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(54) **A stretcher**

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Description

[0001] The present invention relates to a stretcher for carrying injured persons and, in particular, to a scoop stretcher that facilitates the pick up of a person lying on the ground, or on a bed, an operating table, an X-ray machine or any similar or equivalent apparatus.

[0002] Scoop stretchers typically comprise a frame that can be split longitudinally into two parts. Blades are attached to the frame that can be gently maneuvered under a patient from both sides. This minimizes further trauma being caused to the patient as he is moved onto a stretcher, which can occur if he has to be manually lifted onto a traditional stretcher or trolley. Once the blades are in position beneath a patient, the two halves of the framework can then be fastened back together and the stretcher lifted to transport the patient. Such a stretcher is described in WO01 1/03628 which is also designed so that either of both ends of the stretcher can be uncoupled to enable the patient to be picked up or unloaded using a scissor-type action.

[0003] Another type of scoop stretchers are described in US 3,574,871, comprising a pair of longitudinally extending complementary main frame members which are detachably connected together at each end, and which are adapted to facilitate positioning the main frame under a person by moving them laterally together from opposite sides of his or her body so as to connect the ends of the frames. Coupling means are provided at end portions of both main frame members comprising a male member which is adapted to be connected to a female member by means of a sleeve. However, the described coupling means are not comfortable in their use and require a long time to open and close.

[0004] An alternative safety connecting and hooking device for stretchers is described in WO 00/66897, including a female element whose first end is connected to a first tubular element and whose second free end has a seat transversally crossed by a hooking pivot. A male element whose first end is connected to said second tubular element and whose second free end has a bracket detachably insertable complementary into said seat of said second tubular element, said bracket having a head with a recess in order to house partially said hooking pivot. A hook hinged to said male element and detachably insertable, in correspondence of a hooking condition of said tubular elements, into a slot carried out longitudinally in the bracket for closing partially the opening part of said bracket around said hooking pivot. A safety hook hinged to said female element and whose hooking end is fit to engage a hollow of said bracket in correspondence of said hooking condition.

[0005] Although, the fastening mechanism of the WO 00/66897 can be operated more quickly than that of the US 3,574,871, the arrangement of the hook and the safety hook cannot counter act the experienced forces in the most efficient and thus secure way as their exerted locking forces do not comply with the direction of the main

forces both hooks experience in a closed position.

[0006] It will be appreciated that it is important that the mechanism used to fasten the two halves of the scoop stretcher together is both easy to use but secure so that there is little or no danger of the mechanism accidentally opening during transportation of a patient. Furthermore, it is desirable to provide a fastening mechanism, which is easy to produce.

[0007] It is an object of the invention to provide a stretcher comprising two half-stretchers that are connected by a mechanism which fulfils the above requirements.

[0008] According to the present invention there is provided a stretcher, as described in claim 1, comprising two half-stretchers connected by connecting means provided respectively at a head end and a foot end of the stretcher to permit the stretcher to be unfastened at the head end and/or at the foot end as desired, at least one of the connecting means comprising a catch moveably mounted on one half-stretcher that engages a locking pin provided on the other half-stretcher, and characterised in that a detent is mounted adjacent the locking pin and is moveable between a locking position wherein it acts to prevent movement of the catch in a direction tending to disengage from the locking pin and an unlocked position wherein the catch can be disengaged from the locking pin to permit the two half-stretchers to be disconnected from one another, wherein the catch and the detent are pivotally mounted about axes which are perpendicular to the longitudinal axis of the stretcher.

[0009] It will be appreciated that the detent reduces the risk of the connecting means accidentally opening during transportation of a patient. Furthermore, by mounting the catch and the detent pivotally about axes which are perpendicular to the longitudinal axis of the stretcher both can be integrated into the structure of the half-stretchers during the moulding process.

[0010] Also, the arrangement of the two axes provides for a particularly secure locking mechanism, as the forces the hook and the detent will exert on their counter parts are always parallel to the main forces acting on the hook and the detent in a closed position.

Preferably, the catch is pivotally mounted and spring-loaded into engagement with the locking pin. Advantageously, the catch comprises a hook located on one side of its pivot that engages around the locking pin and a trigger located on the other side of its pivot whereby pressure on the trigger against the bias of the spring-loading rotates the hook out of engagement with the locking pin. The catch is, therefore, biased into a fastened position and must be positively moved from this position to open the stretcher.

[0011] Preferably also, the detent is pivotally mounted and spring-loaded into its locking position. The connecting means is, therefore, also biased into a locked position with the additional safety measure that the detent must be positively moved into the unlocked position before the catch can be unfastened.

[0012] Preferably also, the detent comprises a project-

ing nose located on one side of its pivot that contacts the catch to prevent movement of same.

[0013] Preferably also, the catch automatically locks around the locking pin and the detent automatically moves into the locking position when the two half-stretchers are pushed together. This means that whilst positive action must be taken to open the stretcher, the two half-stretchers can be connected together simply by pushing them together without the connecting means having to be manipulated. This is convenient for the user and facilitates use of the stretcher, in particular the closure of the stretched during loading of a patient thereon.

[0014] Preferably also, identical connecting means are provided at both the head end and the foot end of the stretcher. This means that when the patient is to be unloaded from the stretcher, it can be opened first at the end most appropriate depending on the injuries of the patient to cause the least distress and trauma to him.

[0015] Preferably also, the connecting means are adapted such that when one of the connecting means is unfastened the two half-stretchers can be rotated relative to one another by rotation of the catch of the fastened connecting means around its locking pin. Advantageously, the two half-stretchers can be rotated relative to one another to define an angle of up to 30° at either end. Again, this assists in the gentle unloading of a patient from the stretcher.

