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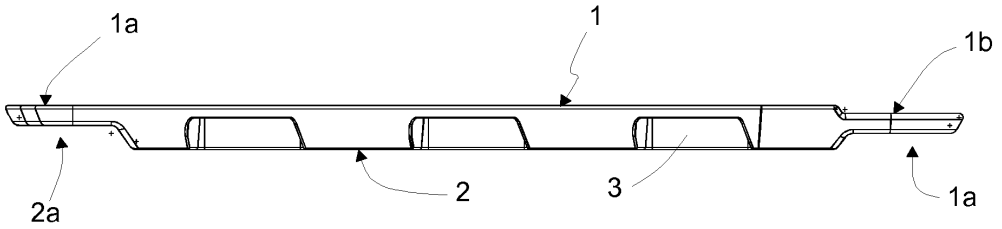
(54) **Pediatric backboard**

(57) The invention finds application in the art of backboards for total immobilization of injured patients before or during ambulance transportation. Particularly, it is applicable to pediatric backboards. Here, four differentiated rigid surfaces have been provided in the device, that can withstand the weight of the body and head of injured patients of different ages and sizes.

These surfaces allow proper alignment of the spine of the patient to be transported. This is a critical feature when the patients are children or teenagers, that have a much weaker neck and a much more prominent cranium.

FIG. 1



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Description

SPECIFICATION

[0001] The present invention relates to a backboard for total immobilization of injured patients (children and teenagers) before or during ambulance transportation.

[0002] A backboard is provided in the art that has two support surfaces only: a main rigid surface that is large enough to receive the body and back of a teenager patient; a second surface, lower than the former, that is designed to receive the head of a child.

[0003] One drawback of the prior art mainly consists in that only small patients can be properly positioned without damages to the spine.

[0004] It is known that the more the child is small the more his/her body, and especially his/her head of small children is prominent.

[0005] The muscular bundles of the neck are not developed enough to protect it from injuries caused by improper positioning and wrong immobilization.

[0006] Another drawback is that an incorrect position of the child's head partly hinders breathing. This might cause poor oxygenation of tissues and organs of the patient body, and hence irreversible damages or even death of the patient.

[0007] The object of the present invention is to solve the above problem, while allowing immobilization of four types of patients in one solution:

- children aged less than 5 years;
- children aged from 5 to 10 years;
- patients older than 10 and 15 years;
- teenager patients.

[0008] Age ranges shall be obviously intended empirically; the rescuer will have to select which surface to use according to the type of patients to be immobilized.

[0009] The apparent advantage of the device of the present invention is that it provides a backboard that can meet four different situations while having the same size as the pediatric backboard with two support surfaces. This is of critical importance in a medical rescue vehicle.

[0010] Another advantage is that it optimizes breathing of the patient immobilized on said device and causes irreversible damages or even death in case of children.

[0011] These objects and advantages are fulfilled by a pediatric backboard according to the present invention, which is characterized by the annexed claims.

[0012] This and other features will be more apparent upon reading of the following description of one preferred embodiment, which is shown by way of example and without limitation in the accompanying drawings, in which:

- Figure 1 is a side view of the pediatric backboard of the present invention;
- Figure 2 is a top view of the pediatric backboard;
- Figure 3 is a bottom view of the pediatric backboard.

[0013] Referring to the Figures, numeral 1 designates the main rigid support surface for immobilization of a teenager patient.

[0014] At the two ends, the head support surface 1a is coplanar with the surface 1, the surface 1b for the head of a smaller patient is lower than the surface 1.

[0015] Numeral 2 designates the adjacent surface opposite to the surface 1, terminating at its ends with the surface 2a and the surface 2b at two levels lower than the surface 2.

[0016] Numeral 3 designates the six apertures at the sides of the board for the passage of the adjustable restraint straps.

[0017] The operation of the device of the present invention will be described below with reference to the numerals of the figures.

[0018] According to his/her age, the patient to be carried is laid on the surface 1 and the surface 2 of the pediatric backboard.

[0019] Upon neutral alignment of the head with the spine, the patient is secured to the board by passing the adjustable straps through the apertures (3) at the sides of the board.

[0020] The backboard as described above allows accommodation of patients of four age ranges for proper cervical positioning.

[0021] For proper positioning of a head restraint and proper surface selection, a cuff may be added, not shown, which is equipped with self-adhesive tear tapes for fixation of such head restraint.

Claims

1. A pediatric backboard, **characterized in that** it is composed of a main rigid surface (1) that is large enough to receive the body, torso and head of a teenager patient and at least two surfaces at different levels lower than the surfaces (1) and (2).

2. A pediatric backboard, **characterized in that** it is composed of a main rigid surface (1) and three surfaces at three different levels lower than the surfaces (1) and (2).

