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(54) **A device for the introduction of stretchers into ambulances**

(57) A device that is made up of some fixed guides (2) anchored to the inner floor (P) of the ambulance onto which a removable tray (3) is fitted and which can be withdrawn by said fixed guides (2) towards the outside of the ambulance for the reception of the stretcher (1), this tray (3) having some rails (34) on its upper part for the frontal introduction and for the support of the primary wheels (12) of a stretcher (1) in the horizontal position, when the stretcher (1) has a foldable base (13) completely unfolded, making the introduction and extraction of said tray assembly (3) with the stretcher (1) into the ambulance easier, after the folding of said foldable base (13), keeping the horizontal line of the stretcher (1) at all times.

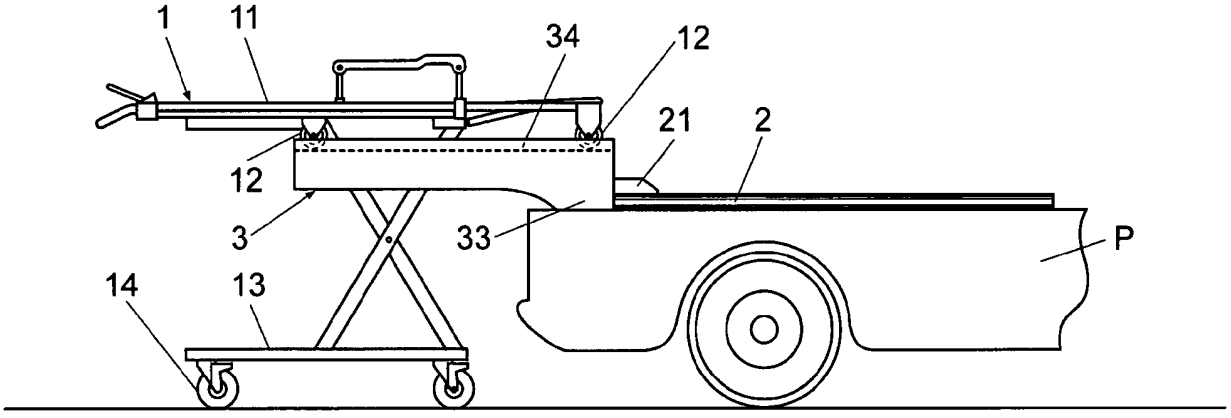


Fig. 2

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Description

Object of the invention

[0001] The invention refers to a device for the introduction of stretchers into ambulances, more specifically a device that enables the stretcher to be introduced more easily and for its stabilisation in the ambulance during the transport.

Field of application of the invention.

[0002] The field of application of the invention is the health hardware industry, more specifically in the light stretcher transport sector and for the adaptation of ambulances.

Background to the invention

[0003] At the present time the operation for the introduction of the stretchers into the ambulances or health vehicle has to consider the problem of how to do it without making the sick or injured person uncomfortable. Said operation has to be carried out without the risk of making it worse depending on the type of wounds or injuries.

[0004] The most usual system for carrying out said operation consists of two people co-operating together, one person being on the outside of the ambulance and who raises the stretcher up to the ground level of the ambulance or up to the level of the stretcher support that is located on the floor of the ambulance, keeping the stretcher at such a height throughout the introduction process, and the other person who is bent down and from the inside of the vehicle pulling from his/her end so as to achieve the introduction. This means of introducing the stretcher usually involves at least some jolting, and occasionally the movement of the body of the patient, which is sometimes unbearable.

Description to the invention

[0005] The device for the introduction of stretchers into ambulances, objective of the invention, has some technical peculiarities intended to solve the problem put forward, providing a means of introducing the stretcher in the ambulance in a smooth manner and without the patient or injured person suffering jolts or losing a horizontal position.

[0006] The device is of the type that is made up of some parallel rails for the placement of the stretcher, which has a frame with some primary wheels on the lower part that fit into the stated rails, and a foldable base with some second wheels for the placement of the stretcher at a certain height above the ground.