[0016] Preferably also, the connecting means are recessed within the end faces of the stretcher body. This prevents the connecting means from snagging and the possibility of such snagging inadvertently unfastening the connecting means.

[0017] Preferably also, each half-stretcher is provided with at least two lifting straps.

[0018] Preferably also, each lifting strap is accommodated on a spring-loaded reel secured to the half-stretcher.

[0019] The provision of lifting straps mounted on spring-loaded reels means that the stretcher carrying a patient can be transferred from a first location to a second location, preferably by using the stretcher in combination with a mobile patient hoist or a ceiling rail hoist.

[0020] Other preferred but non-essential features of the present invention are described in the dependent claims appended hereto.

[0021] An embodiment of a stretcher according to the invention will now be described by way of example with reference to the accompanying drawings, in which:

Fig. 1 is a plan view of an embodiment of stretcher according to the invention;

Fig. 2 is a side view of the stretcher shown in Fig. 1;

Fig. 3 is an internal end view of the stretcher in the direction of the arrow III in Fig. 1;

Fig. 4 is a part-sectional view along the line IV-IV in

Fig. 2 of a connecting means provided at a foot end of the stretcher;

Fig. 5 is a view to an enlarged scale of the area enclosed by the circle labeled V in Fig. 3;

Fig. 6 is a view to an enlarged scale of the area enclosed by the circle labeled VI in Fig. 1; and

Figs. 7 and 8 are schematic representations showing the stretcher in plan view when opened at its head end and its foot end respectively.

[0022] As shown in Figs. 1 and 2 of the drawings, a stretcher 1 according to the invention comprises two half-stretchers 2, 3 and is provided with connecting means 4, 5 at its head end and foot end respectively. The stretcher 1 is preferably appropriately shaped to follow the contours of the body to hold a patient snugly by having its widest point at the region which will accommodate the patient's shoulders and by tapering down from this point towards its foot end.

[0023] The half-stretchers 2 and 3 are each made of a plastics material such as polypropylene by rotational moulding such that they comprise a blade portion 6, on which a patient can lie and which is adapted for sliding beneath the body of the patient, and an upraised rim 7 around its outer sides. Handgrips 8 are moulded at spaced intervals in the rims 7. In addition, the rim 7 of each half-stretcher 2, 3 is provided at least one and preferably two, spaced lifting straps 9 that are accommodated on spring-loaded reels 10 mounted in the rim 7. Preferably, two of the straps 9 are located adjacent the region of the stretcher 1 that will accommodate the patient's shoulders and the other two of the straps 9 are located below but adjacent the region of the stretcher 1 that will accommodate the patient's hips. This ensures that during lifting, the stretcher 1 will be well balanced.

[0024] The connecting means 4, 5 at each end of the stretcher 1 are identical with one another. These will now be described in particular reference to Figs. 3 to 6. It will be appreciated that it is important during use of the stretcher 1 that the connecting means 4, 5 are not accidentally opened. In order to reduce the risk of this happening, the connecting means 4, 5 are located in recesses moulded into the rims 7 of the half-stretchers 2, 3 to reduce the risk that they will snag or become entangled, for example with the clothing of a stretcher-bearer.

[0025] Each comprises connecting means 4, 5 comprises a catch 11 moveably mounted on one half-stretcher 2, 3 that engages a locking pin 12 provided on the other half-stretcher 3, 2. For ease of use, as is explained below, preferably the catch 11 is located on the left-hand half-stretcher as viewed externally from the appropriate end and the locking pin 12 is located on the right-hand half-stretcher. In addition to the catch 11 and locking pin 12, each connecting means 4, 5 also comprises a detent 13 that is mounted adjacent the locking pin 12 on the

same half-stretcher 2, 3. The detent 13 is moveable between a locking position wherein it acts to prevent movement of the catch in a direction tending to disengage from the locking pin and an unlocked position wherein the catch can be disengaged from the locking pin to permit the two half-stretchers to be disconnected from one another.

[0026] The catch 11 is pivotally mounted on a pivot pin 14 fixed to the half-stretcher and comprises a hook 15 located on one side of its pivot 14 that engages around the locking pin 12 and a trigger 16 located on the other side of its pivot 14. A spring-loading 17 is provided so that the catch 11 is biased to engage the locking pin 12 when the two half-stretchers 2, 3 are connected together. Hence, finger or more typically thumb pressure on the trigger 16 operates against the bias of the spring-loading 17 to rotate the catch 11 around the pivot to move the hook 15 out of engagement with the locking pin 12.

[0027] In a similar fashion, the detent 13 is also pivotally mounted on a second pivot pin 18 and comprises a projecting nose 19 located on one side of its pivot 18 that contacts the catch 11. The hook 15 is preferably provided with a recess 20 into which the nose 19 fits when the connecting means 4, 5 is locked. The exterior surface of the nose 19 therefore lies substantially flush with that of the catch 11 to prevent the detent 13 from snagging or being otherwise accidentally moved out of position. When the nose 19 is located in the recess 20, the detent 13 prevents pivotal movement of the hook 15 out of engagement with the locking pin 12. On the other side of the pivot 18 from the nose 19, the detent 13 is also provided with a trigger 21 and has a spring loading 22 that biases the detent 13 into its locking position. Pressure must be applied to the trigger 21 by a finger or thumb to rotate the detent 13 around the pivot 18 into its unlocked position wherein the nose 19 is rotated out of engagement with the hook 16 and sufficiently away from it to enable the hook 15 to be rotated out of engagement with the locking pin 12. The two half-stretchers 2, 3 can then be moved apart and the triggers 16 and 21 released. This will return the catch 11 and the detent 13 back into positions wherein they lie substantially within the recesses provided for them within the rim of the half stretchers.

