

(19)



(11)

EP 2 397 399 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
19.12.2012 Bulletin 2012/51

(51) Int Cl.:
B63B 27/14 (2006.01)

(21) Application number: **11167498.2**

(22) Date of filing: **25.05.2011**

(54) **Loading-bridge construction for nautical use**

Ladebrückenkonstruktion für den Schiffsgebrauch

Construction de passerelle pour l'usage marin

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

(30) Priority: **15.06.2010 IT MI20101073**

(43) Date of publication of application:
21.12.2011 Bulletin 2011/51

(73) Proprietor: **Marlin Boat S.r.l.**
22070 Luisago (CO) (IT)

(72) Inventor: **Selva, Stefano**
22070 Luisago (CO) (IT)

(74) Representative: **Cicogna, Franco**
Ufficio Internazionale Brevetti
Dott.Prof. Franco Cicogna
Via Visconti di Modrone, 14/A
20122 Milano (IT)

(56) References cited:
WO-A1-93/21389 WO-A1-95/15787
WO-A1-2005/047097 FR-A1- 2 355 123
GB-A- 2 428 656 SU-A1- 914 403
US-A- 3 808 625 US-A- 4 989 691
US-A- 5 301 630

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

EP 2 397 399 B1

Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a loading-bridge construction, particularly for nautical use.

[0002] As known, where a boat is moored at a wharf, a loading-bridge construction to facilitate the disembarkment is used.

[0003] Such a loading-bridge conventionally comprises a metal framework supporting walking-on elements and being further provided with a handrail.

[0004] However, the use of this loading bridge is greatly limited by on-board stowing problems.

[0005] In fact, the size and weight of prior loading-bridges are such as to render them suitable only for large-size boats.

[0006] Existing small size loading-bridges, on the other hand, are unpractical and unsafe in operation.

[0007] The document SO-A-914 403 discloses substantially the preamble of claim 1.

SUMMARY OF THE INVENTION

[0008] Accordingly, the aim of the present invention is to provide a loading-bridge construction, specifically designed to solve the above mentioned prior art problems.

[0009] Within the scope of the above mentioned aim, a main object of the invention is to provide such a collapsible loading-bridge construction which, in its use configuration, has a size allowing an easy and safe access to the wharf, and which, moreover, may be easily and quickly stowed in its collapsed condition.

[0010] Another object of the present invention is to provide such a loading-bridge construction which has a very small weight.

[0011] Another object of the present invention is to provide such a loading-bridge construction which, owing to its specifically designed structural features, is very reliable and safe in operation.

[0012] Yet another object of the present invention is to provide such a loading-bridge construction which can be easily made starting from easily available elements and materials and which, moreover, is very competitive from a mere economic standpoint.

[0013] According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a loading-bridge construction for nautical use according to claim 1.

[0014] In order to further increase the loading-bridge construction loading capability, disassemblable strut elements arranged between the inflatable body and tie-rod elements are moreover provided.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] Further characteristics and advantages of the

present invention will become more apparent hereinafter from the following detailed disclosure of a preferred, though not exclusive, embodiment of the invention, which is illustrated, by way of an indicative, but not limitative, example in the accompanying drawings, where:

Figure 1 is a perspective view of a loading-bridge construction according to the present invention shown in a use condition thereof;

Figure 2 is a side elevation view of the loading-bridge construction according to the present invention shown in a use condition thereof;

Figure 3 is a front elevation view of the inventive loading-bridge construction in a use condition thereof;

Figure 4 is a top plan view of the inventive loading-bridge construction in a use condition thereof; and Figure 5 is a bottom view of the inventive loading-bridge construction in a use condition thereof.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0016] With reference to the number references of the above mentioned figures, the loading-bridge construction, specifically designed for nautical use, according to the present invention, and which has been generally indicated by the reference number 1, comprises an inflatable body 2, which includes a walking-on portion 3.

[0017] Advantageously, said inflatable body 2 is made of a fabric material comprising two rubber layers joined by yarns or threads to one another.

[0018] Said rubber layers are contoured and joined to one another by a glueing or thermosealing arrangement.

[0019] As the inflatable body 2 is inflated, the two surfaces thereof coupled to one another by the mentioned coupling yarns or threads, are parallel, thereby providing a walking-on body.

[0020] In order to increase the thus constructed loading-bridge construction loading capability, the body 2 assumes, in its use condition, a bridge bent configuration, provided by one or more tie-rod means 4 operating at the end portions 5 and 6 of the body 2.

[0021] In the shown exemplary embodiment, said tie-rod means 4 are two.

[0022] However, the number of the tie-rod means may vary depending on the loading-bridge length and/or width.

[0023] Between the tie-rods 4 and inflatable body 2 strut elements 7 are advantageously arranged, said strut elements comprising a strut element stem 8 including a base 9 bearing on the inflatable body 2 and an enlarged head portion 10 operating on the tie-rod means.

[0024] The strut elements 7 are so designed as to further increase the length dimension of the loading-bridge construction.

