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(54) **A TRANSVERSE STRETCHER**

QUERTRANSPORTIERBARE KRANKENTRAGE

CIVIERE TRANSVERSALE

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## Description

**[0001]** The present invention relates to a stretcher, in particular a transverse stretcher, i.e. a stretcher which can be secured in an ambulance and carried while mounted transversely to the longitudinal axis of the ambulance.

**[0002]** Document US-A-4 767 148 discloses a stretcher comprising an undercarriage with four wheels, each wheel being pivotable on a vertical axis a frame on which a stretcher top is fixed and a collapsible brace assembly between the frame and the undercarriage arranged to elevate and lower the stretcher. In this known stretcher, the frame has end section which is hingedly connected to the frame and may be moved downwardly from the frame plane, wherein some anchoring means mounted on said end section are releasably engageable to some complementary anchoring means mounted on the floor of an emergency vehicle.

**[0003]** The present invention provides a stretcher comprising an undercarriage with four wheels depending from the undercarriage each wheel being pivotable on a vertical axis, a stretcher top, and a collapsible brace assembly between the stretcher top and the undercarriage, with an end section of the stretcher top being releasable and pivotally movable from the plane of the stretcher top so as to shorten the length of the stretcher without affecting its mobility.

**[0004]** Conveniently, during unloading, the undercarriage can be lowered towards ground level by means of the brace assembly, irrespective of the position of the pivoted end section.

**[0005]** Preferably, the four wheels are fixed to the undercarriage by four depending spigots so as to raise the undercarriage high enough for it to clear a normal wheel arch of an ambulance.

**[0006]** Advantageously, the stretcher top includes an outer tubular frame and the end section is provided at the foot end of the frame.

**[0007]** Ideally, the end section is connected to the frame by two articulated joints which are releasable by a pair of movable sleeves, whereby the end section may be pivoted downwardly so as to decrease the overall length of the stretcher.

**[0008]** Preferably, pulling handles are loosely pivotally attached to the stretcher top at each end thereof so that when not grasped by an attendant hang loosely and do not add to the overall length of the stretcher.

**[0009]** Advantageously, the stretcher when in the collapsed mode, is at a good working height for an attendant and is movable on the four wheels either in an ambulance or outside, regardless of whether or not the end section is pivoted downwardly.

**[0010]** Conveniently, when the end section is pivoted downwardly, the stretcher is locatable in a transverse position in an ambulance and is adapted to be anchored by a locking device.

**[0011]** Ideally, when a mattress top is located on the

collapsed stretcher adjacent back rests on an ambulance wall, the stretcher may be used to carry three sitting patients facing rearwardly within the ambulance.

**[0012]** The invention will hereinafter be more particularly described with reference to the accompanying drawings which show by way of example only, one embodiment of a transverse stretcher according to the invention. In the drawings:

Figure 1 is a perspective view of the stretcher in its elevated position with the end section in the plane of the stretcher top;

Figure 2 is a plan view of the stretcher with the end section also in the plane of the stretcher top; and

Figure 3 is a perspective view of the stretcher mounted in a transverse position in an ambulance, with the end section of the stretcher top pivoted downwardly.

**[0013]** Referring to the drawings, the stretcher of the invention includes an undercarriage 10, a stretcher top 20, and a collapsible brace assembly 30 between the undercarriage 10 and the stretcher top 20 for elevating and lowering the stretcher top 20 relative to the undercarriage 10.

**[0014]** Four wheels 12 are fixed to the undercarriage 10 by four depending spigots 13 which raise the undercarriage high enough for it to clear a normal wheel arch found in an ambulance.

**[0015]** The stretcher top 20 includes an outer tubular frame 22. At the foot end of the frame 22 is provided an end section 40.

**[0016]** The end section 40 is connected to the frame 22 by two articulated joints 45 which can be released by moving two sleeves 46 to enable the end section to be pivoted downwardly so as to decrease the overall length.

**[0017]** The pulling handles 60 are loosely pivotally attached to the stretcher top 20 at each end and when not grasped by an attendant hang loosely and do not add to the overall length of the stretcher.

**[0018]** When the stretcher is collapsed, it is at a good working height for an attendant and can still be moved on four wheels 12 either in an ambulance or outside regardless of whether or not the end section 40 is pivoted downwardly.

