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(54) **Floating means to rescue and carry people in a sanitary way by means of water scooters**

Schwimmendes Mittel zum Retten und Befördern von Menschen auf hygienische Weise mittels Wasser-Scootern

Moyens flottants pour sauver et transporter des personnes de manière sanitaire avec des motomarines

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(73) Proprietor: **GIARO SNC**
00141 Roma (IT)

(72) Inventor: **Guida, Gianluca**
00141 Roma (IT)

(74) Representative: **Marcio', Paola et al**
Ing. Mari & C. SRL
Via Garibotti, 3
26100 Cremona (IT)

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Description

[0001] The present invention relates to the sector of salvage means for use in water.

[0002] The present invention concerns in particular a floating device for the rescue and transport of individuals by means of water-scooters in a sanitary way.

[0003] In an earlier patent no. IT 1 343 515 in the name of the same applicant, a floating device is described for performing the same functions.

[0004] Said device mainly comprises an outer housing out of water-repellent material and an internal structure divided into three sections with different floating degrees, besides accessories for fixing the transported person and seizing said device.

[0005] Because of its structure, said device does not float uniformly. In fact, the presence of an internal structure consisting of a plurality of sections made of different materials is prejudicial to the stability of said device when it is carried by means of water-scooters.

[0006] Furthermore, the known device is not stiff enough, so that when the stretcher is carrying the transported person, it turns out to be very dangerous to lift it by its lateral handles.

[0007] A rescue assembly is disclosed in US-A-3 343 189, including stiffening upper perimeter bar and bracing bars which are in turn each connected to lower support bars. A raft is shown in US-A-3 887 953, comprising a frame structure of lightweight aluminium tubing, having a one piece or integral construction tying the body section and the pontoons together as a unit. A stretcher is also known from US 2003/213066 including a substantially rigid cavity, so that the patient can be adequately protected during transportation.

[0008] It is the aim of the present invention to overcome the above mentioned inconveniences.

[0009] The aim set forth is reached by the floating device according to claim 1. Preferred embodiments are claimed in the depending claims.

[0010] The advantages obtained by the present improvement are many: the use of one single filling material enables a uniform floating of the device according to the present invention; the longitudinal stiffness of the device allows an easier lifting by means of the lateral handles; the stay of the person on the stretcher is more comfortable; the amortizing of the strokes on the water during carrying is improved; the realization of the device is cheaper and easier.

[0011] Further advantages deriving from said longitudinal shapes are: facility in folding for winding the stretcher and placing the same astern of the water-scooters (in stand-by), and further unfolding and use of the same without any help other than the first aid operator; greater lateral protection (hydrodynamic effect) of shoulders and legs due to the considerable floating difference between the areas with the expanded material and the areas without the same, in correspondence of the longitudinal structures.

[0012] The advantages of the device according to the present invention will be described more in detail with reference to the enclosed figures, in which:

- figure 1 shows an axonometric view of a floating device for the rescue and carrying of individuals by means of water-scooters according to the present invention, in its open and spread position;
- figure 2 shows an axonometric view of the internal structure of the floating device according to the present invention;
- figure 3 shows the floating device according to the present invention in its wound up stand-by position, astern of a water-scooter M;
- figure 4 shows the floating device according to the present invention spread and floating on the water, carried by a water-scooter M.

[0013] The enclosed figures show a floating device for the rescue and medical transport of individuals by means of water-scooters in a sanitary way according to the present invention, comprising:

- an outer coating structure 1 out of water-resistant material;
- an internal filling structure 2, obtained out of one single expanded material plate or alternatively composed by a plurality of superimposed plates, provided with bent edges 3 allowing an easy application of said coating 1, said structure 2 having longitudinal shapes 4, 5 allowing a better stability of the transported person, favouring a half-rigidity on the head-neck-spine-pelvis-legs axis of the same, in which three sections may be singled out:
- an upper part determining, with the help of said longitudinal shapes 4 housing the upper limbs of the transported person, a greater lateral protection in correspondence with the upper part of its trunk;
- a central part for absorbing the stresses while carrying the device;
- a lower part determining a light sinking of the lower limbs of the transported person, lying on its back, said limb being laterally wrapped up by said stretcher, in order to achieve two main aims: firstly, while loading a person, its legs are blocked so as to prevent them from sliding on the side opposite to the loading side; secondly, while transporting a person, its legs are maintained in the housing of the longitudinal shapes 5 thanks to the surrounding hydrodynamic effect of the water;
- a plurality of belts 6 and/or blockings of different kind for the transport and carrying;
- a plurality of points 7 for hooking and carrying the stretcher;
- a plurality of handles 8 for transport in water or on ground;
- a plurality of bags for accessories.