3. A pediatric backboard, **characterized in that** it is composed of:

   a) a main rigid surface (1) that is large enough to receive the body, torso and head of a teenager patient;
   b) a rigid surface (1b) lower than the body receiving surface, that is large enough to receive the head of a patient aged about 15 years;
   c) a rigid surface (2) for receiving the body and torso of a child;
   d) a rigid surface (2a) lower than the body receiving surface, that is large enough to receive

the head of a child aged less than 10 years;
e) a rigid surface (2b) lower than the body receiving surface, that is large enough to receive the head of a child aged about 5 years;

4. A pediatric backboard as claimed in claim 1, **characterized in that** the board has elongate apertures (3) through which restraint straps are passed and fixed for securing the body of the patient to be carried.

5. A pediatric backboard as claimed in claim 1, **characterized in that** it has a cuff equipped with self-adhesive tear tapes for proper positioning of a head restraint and selection of the surface.

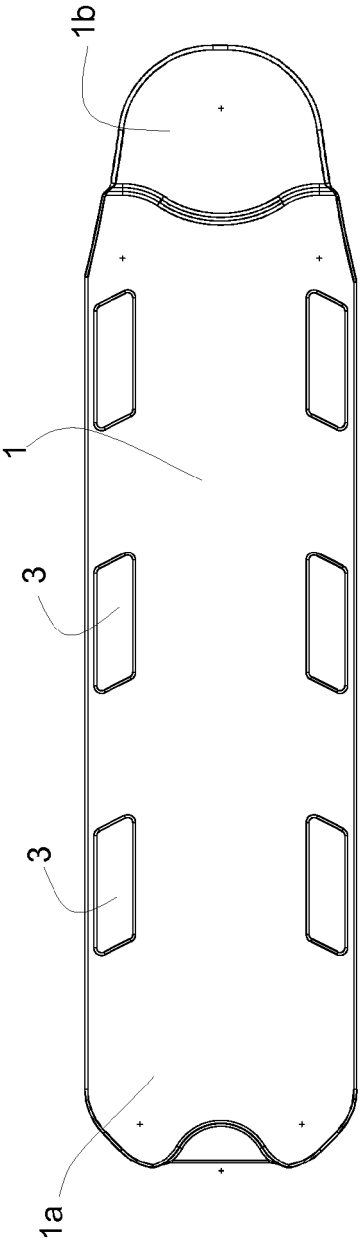

FIG. 3

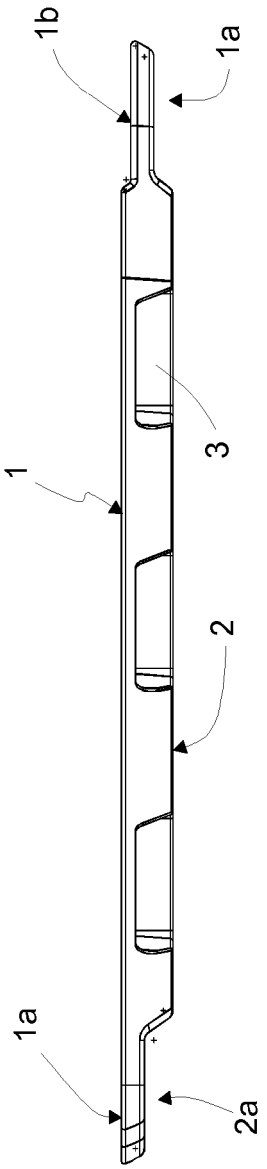

FIG. 1

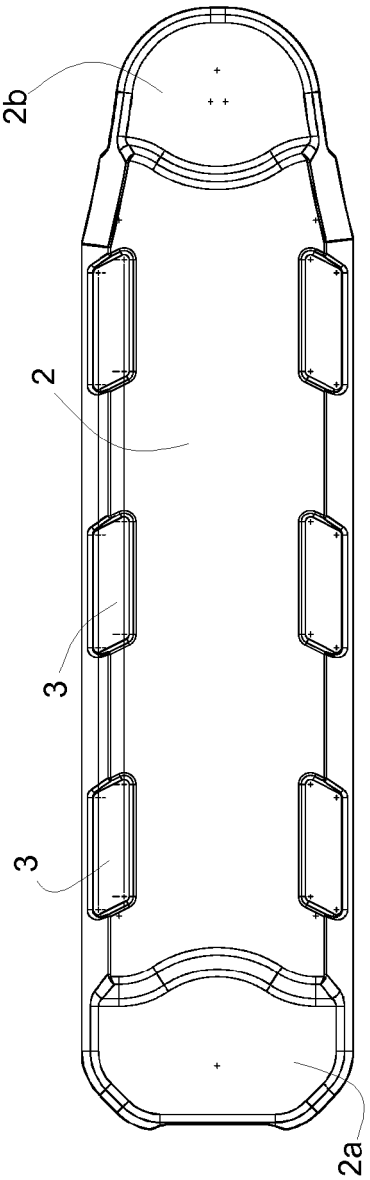

FIG. 2