**[0019]** As shown in Figure 3, when the end section 40 is pivoted downwardly, the stretcher can be positioned in a transverse position in an ambulance and anchored by a locking pole (not shown). With a mattress top 50 on the stretcher top 20 located beneath back rests 55, the stretcher can be used to carry three sitting patients facing rearwardly in accordance with European Regulations.

**[0020]** It is to be understood that the invention is not limited to the specific details described herein, which are

given by way of example only, and that various modifications and alterations are possible within the scope of the invention as defined in appended claims.

### Claims

1. A stretcher comprising an undercarriage (10) with four wheels (12), depending from the undercarriage (10), each wheel (12) being pivotable about a vertical axis, a stretcher top (20), and a collapsible brace assembly (30) between the stretcher top (20) and the undercarriage (10) arranged to elevate and lower the stretcher top (20), with an end section (40) of the stretcher top (20) being releasable and pivotally movable downwardly from the plane of the stretcher top (20) so as to shorten the length of the stretcher without affecting its mobility regardless of whether the stretcher top has been elevated or lowered by the brace assembly. 5
2. A stretcher as claimed in Claim 1 in which the four wheels (12) are fixed to the undercarriage (10) by four depending spigots (13) so as to raise the undercarriage (10) high enough for it to clear a normal wheel arch of an ambulance. 10
3. A stretcher as claimed in any one of the preceding claims in which the stretcher top (20) includes an outer tubular frame (22) and the end section (40) is provided at the foot end of the frame (22). 15
4. A stretcher as claimed in Claim 3 in which the end section (40) is connected to the frame (22) by two articulated joints (45) which are releasable by a pair of movable sleeves (46), whereby the end section (40) may be pivoted downwardly so as to decrease the overall length of the stretcher. 20
5. A stretcher as claimed in any one of the preceding claims in which pulling handles (60) are loosely pivotally attached to the stretcher top (2) at each end thereof so that when not grasped by an attendant hang loosely and do not add to the overall length of the stretcher. 25
6. An ambulance incorporating a stretcher as claimed in any one of the preceding claims in which, when the end section (40) is pivoted downwardly, the stretcher is located in a transverse position in the ambulance and is anchored by a locking device. 30
7. An ambulance as claimed in Claim 6 in which a mattress top (50) is located on the stretcher top (20) adjacent back rests (55) on the ambulance wall so that the stretcher may be used to carry three sitting patients facing rearwardly within the ambulance. 35

### Patentansprüche

1. Trage mit einem Fahrgestell (10) mit vier Rädern (12), die an dem Fahrgestell (10) aufgehängt sind, wobei jedes Rad (12) um eine vertikale Achse drehbar ist, einem Tragenoberteil (20) und einer zusammenklappbaren Strebenanordnung (30) zwischen dem Tragenoberteil (20) und dem Fahrgestell (10), die zum Anheben und Absenken des Tragenoberteils (20) angeordnet ist, wobei ein Endabschnitt (40) des Tragenoberteils (20) lösbar und aus der Ebene des Tragenoberteils (20) nach unten schwenkbar ist, um so die Länge der Trage unabhängig davon ohne Beeinträchtigung ihrer Beweglichkeit zu verkürzen, ob das Tragenoberteil durch die Strebenanordnung angehoben oder abgesenkt wurde. 5
2. Trage nach Anspruch 1, wobei die vier Räder (12) an dem Fahrgestell (10) durch vier aufgehängte Rohrstützen (13) so befestigt sind, dass das Fahrgestell (10) ausreichend hochstellbar ist, damit es eine übliche Radlaufhöhe eines Krankenwagens überwindet. 10
3. Trage nach einem der vorstehenden Ansprüche, wobei das Tragenoberteil (20) einen äußeren Rohrrahmen (22) aufweist und der Endabschnitt (40) an einem Fußende des Rahmens (22) vorgesehen ist. 15
4. Trage nach Anspruch 3, wobei der Endabschnitt (40) mit dem Rahmen (22) durch zwei gelenkige Verbindungen (45) verbunden ist, die mittels eines Paares bewegliche Hülsen (46) lösbar sind, wodurch der Endabschnitt (40) nach unten schwenkbar ist, um so die Gesamtlänge der Trage zu verringern. 20
5. Trage nach einem der vorstehenden Ansprüche, wobei Ziehgriffe (60) frei schwenkbar an jedem Ende des Tragenoberteils (2) angebracht sind, so dass sie frei hängen und nicht zur Gesamtlänge der Trage beitragen, sofern sie nicht durch eine Begleitperson gegriffen werden. 25
6. Krankenwagen, der eine Trage nach einem der vorstehenden Ansprüche aufnimmt, wobei die Trage in einer Querposition in dem Krankenwagen angeordnet ist und mittels einer Verriegelungseinrichtung verankert ist, wenn der Endabschnitt (40) nach unten geschwenkt ist. 30
7. Krankenwagen nach Anspruch 6, wobei ein Matratzenoberteil (50) auf dem Tragenoberteil (20) angrenzend an Rückenlehnen (55) an einer Krankenwagenwand angeordnet ist, so dass die Trage zum Tragen von drei sitzenden Patienten verwendbar ist, die innerhalb des Krankenwagens dem Heck zugewandt sind. 35