[0014] The outer coating structure 1 is preferably continuous and out of PVC, except for one point where an outlet is provided (not shown in the figures) allowing the outflow of possible steam that may be created inside.

[0015] The filling plate 2 is preferably out of closed-cells polyethylene with a thickness of about 60 mm, in one single or multiple layer.

[0016] Said longitudinal structures 4, 5 comprise two parallel slits 4 in the part of the head and of the upper part of the trunk, and two parallel slits 5 in the part of the legs of the transported person. Said slits are arranged as to be parallel to the longitudinal axis of the device according to the present invention and to leave whole the part of the pelvis of the transported person.

[0017] Concerning the working of the floating device for the salvage and medical transport of individuals by means of water-scooters according to the present invention, when the device is not used, it is wound up astern of the water-scooter without weighing on the immersed part thereof so as not to interfere in the patrolling manoeuvres during along the cost and/or in narrow spaces, coves and small bays, as well as during quick interventions.

[0018] The unwinding of the floating device according to the present invention can take place by means of quick unleashing buckles, which allow immediate operating without inflating or depressing or other.

[0019] Furthermore, the device according to the present invention can be quickly unleashed with the hurt person lying on it and can be used for emergency transport.

[0020] The person lying on the stretcher can be placed on another one for the transport in ambulance and/or helicopter.

[0021] The floating device according to the present invention can be used in different ways, for example connected to another carrying means for fun of for transporting not-injured individuals or objects, and different materials can be used to produce it, still remaining within the scope of the invention.

Claims

1. A floating device suitable for the rescue and transport of injured or unconscious persons by means of water-scooters, comprising an outer coating structure (1) made of water resistant material, and an internal filling structure (2) made of floating material, wherein said internal filling structure comprises one single plate, or alternatively a plurality of superposed plates, out of expanded material, having longitudinal structures (4, 5), for allowing a better stability of the transported person, **characterized in that** said longitudinal structures (4, 5) comprise two parallel slits (4) in the upper part of the internal structure (2) arranged for supporting the head and the upper part of the trunk, and two parallel slits (5) in the lower part of the internal structure (2), arranged for supporting the legs of the transported person, and said slits are arranged as to be parallel to the longitudinal axis of said device, leaving intact the central part of the internal structure (2), arranged for supporting the pelvis of the transported person.

2. A floating device according to claim 1, **characterized in that** the expanded material forming the internal filling structure (2) is closed-cells polyethylene.

3. A floating device according to claim 1, **characterized in that** said plate forming said internal filling structure (2) having longitudinal structures (4, 5) comprises bent edges (3) so as to allow a more comfortable application of the outer waterproof coating (1).

Patentansprüche

1. Schwimmende Vorrichtung, dazu geeignet verletzte und ohnmächtige Menschen mit Hilfe von Wasserscootern zu retten, wobei diese Vorrichtung aus einer äußeren Beschichtung (1), aus wasserbeständigem Material und aus einer füllenden inneren Struktur (2) aus schwimmendem Material geformt ist, wobei diese sich im Inneren befindliche Struktur aus einer einzelnen Platte oder wahlweise aus mehreren übereinander liegenden Platten aus aufgeblasenem Material besteht und eine längliche Struktur (4, 5) besitzt, um eine größere Stabilität der transportierten Menschen zu gewährleisten, **dadurch gekennzeichnet dass** besagte längliche Strukturen (4, 5) zwei parallele Schlitzte (4) im oberen Teil der inneren Struktur (2) aufweisen, zur Stütze des Kopfes und des Rumpfes, und zwei parallele Schlitzte (5) im unteren Teil der inneren Struktur (2), die zur Stütze der Beine der transportierten Menschen dienen, wobei genannte Schlitzte derart angeordnet sind, dass sie parallel zur Längsachse genannter Vorrichtung verlaufen und dabei den zentralen Teil der inneren Struktur (2) zur Stütze des Beckens der transportierten Person unberührt lassen.