[0007] According to the invention, the device includes some fixed guides anchored on the inner floor of the ambulance onto which a removable tray is fitted and is moveable on said fixed guides towards the outside of the ambulance for the reception of the stretcher. The tray has some rails on its upper part for the frontal introduction and support of the first wheels of the stretcher in the horizontal position, when the stretcher presents the foldable base completely deployed. Hence, the device makes the introduction and removal of said tray and stretcher assembly easier in the ambulance, after the folding of the stated deployed base, at all times keeping the stretcher in a horizontal position.

[0008] In this way the introduction and extraction of the stretcher is carried out without the patient being carried being jolted. In addition, the introduction of the stretcher can be carried out by a single person from the outside without the need for assistance from the inside, the task being much simpler.

[0009] In one embodiment, the removable tray is made up of two long spars joined by means of at least a cross member to give solidarity, these long spars having a height adapted to that of the rails so as to enable the housing of the foldable base of the stretcher, in its folded position, on the ambulance floor. In this way problems are avoided that come from the possible risk of mistakes and knocks during the introduction and extraction of the stretcher into and out of the ambulance.

[0010] At opposite ends of the tray and on the fixed guides there are some stop means for the maximum extension of said tray from the ambulance. Hence, this prevents said tray from extending beyond the maximum extension and moving whilst the stretcher is being placed on the rails.

Description of the figures.

[0011] In order to complete the description that is being made and for the purpose of providing a better understanding of its characteristics, a set of drawings is attached to this present description in which the figures being by way of illustration and are not by way of limitation on the invention, in which the following is shown:

- Figure 1 shows a side view of the device unfolded and with the stretcher facing for its introduction.
- Figure 2 shows a side view of the next step of the introduction, with the tray extended out of the ambulance and the stretcher placed on the rails.
- Figure 3 shows a side view of the device extended out of the vehicle and the stretcher with the foldable base in the folded and gathered up position.
- Figure 4 shows a side view of the stretcher and the tray of the device introduced into the ambulance.
- Figure 5 shows a transverse cross-section of the device at the height of the support.

Preferred embodiment of the invention

[0012] As can be seen in the referenced figures the device of this invention is specially designed to enable the introduction of a stretcher (1) into an ambulance. It

is of the type that includes a frame (11) with some primary wheels (12) on the underside and a foldable base (13) with some second wheels (14) for the placement of the stretcher (1) at a certain height above the ground. The device is made up of some fixed guides (2) anchored to the inner floor (P) of the ambulance, with there being some upper plates (21) extending at the external end of said fixed guides (2) as a stop. In turn, there is a longitudinally moveable tray (3) on these fixed guides (2), in such a way that said tray (3) can be withdrawn when required for the placement of the stretcher (1), as and how shown in figure 2. The tray (3) is made up of some spars (31) that move on the fixed guides (2) by means of wheels (32) fitted on a support or stop means (33) on the inner end of said spar (31). These spars (31) have on top some rails (34) for the placement and suspension of the stretcher (1) fitted with some primary wheels (12). Both spars (31) are at a suitable height for the housing of the stretcher (1) with the base folded (13) in the withdrawn position, as and how shown in figure 4, said spars (31) being joined by a cross member (35), as shown in figure 5, in such a way that they move in a simultaneous manner on the fixed guides (2).

[0013] Once having sufficiently described the nature of the invention, likewise having given a preferred embodiment it is placed on record that the materials, shape, size and arrangement of the elements described can be modified provided that they do not mean an alteration of the basic essentials of the invention that are claimed below.

Claims

1. A device for the introduction of stretchers into ambulances, of the type which include some parallel rails (34) for the placement of the stretcher(1), which has a frame (11) with some primary wheels (12) on the underside and a foldable base (13) with some second wheels (14) for the placement of the stretcher (1) at a certain height above the ground, **characterised in that** it has some fixed guides (2) anchored to the inner floor (P) of the ambulance onto which a moveable tray (3) is fitted and which is removable by said fixed guides (2) towards the outside of the ambulance for the reception of the stretcher (1), this tray (3) having some rails (34) on its upper part for the frontal introduction and support of the primary wheels (12) of the stretcher (1) in its horizontal position, when the stretcher (1) presents the foldable base (13) completely unfolded, enabling the introduction and extraction of said tray assembly (3) with the stretcher (11) into the ambulance, after the folding of stated foldable base (13), at all times maintaining the horizontal line of the stretcher (1).