**Revendications**

1. . Civière transversale comprenant un train de roulement (10) avec quatre roues (12) suspendues au train (10), chaque roue (12) pouvant pivoter autour d'un axe vertical, un plateau supérieur (20) de civière et un ensemble repliable à croisillons (30) entre le plateau (20) de civière et le train de roulement (10), prévu pour relever et abaisser le plateau (20) de civière, une section d'extrémité (40) du plateau (20) de civière étant détachable et mobile par pivotement vers le bas à partir du plan du plateau (20) de civière afin de raccourcir la longueur de la civière sans affecter sa mobilité, ceci indifféremment du fait que le plateau de civière ait été relevé ou abaissé par l'ensemble à croisillons. 5  
10  
15
2. Civière selon la Revendication 1, dans laquelle les quatre roues (12) sont fixées au train de roulement (10) par quatre goujons de centrage (13) suspendus de manière à surélever suffisamment le train de roulement (10) pour qu'il ne touche pas un arceau normal de roue d'une ambulance. 20
3. Civière selon l'une quelconque des Revendications précédentes, dans laquelle le plateau (20) de civière comprend un cadre extérieur tubulaire (22) et la section d'extrémité (40) est prévue à l'extrémité repose-pied du cadre (22). 25  
30
4. . Civière selon la Revendication 3, dans laquelle la section d'extrémité (40) est raccordée au cadre (22) par deux joints articulés (45) qui sont détachables grâce à une paire de manchons mobiles (46), grâce à quoi la section d'extrémité (40) peut être abaissée par pivotement afin de réduire la longueur hors-tout de la civière. 35
5. . Civière selon l'une quelconque des Revendications précédentes, dans laquelle des poignées de traction (60) sont fixées pivotantes non bloquées au plateau (2) de civière à chaque extrémité de celui-ci de telle sorte que lorsqu'elles ne sont pas empoignées par un ambulancier, elles pendent librement et n'ajoutent pas à la longueur hors-tout de la civière. 40  
45
6. Ambulance comprenant une civière selon l'une quelconque des Revendications précédentes, dans laquelle, lorsque la section d'extrémité (40) est abaissée par pivotement, la civière est située dans une position transversale dans l'ambulance et est ancrée par un dispositif de verrouillage. 50
7. Ambulance selon la Revendication 6, dans laquelle un matelas (50) est placé sur le plateau (20) de civière de manière adjacente à des dossiers (55) présents sur la paroi de l'ambulance de telle sorte que 55

la civière puisse être utilisée pour transporter trois patients assis regardant vers l'arrière de l'ambulance.