2. Schwimmende Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** das aufgeblasene Material welches die innere füllende Struktur (2) bildet, aus geschlossenzelligem Polyäthylen besteht.

3. Schwimmende Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet**, ass besagte Platte, die die besagt füllende innere Struktur (2) bildet, eine längliche Struktur (4,5) hat, wobei sie gebogene Ränder (3) aufweist um dadurch eine bessere Anbringung des äußeren wasserbeständigen Materials (1) zu ermöglichen.

Revendications

1. Un dispositif flottant pour le sauvetage et le transport de personnes blessés ou inconscientes au moyen d'eau scooters, comprenant une structure de revêtement externe (1) en matériau résistant à l'eau, et une structure de remplissage interne (2) d'un matériau flottant, dans lequel ladite structure de remplissage interne comprend une plaque unique ou, en variante, une pluralité de plaques superposées en matériau expansé, ayant des structures longitudinales (4, 5), pour permettre une meilleure stabilité de la personne transportée, **caractérisé en ce que** lesdites structures longitudinales (4, 5) comprennent deux fentes parallèles (4) dans la partie supérieure de la structure interne (2) disposées pour supporter la tête et la partie supérieure du tronc, et deux fentes parallèles (5) dans la partie inférieure de la structure interne (2), disposées pour supporter les jambes de la personne transportée, et lesdites fentes sont disposées de manière à être parallèles à l'axe longitudinal dudit dispositif, en laissant intacte la partie centrale de la structure interne (2), disposée pour supporter le bassin de la personne transportée.

2. Un dispositif flottant selon la revendication 1, **caractérisé en ce que** le matériau expansé constituant la structure interne de remplissage (2) est à cellules fermées de polyéthylène.

3. Un dispositif flottant selon la revendication 1, **caractérisé en ce que** ladite plaque formant ladite structure interne de remplissage (2) ayant des structures longitudinales (4, 5), comprend des bords courbés (3) de façon à permettre une application plus confortable du revêtement externe (1) imperméable à l'eau.

