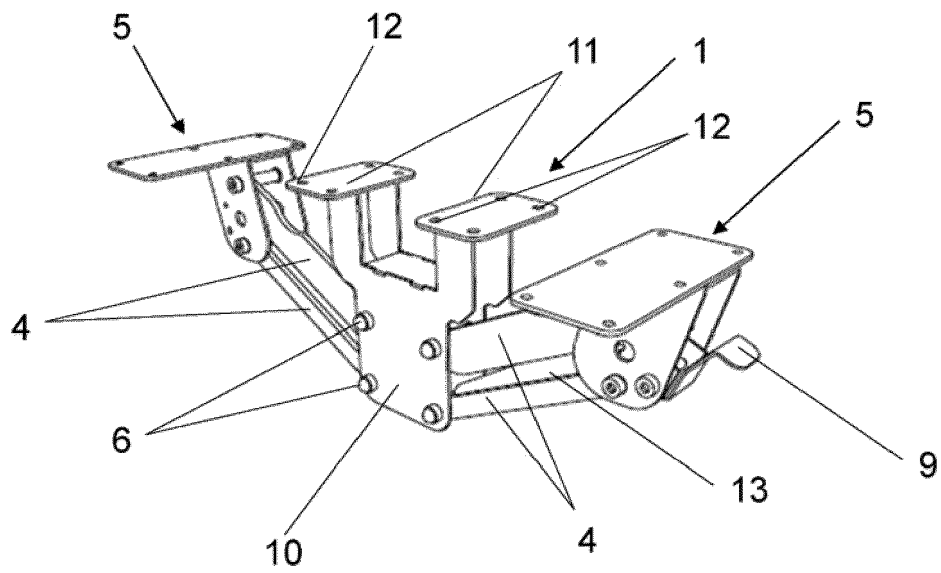
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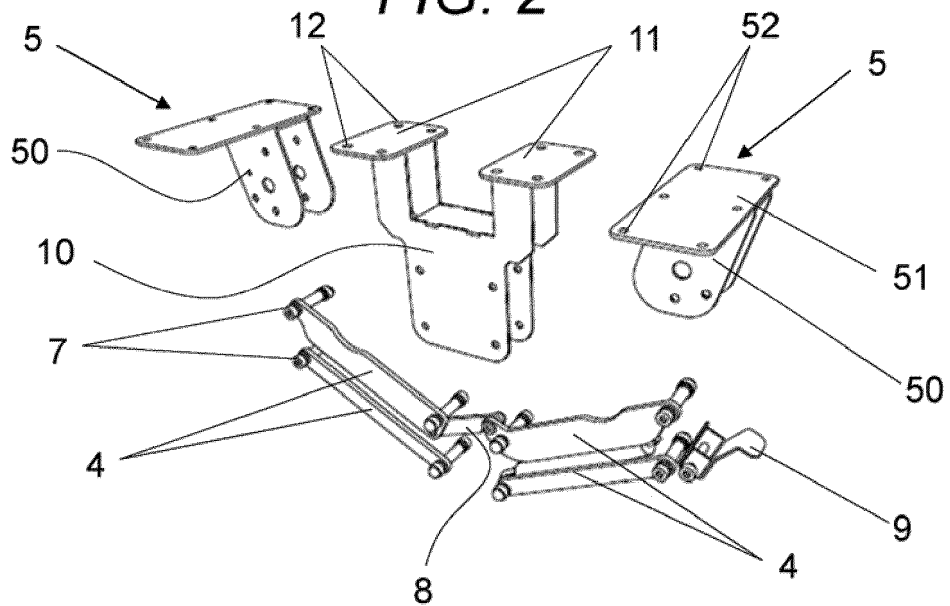
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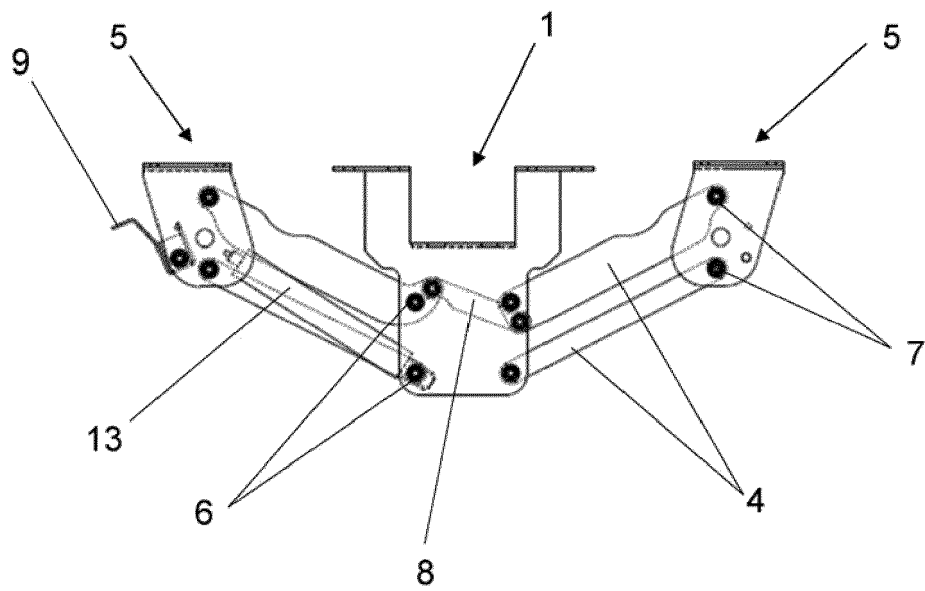
**FIG. 1**