[0028] When it is desired to fasten the connecting means 4, 5 and the two half-stretchers 2, 3 are pushed together, an end face 23 of the hook 15 is brought into abutment with the locking pin 12. The end face 23 is angled so that as the half-stretchers are pushed closer together, the locking pin 12 will ride down the face 23 by forcing the catch 11 to rotate against the bias of the spring loading 17 into an open position. As the hook 15 rotates, an outer edge 24 of the end face 23 locates beneath the nose 19 of the detent 13 and rotates the detent 13 against the force of its spring loading 22 as the half-stretchers 2, 3 are pushed closer together. Eventually, a position is reached where the locking pin 12 rides around the edge of the hook 15 enabling the spring-loading 17 of the hook 15 to act to engage the hook 15 around the locking pin

12. As soon as this occurs, the detent 13 is also free to rotate into its locking position wherein the nose 19 locates into the recess 20 of the hook 13 and prevent it from being disengaged from the locking pin 12. It will therefore be appreciated that although manual action is required to unlock the connecting means 4, 5, the latter connect and lock automatically by simply pushing the two half-stretchers 2, 3 together.

[0029] In order to operate the connecting means 4, 5 it is convenient for the user to use both hands and to apply pressure to the triggers 16 and 21 with his thumbs. The fingers can then be used to grip the rims 7 of the respective half-stretchers 2, 3 so that they can be moved towards or away from each other dependent on whether it is desired to close or open the stretcher 1. In the latter case and assuming the stretcher 1 is to be opened, if the connecting means 4, 5 are fitted as indicated above, pressure on the trigger 21 will be applied by the right thumb of the user. This will rotate the detent 13 out of engagement with the catch 11. The catch 11 can then be opened by applying pressure to the trigger 16 with the left thumb of the user so that the hook 15 is disengaged from the locking pin 12. The connecting means 4, 5 is now unlocked and the two half-stretchers 2, 3 can be moved apart.

[0030] When using a scoop stretcher, it is advantageous for the connecting means 4, 5 to be adapted in order that when only one of them is unfastened the two half-stretchers 2, 3 can be rotated relative to one another to enable a patient to be picked up or unloaded using a scissor-type action. This helps to support a patient in the position found and reduces the risk of further injury. It also enables the patient to be picked up or unloaded gradually from the stretcher 1. The connecting means 4, 5 of the illustrated embodiment are designed for this to be possible, as shown in Figs. 7 and 8. To this end, the hook 15 of the connecting means 4, 5 is shaped so that it can rotate around the locking pin 12. When this occurs, outer face 25 of the hook 15 rides over the nose 19 of the detent 13 until the nose 19 prevents any further rotational movement. This occurs when the blades 6 of the half-stretchers 2, 3 have been separated at an angle of approximately 30°. The spring loading 22 of the detent 13 ensures that when the blades 6 are rotated back towards one another, the catch 11 is always retained in a locked position.

[0031] In the illustrated embodiment, the catch 11 and the detent 13 are pivotally mounted about axes formed by pivot pins 14 and 18 which are perpendicular to the longitudinal axis of the stretcher. This facilitates the pins 14 and 18 and the locking pin 12, which is parallel with them, being integrated into the structure of the half-stretchers 2, 3 during the moulding process. The catch 11 and the detent 13 along with their spring loadings 17 and 22 can be made of an acid-proof steel and fitted afterwards.

[0032] Hence, it will be appreciated that the stretcher of the present invention has a simple structure and provides connecting means 4,5 that are both easy to use

but secure so that there is a very low risk of the stretcher 1 accidentally opening during transportation of a patient. **[0033]** The stretcher is primarily intended for use in hospitals and in facilities such as nursing homes and care homes for the elderly or disabled where immobilized persons often require lifting. The stretcher of the invention is particularly suitable for this purpose but it can also be used to lift accident victims at the site of the accident.

Claims

1. A stretcher (1) comprising two half-stretchers (2, 3) connected by connecting means (4, 5) provided respectively at a head end and a foot end of the stretcher (1) to permit the stretcher to be unfastened at the head end and/or at the foot end as desired, at least one of the connecting means (4, 5) comprising a catch (11) moveably mounted on one half-stretcher that engages a locking pin (12) provided on the other half-stretcher, and wherein a detent (13) is mounted adjacent the locking pin (12) and is moveable between a locking position wherein it acts to prevent movement of the catch (11) in a direction tending to disengage from the locking pin (12) and an unlocked position wherein the catch (11) can be disengaged from the locking pin (12) to permit the two half-stretchers (2, 3) to be disconnected from one another, and **characterized in that** the catch (11) and the detent (13) are pivotally mounted about axes which are perpendicular to the longitudinal axis of the stretcher (1).
2. A stretcher as claimed in Claim 1, **characterised in that** the catch (11) is pivotally mounted (14) and spring-loaded (17) into engagement with the locking pin (12).
3. A stretcher as claimed in Claim 2, **characterised in that** the catch (11) comprises a hook (15) located on one side of its pivot (14) that engages around the locking pin (12) and a trigger (16) located on the other side of its pivot (14) whereby pressure on the trigger (16) against the bias of the spring-loading (17) rotates the hook (15) out of engagement with the locking pin (12).
4. A stretcher as claimed in any of Claims 1 to 3, **characterised in that** the detent (13) is pivotally mounted (18) and spring-loaded (22) into its locking position.
5. A stretcher as claimed in any of Claims 1 to 4, **characterised in that** the detent (13) comprises a projecting nose (19) that

contacts the catch (11) to prevent movement of same.