2. A device according to claim 1, **characterised in that** the removable tray (3) is made up of two long spars (31) joined by means of at least a cross member (35) to give solidarity, these long spars (31) having a height adapted to that of the rails (34) so as to enable the housing of the foldable base (13) of the stretcher (1), in its folded position, on the inner floor (P) of the ambulance.

3. A device according to any of the previous claims, **characterised in that** the tray (3) and the fixed guides (2) have some stops means (21, 33) on the opposite ends at the maximum extension of said tray (3) outside the ambulance.

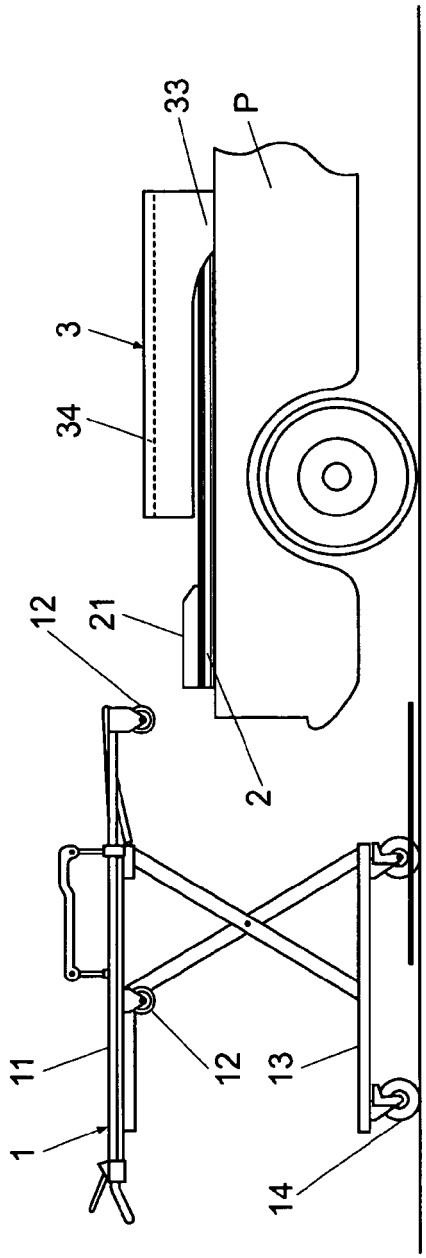


Fig. 1

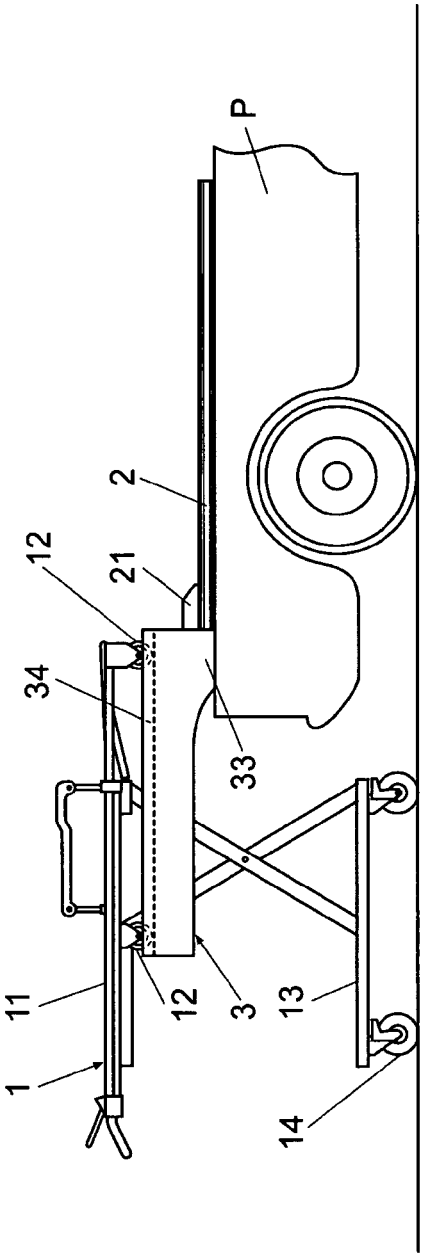


Fig. 2

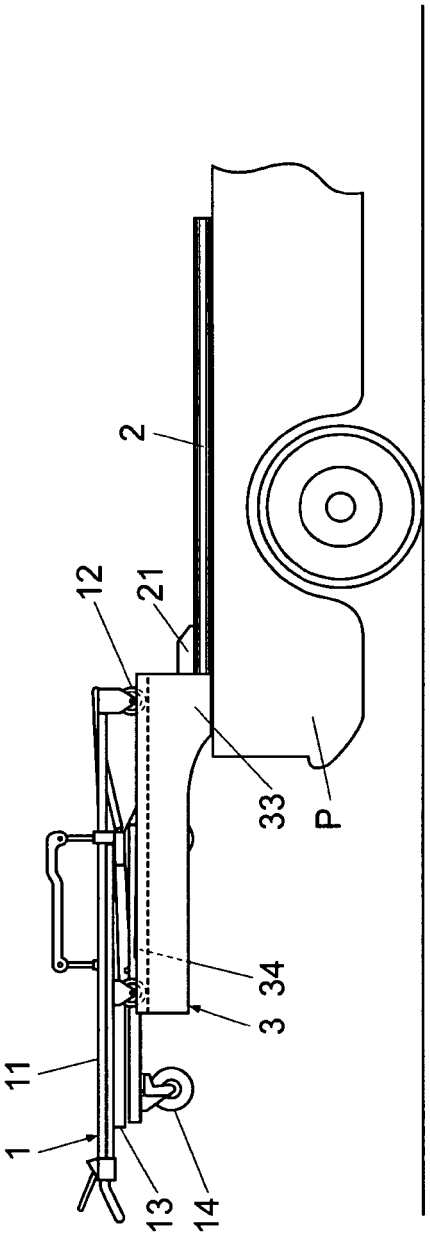


Fig. 3

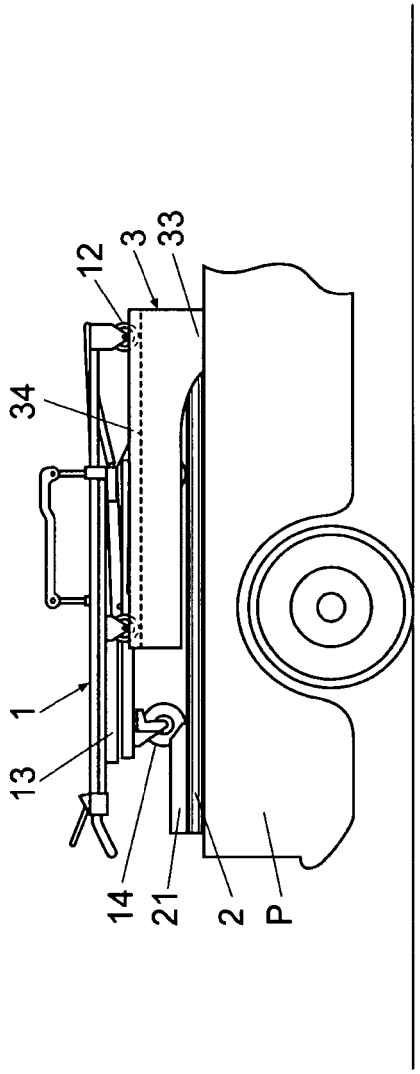


Fig. 4

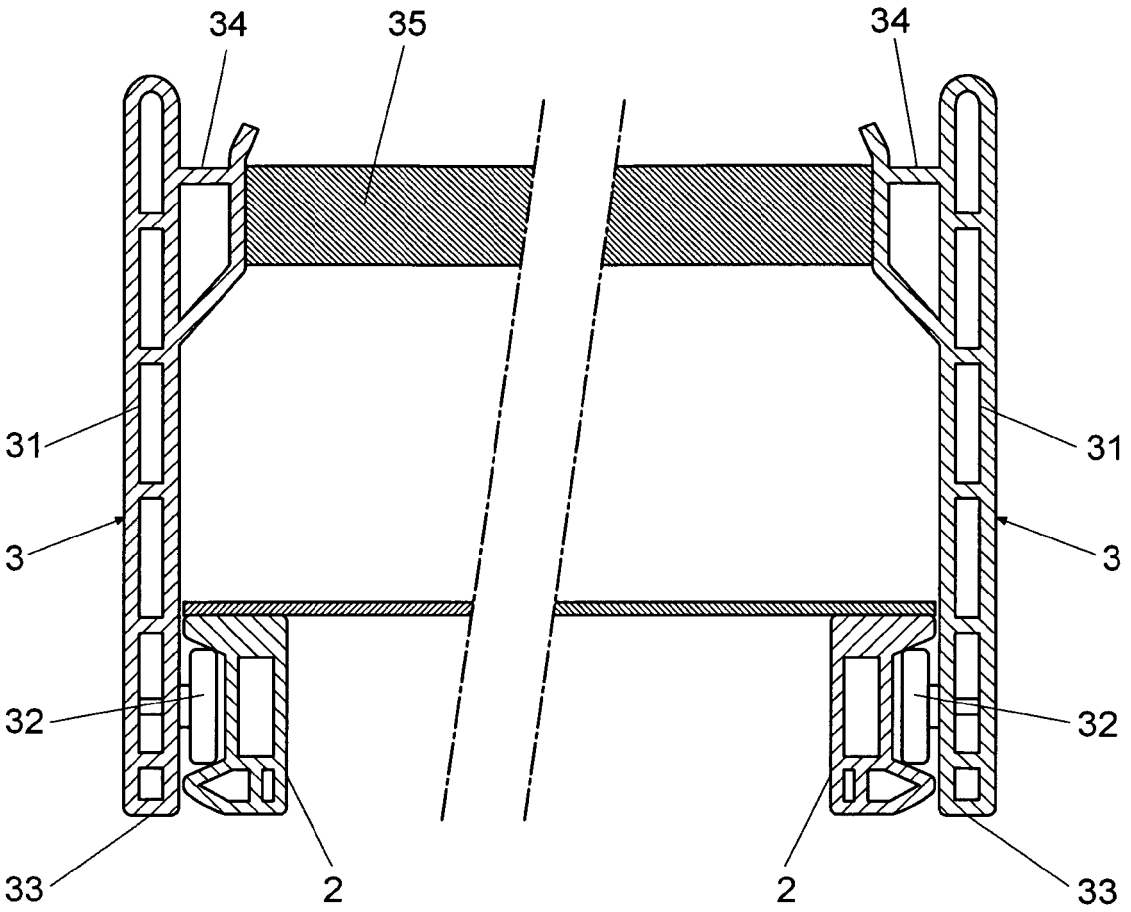


Fig. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 10 00 7957

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	AU 2008 216 990 A1 (DHS PTY LTD) 30 April 2009 (2009-04-30) * page 4 - page 7; figures *	1-3	INV. A61G1/06 A61G3/00
X A	EP 1 034 764 A2 (STEM SRL [IT]) 13 September 2000 (2000-09-13) * column 2 - column 3; claims; figures *	1 2,3	
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A	WO 2004/064698 A2 (STRYKER CORP A CORP OF THE STA [US]; LAMBARTH CLIFFORD E [US]; WAY CHR) 5 August 2004 (2004-08-05) * the whole document *	1-3	
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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	10 December 2010	Edlauer, Martin

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 10 00 7957

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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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82