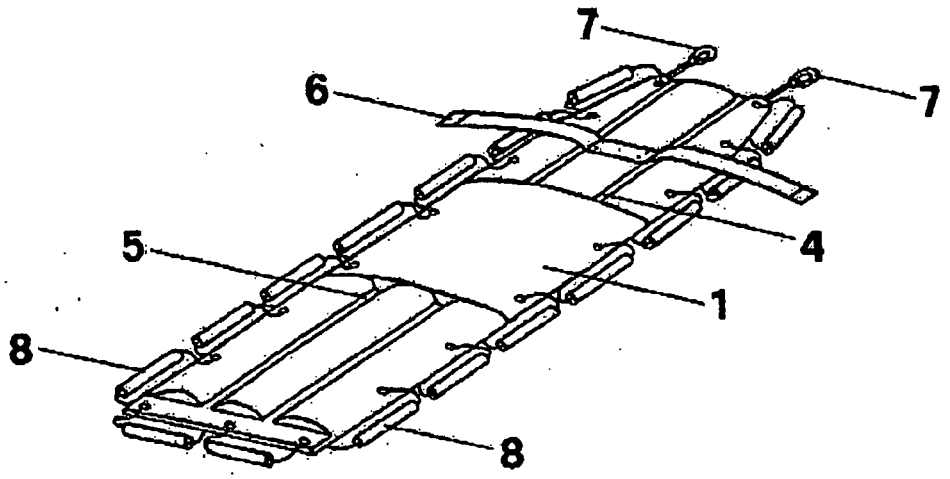

FIG.1

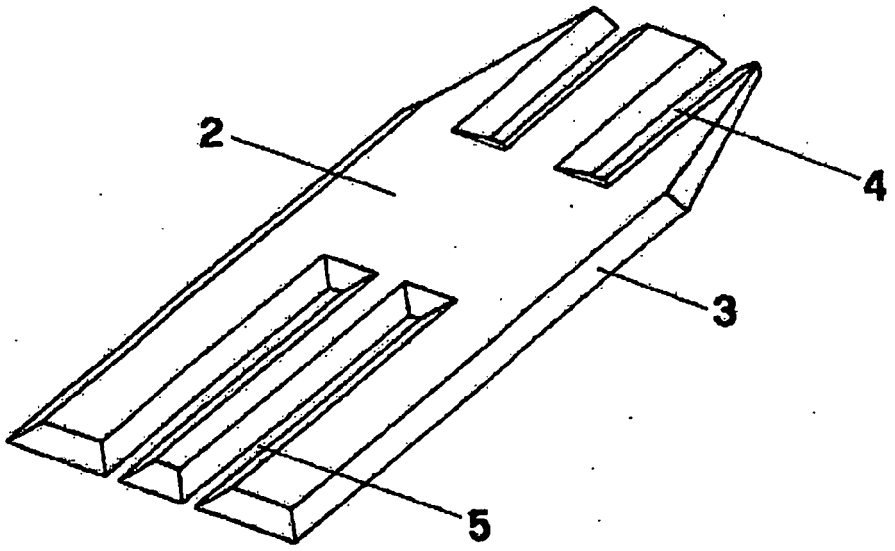

FIG.2

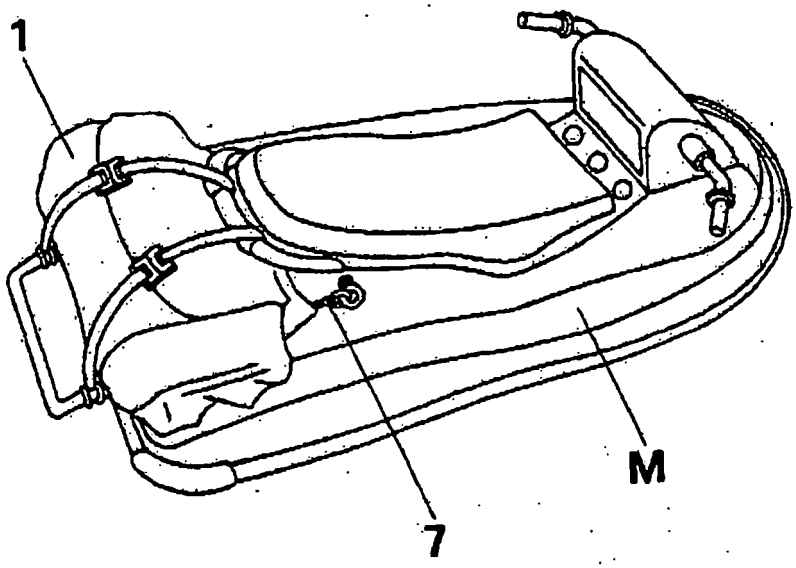

FIG.3

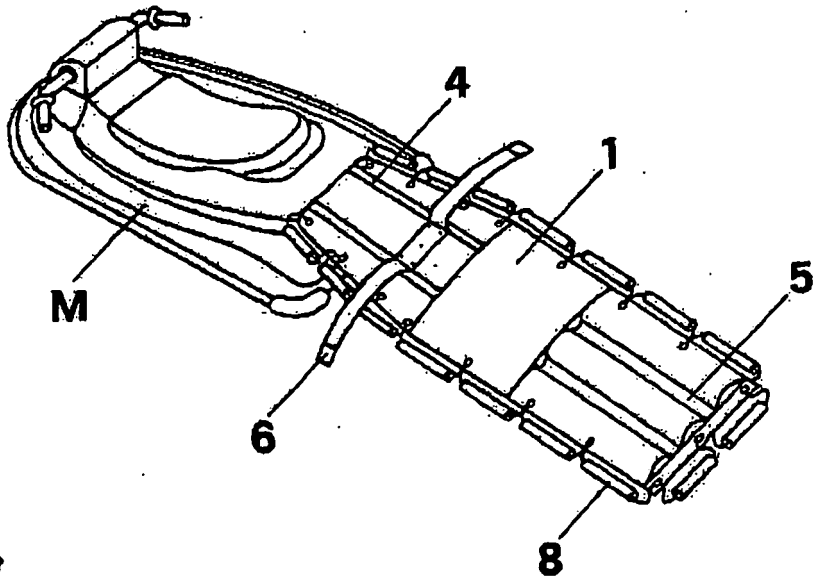

FIG.4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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- US 3343189 A **[0007]**
- US 3887953 A **[0007]**
- US 2003213066 A **[0007]**