6. A stretcher as claimed in Claim 5 when dependent on Claims 3 and 4, **characterised in that** the projecting nose (19) is located on one side of the pivot (18) of the detent (13) and overlies the hook (15) of the catch (11).
7. A stretcher as claimed in Claim 6, **characterised in that** the hook (15) defines a recess (20) which accommodates the overlying nose (19) of the detent (13).
8. A stretcher as claimed in Claim 6 or Claim 7, **characterised in that** the detent (13) comprises a trigger (21) located on the other side of its pivot (19) to the projecting nose (19) whereby pressure on said trigger (21) against the bias of the spring-loading (22) rotates the nose (19) away from the hook (15) to permit rotational movement of the hook (15) out of engagement with the locking pin (12).
9. A stretcher as claimed in any of Claims 1 to 8, **characterised in that** the catch (11) automatically locks around the locking pin (12) and the detent (13) automatically moves into the locking position when the two half-stretchers (2, 3) are pushed together.
10. A stretcher as claimed in Claim 9 when dependent on Claim 3, **characterised in that** the catch (11) defines an end face (23) over which the locking pin 12 rides when the two half-stretchers (2, 3) are pushed together to force the catch (11) to rotate against the bias of the spring loading (17) into an open position until the locking pin (12) passes around an edge of the hook (15) and the spring-loading (17) acts to engage the hook (15) around the locking pin (12).
11. A stretcher as claimed in Claim 10 when dependent on Claim 4, **characterised in that** when the two half-stretchers (2, 3) are pushed together, an outer edge (24) of the end face (23) of the hook (15) locates beneath the detent (13) and rotates the detent (13) against the force of its spring loading (22) until the hook (15) engages around the locking (pin) and the spring loading (22) acts to move the detent (13) into the locking position.
12. A stretcher as claimed in any of Claims 1 to 11, **characterised in that** identical connecting means (4, 5) are provided at

both the head end and the foot end of the stretcher (1).

13. A stretcher as claimed in any of Claims 1 to 12,
characterised in that the connecting means (4, 5) are adapted such that when one of the connecting means (4, 5) is unfastened the two half-stretchers (2, 3) can be rotated relative to one another by rotation of the catch (11) of the fastened connecting means (5, 4) around its locking pin (12). 5 10
14. A stretcher as claimed in Claim 13,
characterised in that the two half-stretchers (2, 3) can be rotated relative to one another to define an angle of up to 30° at either end. 15
15. A stretcher as claimed in any of Claims 1 to 14,
characterised in that the connecting means (4, 5) are recessed within the end faces of the stretcher body. 20
16. A stretcher as claimed in any of Claims 1 to 15,
characterised in that each half-stretcher (2, 3) is provided with at least two lifting straps (9). 25
17. A stretcher as claimed in Claim 16,
characterised in that each half-stretcher (2, 3) is provided with one lifting strap (9) located adjacent a region of the stretcher (1) adapted to accommodate a patient's shoulders and a second lifting strap (9) located adjacent the region of the stretcher (1) adapted to accommodate a patient's thighs. 30 35
18. A stretcher as claimed in Claim 16 or Claim 17,
characterised in that each lifting strap (9) is accommodated on a spring-loaded reel (10) secured to the half-stretcher (2, 3). 40
19. A stretcher as claimed in any of Claims 1 to 18,
characterised in that each half-stretcher is moulded from a plastics material and comprises a blade a blade portion (6), on which a patient can the and which is adapted for sliding beneath the body of the patient, and an upraised rim (7) around its outer sides. 45 50

Patentansprüche

1. Trage (1) mit zwei Tragenhälften (2, 3), die durch Verbindungseinrichtungen (4, 5) verbunden sind, die an einem Kopfende bzw. einem Fußende der Trage (1) vorgesehen sind, um zu ermöglichen, dass die Trage, wie gewünscht, am Kopfende und/oder am Fußende gelöst werden kann, wobei mindestens ei- 55

ne der Verbindungseinrichtungen (4, 5) eine an einer Tragenhälfte beweglich angebrachte Einschnappvorrichtung (11) umfasst, die einen an der anderen Tragenhälfte vorgesehenen Sicherungsstift (12) in Eingriff nimmt, und wobei eine Feststellvorrichtung (13) angrenzend an den Sicherungsstift (12) angebracht ist und zwischen einer sichernden Position, in der sie wirkt, um eine Bewegung der Einschnappvorrichtung (11) in einer Richtung zu verhindern, die auf ein Loslösen vom Sicherungsstift (12) hinausläuft, und einer ungesicherten Position beweglich ist, in der die Einschnappvorrichtung (11) vom Sicherungsstift (12) losgelöst werden kann, um zu ermöglichen, dass die beiden Tragenhälften (2, 3) voneinander getrennt werden können, und **dadurch gekennzeichnet, dass** die Einschnappvorrichtung (11) und die Feststellvorrichtung (13) um Achsen drehbar gelagert angebracht sind, die senkrecht zur Längsachse der Trage (1) sind.