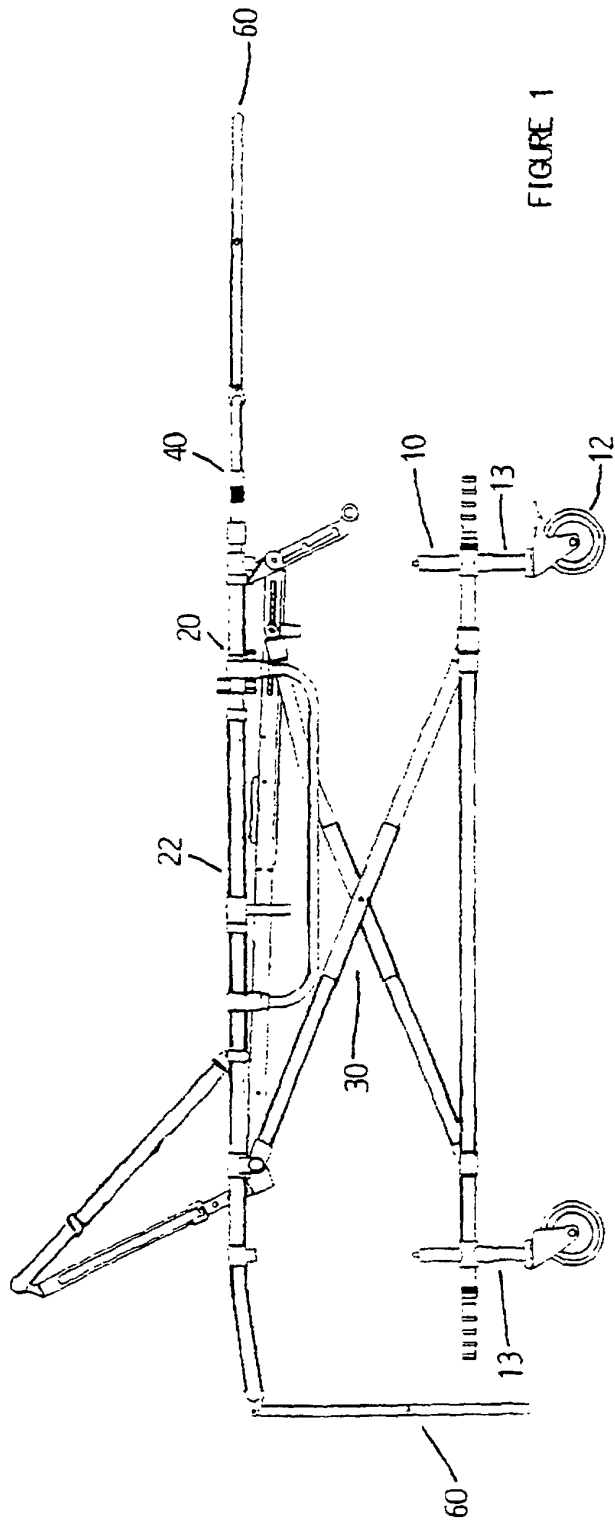


FIGURE 1

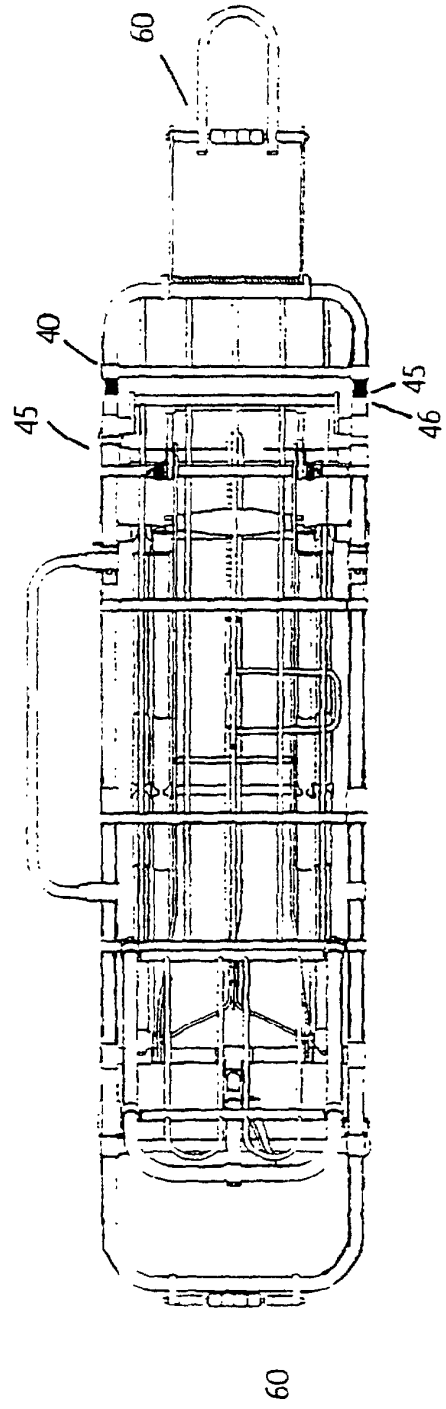