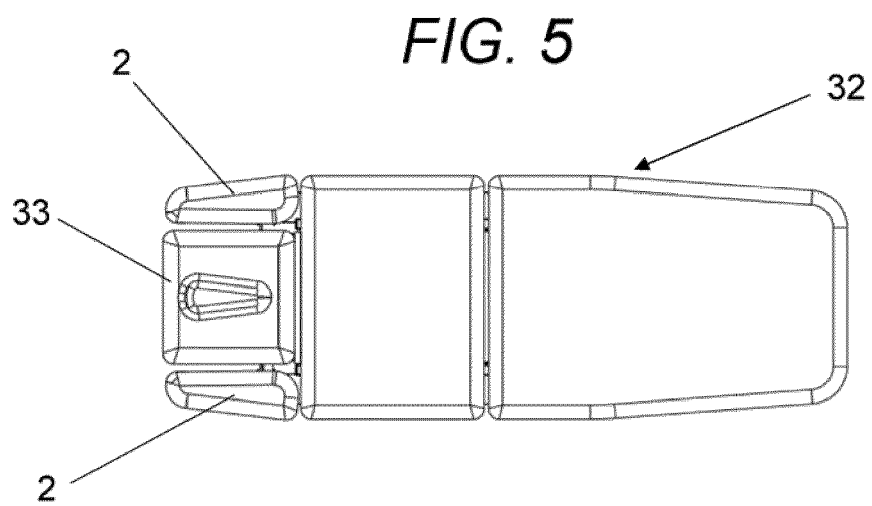
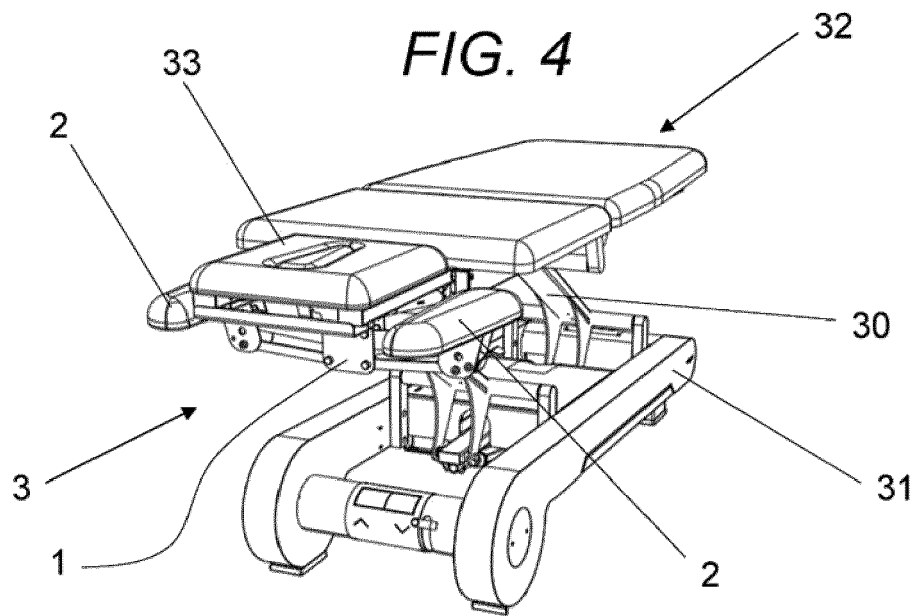


**FIG. 2**



*FIG. 3*







## EUROPEAN SEARCH REPORT

Application Number

EP 21 38 3150

## DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 3 610 839 A1 (GYMNA UNIPHY [BE]) 19 February 2020 (2020-02-19)	5, 6	INV. A61G13/00
A	* figures 1-5 * * paragraphs [0004], [0021] - [0029] * -----	1-4	A61G13/12
A	US 4 509 217 A (THERRIEN GASTON [CA]) 9 April 1985 (1985-04-09) * abstract; figures 1-2 * -----	1-6	
A	CN 109 907 894 A (GUANGDONG BOZHILIN INTELLIGENT TECH CO LTD) 21 June 2019 (2019-06-21) * figures 1-4 * * page 1 * -----	1-6	
			TECHNICAL FIELDS SEARCHED (IPC)
			A61G
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		13 May 2022	Koszewski, Adam
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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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 21 38 3150

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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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<b>EP 3610839 A1</b>	<b>19-02-2020</b>	<b>BE 1026501 A1</b> <b>EP 3610839 A1</b>	<b>26-02-2020</b> <b>19-02-2020</b>
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82