2. Trage nach Anspruch 1,
dadurch gekennzeichnet, dass die Einschnappvorrichtung (11) drehbar gelagert angebracht (14) und federbelastet (17) in Eingriff mit dem Sicherungsstift (12) ist.
3. Trage nach Anspruch 2,
dadurch gekennzeichnet, dass die Einschnappvorrichtung (11) einen den Sicherungsstift (12) umgreifenden Haken (15), der sich auf einer Seite ihres Drehpunkts (14) befindet, und eine Auslösevorrichtung (16) umfasst, die sich auf der anderen Seite ihres Drehpunkts (14) befindet, wobei ein auf die Auslösevorrichtung (16) gegen die Vorspannung der Federbelastung (17) wirkender Druck den Haken (15) außer Eingriff mit dem Sicherungsstift (12) dreht.
4. Trage nach einem der Ansprüche 1 bis 3,
dadurch gekennzeichnet, dass die Feststellvorrichtung (13) drehbar gelagert angebracht (18) und federbelastet (22) in ihre Sicherungsposition gebracht ist.
5. Trage nach einem der Ansprüche 1 bis 4,
dadurch gekennzeichnet, dass die Feststellvorrichtung (13) einen vorspringenden Ansatz (19) umfasst, der die Einschnappvorrichtung (11) berührt, um eine Bewegung von dieser zu verhindern. 50
6. Trage nach Anspruch 5, wenn von den Ansprüchen 3 und 4 abhängig,
dadurch gekennzeichnet, dass sich der vorspringende Ansatz (19) auf einer Seite des Drehpunkts (18) der Feststellvorrichtung (13) befindet und den Haken (15) der Einschnappvorrich-

tung (11) überlagert.

7. Trage nach Anspruch 6,
dadurch gekennzeichnet, dass
der Haken (15) eine Ausnehmung (20) bildet, die den überlagernden Ansatz (19) der Feststellvorrichtung (13) aufnimmt.
8. Trage nach Anspruch 6 oder Anspruch 7,
dadurch gekennzeichnet, dass
die Feststellvorrichtung (13) eine Auslösevorrichtung (21) umfasst, die sich auf der anderen Seite ihres Drehpunkts (19) zum vorspringenden Ansatz (19) befindet, wobei ein auf die Auslösevorrichtung (21) gegen die Vorspannung der Federbelastung (22) wirkender Druck den Ansatz (19) vom Haken (15) weg dreht, um eine Drehbewegung des Hakens (15) außer Eingriff mit dem Sicherungsstift (12) zuzulassen.
9. Trage nach einem der Ansprüche 1 bis 8,
dadurch gekennzeichnet, dass
die Einschnappvorrichtung (11) automatisch um den Sicherungsstift (12) herum arretiert, und sich die Feststellvorrichtung (13) automatisch in die Sicherungsposition bewegt, wenn die beiden Tragenhälfte (2, 3) zusammengeschoben werden.
10. Trage nach Anspruch 9, wenn von Anspruch 3 abhängig,
dadurch gekennzeichnet, dass
die Einschnappvorrichtung (11) eine Endfläche (23) bildet, über die der Sicherungsstift (12) läuft, wenn die beiden Tragenhälften (2, 3) zusammengeschoben werden, um die Einschnappvorrichtung (11) sich zwangsläufig gegen die Vorspannung der Federbelastung (17) in eine offene Position drehen zu lassen, bis der Sicherungsstift (12) um einen Rand des Hakens (15) gelangt und die Federbelastung (17) wirkt, um den Haken (15) um den Sicherungsstift (12) herum in Eingriff zu bringen.
11. Trage nach Anspruch 10, wenn von Anspruch 4 abhängig,
dadurch gekennzeichnet, dass,
wenn die beiden Tragenhälften (2, 3) zusammengeschoben werden, ein äußerer Rand (24) der Endfläche (23) des Hakens (15) unterhalb der Feststellvorrichtung (13) zu liegen kommt und die Feststellvorrichtung (13) gegen die Kraft ihrer Federbelastung (22) dreht, bis der Haken (15) um den Sicherungsstift (12) herum in Eingriff kommt und die Federbelastung (22) wirkt, um die Feststellvorrichtung (13) in die Sicherungsposition zu bewegen.
12. Trage nach einem der Ansprüche 1 bis 11,
dadurch gekennzeichnet, dass
sowohl am Kopfende als auch am Fußende der Tra-

ge (1) identische Verbindungseinrichtungen (4, 5) vorgesehen sind.

13. Trage nach einem der Ansprüche 1 bis 12,
dadurch gekennzeichnet, dass
die Verbindungseinrichtungen (4, 5) derart ausgelegt sind, dass, wenn eine der Verbindungseinrichtungen (4, 5) gelöst ist, die beiden Tragenhälften (2, 3) durch eine Drehung der Einschnappvorrichtung (11) der befestigten Verbindungseinrichtungen (5, 4) um ihren Sicherungsstift (12) in Bezug aufeinander gedreht werden können.
14. Trage nach Anspruch 13,
dadurch gekennzeichnet, dass
die beiden Tragenhälften (2, 3) in Bezug aufeinander so gedreht werden können, dass sie an jedem Ende einen Winkel von bis zu 30° bilden.
15. Trage nach einem der Ansprüche 1 bis 14,
dadurch gekennzeichnet, dass
die Verbindungseinrichtungen (4, 5) in die Endflächen des Tragenkörpers eingelassen sind.
16. Trage nach einem der Ansprüche 1 bis 15,
dadurch gekennzeichnet, dass
jede Tragenhälfte (2, 3) mit mindestens zwei Hebegurten (9) versehen ist.
17. Trage nach Anspruch 16,
dadurch gekennzeichnet, dass jede Tragenhälfte (2, 3) mit einem Hebegurt (9), der sich angrenzend an einen Bereich der Trage (1) befindet, der dazu ausgelegt ist, die Schultern eines Patienten aufzunehmen, und einem zweiten Hebegurt (9) versehen ist, der sich angrenzend an den Bereich der Trage (1) befindet, der dazu ausgelegt ist, die Schenkel eines Patienten aufzunehmen.
18. Trage nach Anspruch 16 oder Anspruch 17,
dadurch gekennzeichnet, dass
jeder Hebegurt (9) in einer federbelasteten Spule (10) untergebracht ist, die an der Tragenhälfte (2, 3) befestigt ist.
19. Trage nach einem der Ansprüche 1 bis 18,
dadurch gekennzeichnet, dass
jede Tragenhälfte aus einem Kunststoffmaterial geformt ist und einen Schaufelabschnitt (6), auf dem ein Patient liegen kann und der dazu ausgelegt ist, um unter den Körper des Patienten geschoben zu werden, und einen erhöhten Rand (7) um seine äußeren Seiten umfasst.