FIGURE 2

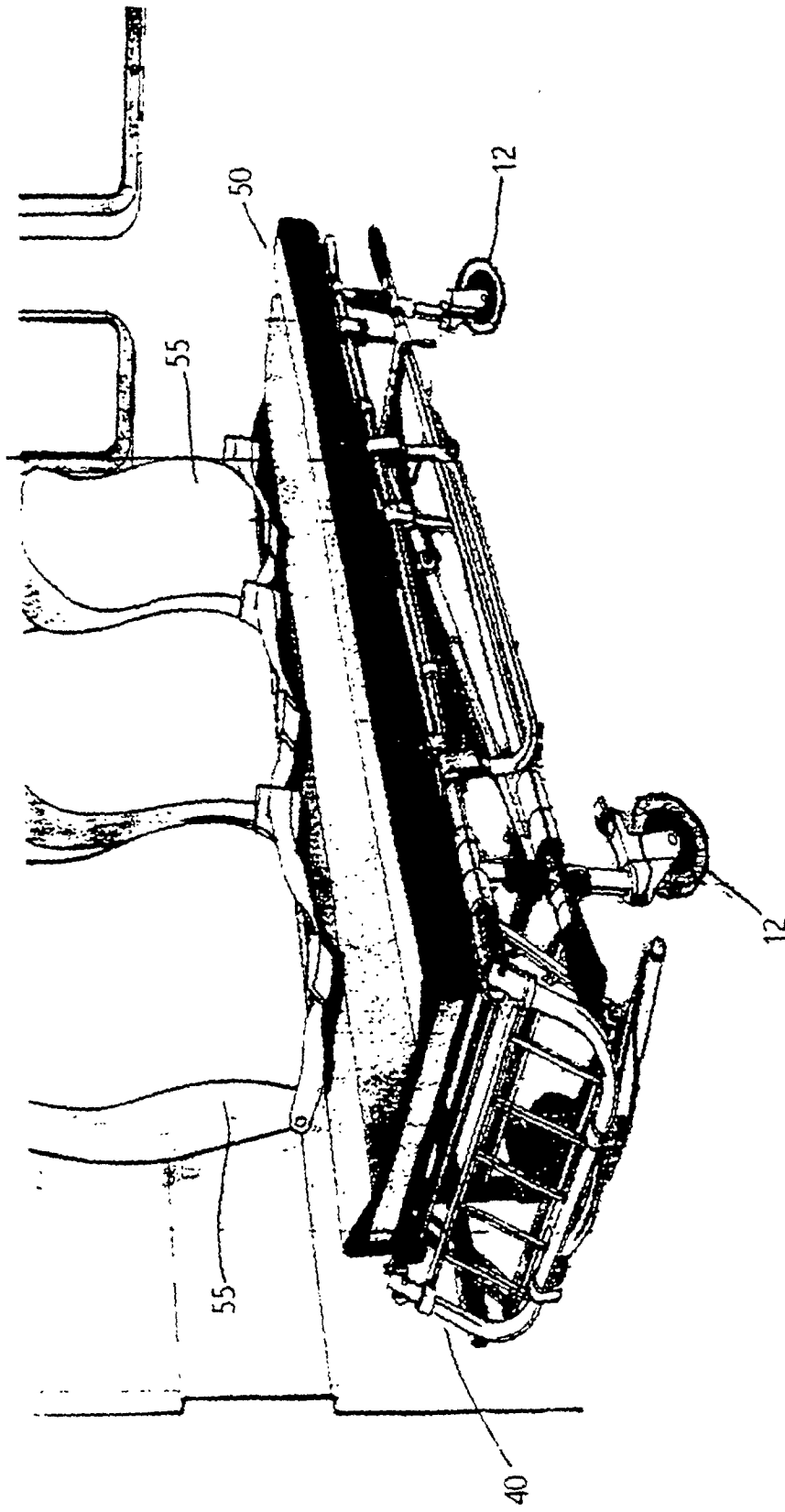


FIGURE 3