Revendications

1. Civière (1) comprenant deux demi-civières (2, 3) re-

liées par des moyens de liaison (4, 5) disposés respectivement à une extrémité de tête et à une extrémité de pied de la civière (1) et permettant de désolidariser la civière à l'extrémité de tête et/ou à l'extrémité de pied, au choix, au moins un des moyens de liaison (4, 5) comprenant un verrou (11) monté de manière amovible sur une demi-civière et engageant une broche de verrouillage (12) disposée sur l'autre demi-civière, un cliquet (13) étant monté de façon contiguë à la broche de verrouillage (12) et étant mobile entre une position de verrouillage où il agit de façon à empêcher le mouvement du verrou (11) dans une direction tendant à le dégager de la broche de verrouillage (12) et une position déverrouillée où le verrou (11) peut être dégagé de la broche de verrouillage (12) pour permettre de séparer les deux demi-civiers (2, 3) l'une de l'autre, et

caractérisée en ce que

le verrou (11) et le cliquet (13) sont montés de manière à pouvoir pivoter sur des axes qui sont perpendiculaires à l'axe longitudinal de la civière (1).

2. Civière selon la revendication 1,
caractérisée en ce que
le verrou (11) est monté de manière pivotante (14) et sollicité par ressort (17) de manière à s'engager avec la broche de verrouillage (12).
3. Civière selon la revendication 2,
caractérisée en ce que
le verrou (11) comprend un crochet (15) situé d'un côté de son pivot (14) et s'engageant autour de la broche de verrouillage (12) et une gâchette (16) située de l'autre côté de son pivot (14), une pression sur la gâchette (16) en sens opposé au rappel par ressort (17) faisant pivoter le crochet (15) de manière à le dégager de la broche de verrouillage (12).
4. Civière selon l'une des revendications 1 à 3,
caractérisée en ce que
le cliquet (13) est monté de manière pivotante (18) et sollicité par ressort (22) dans sa position de verrouillage.
5. Civière selon l'une des revendications 1 à 4,
caractérisée en ce que
le cliquet (13) comprend un embout en saillie (19) qui est en contact avec le verrou (11) pour empêcher le mouvement de celui-ci.
6. Civière selon la revendication 5, dans la mesure où elle dépend des revendications 3 et 4,
caractérisée en ce que
l'embout en saillie (19) est situé d'un côté du pivot (18) du cliquet (13) et superpose le crochet (15) du verrou (11).
7. Civière selon la revendication 6,

caractérisée en ce que

le crochet (15) définit une encoche (20) qui reçoit l'embout en saillie (19) du cliquet (13).

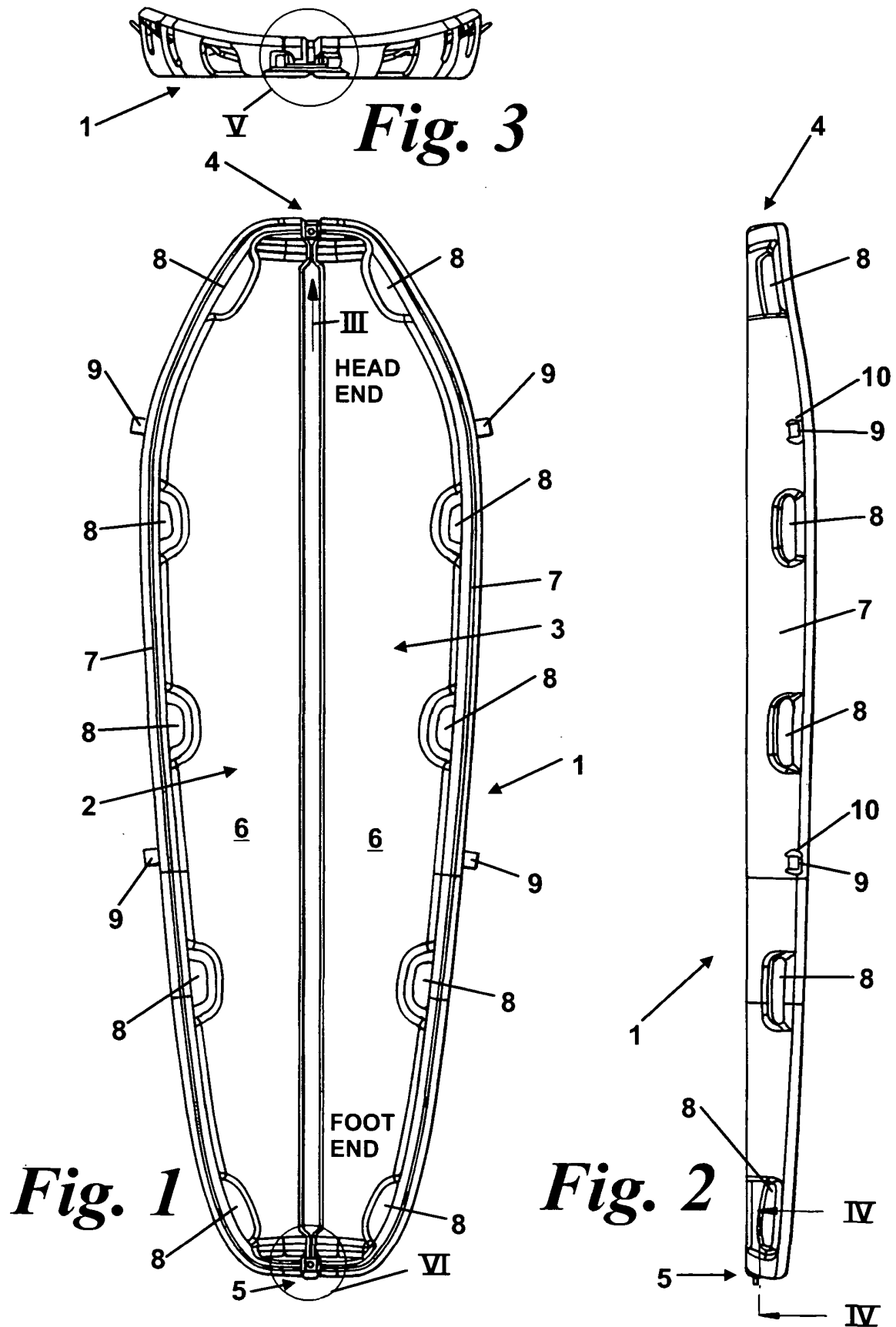
8. Civière selon la revendication 6 ou 7,
caractérisée en ce que
le cliquet (13) comprend une gâchette (21) située de l'autre côté de son pivot (19) par rapport à l'embout en saillie (19), une pression sur ladite gâchette (21) en sens opposé à la sollicitation par ressort (22) faisant pivoter l'embout (19) de manière à l'écarter du crochet (15) pour permettre le mouvement en rotation du crochet (15) de façon à le dégager de la broche de verrouillage (12).
9. Civière selon l'une des revendications 1 à 8,
caractérisée en ce que
le verrou (11) se ferme automatiquement autour de la broche de verrouillage (12) et le cliquet (13) se met automatiquement dans la position de verrouillage quand les deux demi-civiers (2, 3) sont rejointes.
10. Civière selon la revendication 9, dans la mesure où elle dépend de la revendication 3,
caractérisée en ce que
le verrou (11) définit une surface terminale (23) sur laquelle la broche de verrouillage (12) se déplace quand les deux demi-civiers (2, 3) sont rejointes de manière à forcer le verrou (11) à pivoter en sens opposé à la sollicitation par ressort (17) pour se mettre dans une position ouverte jusqu'à ce que la broche de verrouillage (12) contourne une arête du crochet (15) et que la sollicitation par ressort (17) s'exerce de façon à engager le crochet (15) autour de la broche de verrouillage (12).
11. Civière selon la revendication 10, dans la mesure où elle dépend de la revendication 4,
caractérisée en ce que
quand les deux demi-civiers (2, 3) sont rejointes, une arête extérieure (24) de la face terminale (23) du crochet (15) se situe au-dessous le cliquet (13) et fait pivoter le cliquet (13) en sens opposé à la force de sa sollicitation par ressort (22) jusqu'à ce que le crochet (15) s'engage autour de la broche de verrouillage (12) et que la sollicitation par ressort (22) s'exerce de façon à placer le cliquet (13) dans la position de verrouillage.
12. Civière selon l'une des revendications 1 à 11,
caractérisée en ce que
des moyens de liaison (4, 5) identiques sont disposés à l'extrémité de tête et à l'extrémité de pied de la civière (1).
13. Civière selon l'une des revendications 1 à 12,
caractérisée en ce que
les moyens de liaison (4, 5) sont adaptés de telle

façon que, quand l'un des moyens de liaison (4, 5) est détaché, les deux demi-civière (2, 3) peuvent pivoter l'une par rapport à l'autre par rotation du verrou (11) des moyens de liaison attachés (5, 4) autour de sa broche de verrouillage (12). 5

14. Civière selon la revendication 13,
caractérisée en ce que
les deux demi-civière (2, 3) peuvent pivoter l'une par rapport à l'autre pour définir un angle allant jusqu'à 30° à chaque extrémité. 10
15. Civière selon l'une des revendications 1 à 14,
caractérisée en ce que
les moyens de liaison (4, 5) sont logés à l'intérieur des faces terminales du corps de la civière. 15
16. Civière selon l'une des revendications 1 à 15,
caractérisée en ce que
chaque demi-civière (2, 3) est pourvue d'au moins deux sangles de relevage (9). 20
17. Civière selon la revendication 16,
caractérisée en ce que
chaque demi-civière (2, 3) est pourvue d'une sangle de relevage (9) située de façon contiguë à une zone de la civière (1) qui est adaptée pour recevoir les épaules d'un patient et d'une deuxième sangle de relevage (9) située de façon contiguë à la zone de la civière (1) qui est adaptée pour recevoir les cuisses d'un patient. 25 30
18. Civière selon la revendication 16 ou 17,
caractérisée en ce que
chaque sangle de relevage (9) est logée sur une bobine à sollicitation par ressort (10) fixée sur la demi-civière (2, 3). 35
19. Civière selon l'une des revendications 1 à 18,
caractérisée en ce que
chaque demi-civière est moulée dans une matière plastique et comprend une zone de lames (6) sur laquelle un patient peut reposer et qui est apte à passer sous le corps du patient, et un bord relevé (7) autour de ses côtés extérieurs. 40 45

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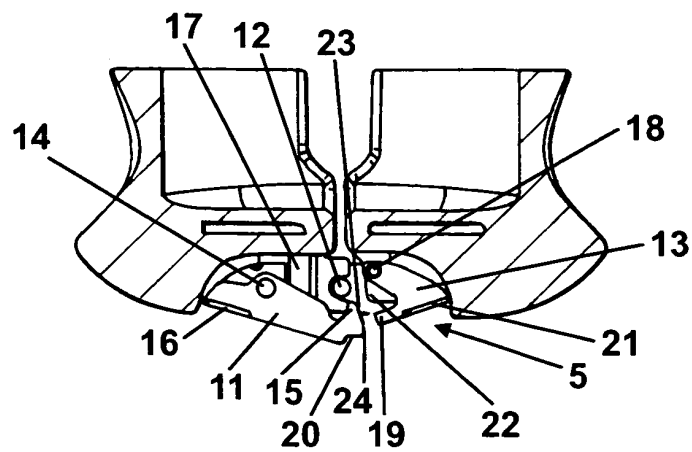


Fig. 4

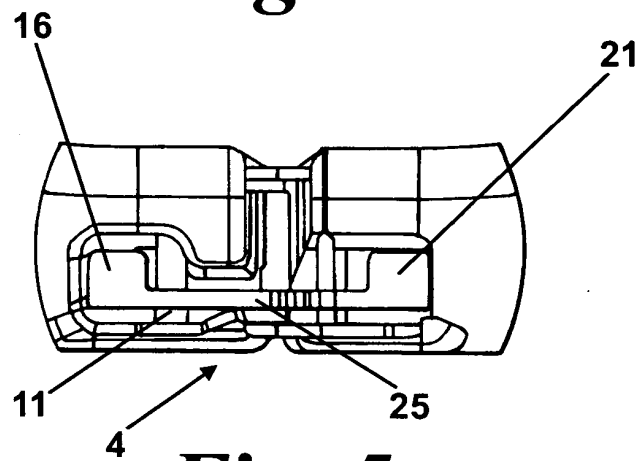


Fig. 5

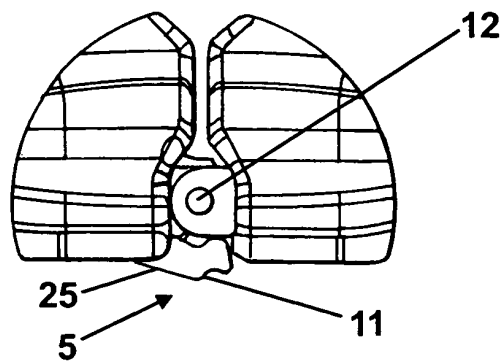


Fig. 6

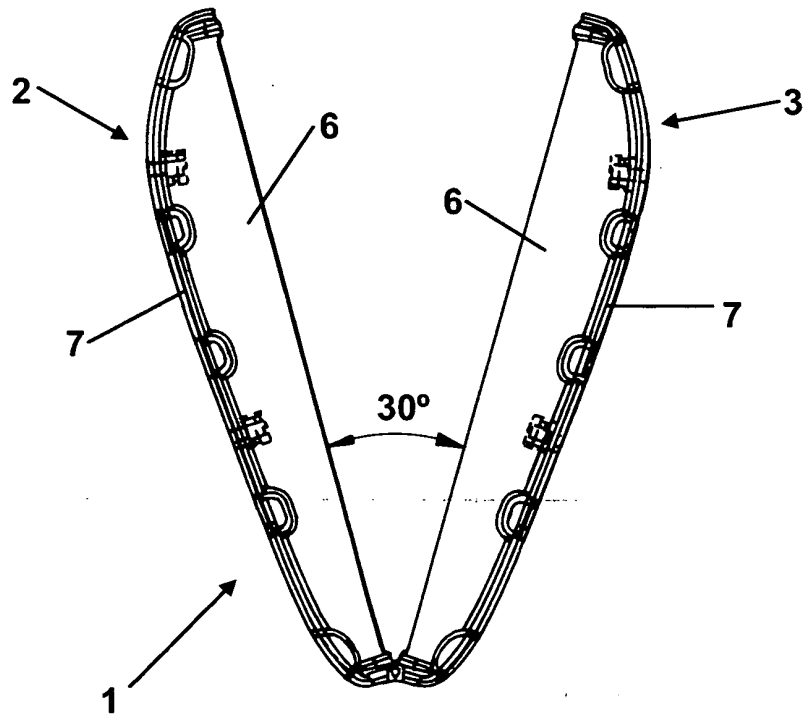


Fig. 7

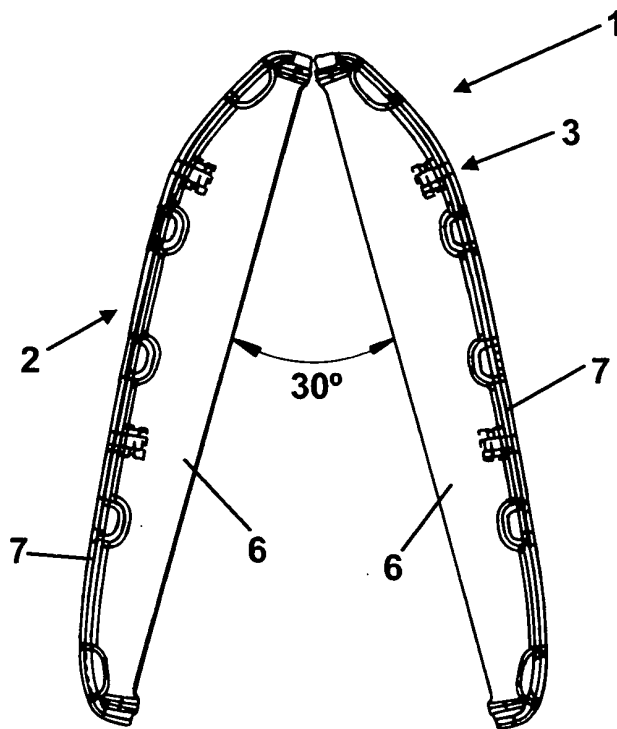


Fig. 8

REFERENCES CITED IN THE DESCRIPTION

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