[0025] Thus, owing to the provision of the above bent configuration and the strut elements 7 arranged between

the tie-rod means 4 and inflatable body 2, it is possible to provide a sufficiently rigid loading-bridge adapted to support loads of substantially 150 Kg.

[0026] The tie-rod means are preferably made of a synthetic material and may be easily disassembled to facilitate the stowing thereof.

[0027] Moreover, said strut elements may also be made of any other suitable material and may also have an inflatable construction.

[0028] The tie-rod means 4, in turn, may comprise, according to a further embodiment thereof, one or more belts clamped to the end portions of the inflatable body.

[0029] It has been found that the invention fully achieves the intended aim and objects.

[0030] In fact, the invention provides a collapsible loading-bridge construction having three cooperating important features:

a dimension, that is a length/width, such as to facilitate and make safe the wharf passage;
a facilitated stowing, since the inventive loading-bridge may be deflated and rolled on so as to quickly and easily stow it even on small size boats;
a small weight since, the size being the same, the inventive loading-bridge has the same weight as a carbon loading-bridge, but also having a much less cost.

[0031] In practicing the invention, the materials used for making the inventive loading-bridge and tie-rods and strut elements therefor, as well as the contingent size and shapes, can be any, depending on requirements.

Claims

1. A loading-bridge construction (1) for nautical use, comprising an inflatable body (2) having a use configuration, wherein said body (2) is inflated and rigid and comprises a walking-on portion (3), and a collapsed configuration, wherein said body (2) has a reduced size and non rigid configuration, to be easily folded, **characterized in that** said inflatable body (2) is made of a fabric material comprising two rubber layers joined by yarns or threads to one another, said rubber layers being contoured and joined by a glueing or thermosealing arrangement; in an inflated condition the two surfaces coupled to one another of said yarns or threads being parallel and forming a walking-on body.
2. A loading-bridge construction, according to claim 1, **characterized in that**, in said use condition, said body (2) has a bridge bent configuration provided by tie-rod means (4) operating on the end portions (5, 6) of said body (2).
3. A loading-bridge construction, according to claim 2,

characterized in that said tie-rod means (4) comprise one or more belts clamped to the end portions of said inflatable body (2).

4. A loading-bridge construction, according to one or more of the preceding claims, **characterized in that** said construction comprises a strut element (7) arranged between each said tie-rod means (4) and inflatable body (2).
5. A loading-bridge construction, according to one or more of the preceding claims, **characterized in that** each said strut element (7) comprises a strut element stem (8) having a bearing base (9) which bears on the inflatable body (2), and an enlarged head (10) operating on the tie-rod means (4).
6. A loading-bridge construction, according to one or more of the preceding claims, **characterized in that** each said strut element (7) is a disassemblable element made of a synthetic material.
7. A loading-bridge construction, according to one or more of the preceding claims, **characterized in that** each said strut element (7) is made by any suitable materials and with any suitable shape and size and may also be of an inflatable type.

Patentansprüche

1. Ladebrückenkonstruktion (1) für den Schiffsgebrauch, die einen aufblasbaren Korpus (2) umfasst, der eine Gebrauchskonfiguration, in welcher der Korpus (2) aufgeblasen und starr ist und einen begehbaren Abschnitt (3) umfasst, und eine zusammengefallene Konfiguration, in welcher der Korpus (2) eine verringerte Größe und eine nicht starre Konfiguration hat, um leicht zu falten zu sein, hat, **dadurch gekennzeichnet, dass** der aufblasbare Korpus (2) aus einem textilen Werkstoff hergestellt ist, der zwei Gummilagen umfasst, die durch Zwirne oder Fäden miteinander verbunden sind, wobei die Gummilagen durch eine klebende oder heißsiegelnde Anordnung konturiert und verbunden sind, wobei die zwei durch die Zwirne oder Fäden aneinander gekoppelten Flächen in einem aufgeblasenen Zustand parallel sind und einen begehbaren Korpus bilden.
2. Ladebrückenkonstruktion nach Anspruch 1, **dadurch gekennzeichnet, dass** der Korpus (2), in der Gebrauchskonfiguration, eine brückenartig gebogene Konfiguration hat, die durch Verbindungsmittel (4) gewährleistet wird, die an den Endabschnitten (5, 6) des Korpus (2) wirken.
3. Ladebrückenkonstruktion nach Anspruch 2, **da-**

durch gekennzeichnet, dass die Verbindungsstangenmittel (4) einen oder mehrere Gurte umfassen, die an die Endabschnitte des aufblasbaren Korpus (2) geklammert sind.

4. Ladebrückenkonstruktion nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Konstruktion ein Strebenelement (7) umfasst, das zwischen jedem Verbindungsstangenmittel (4) und dem aufblasbaren Korpus (2) angeordnet ist.
5. Ladebrückenkonstruktion nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** jedes Strebenelement (7) einen Strebenelementschaft (8), der eine Lagerbasis (9) hat, die auf dem aufblasbaren Korpus (2) aufliegt, und einen vergrößerten Kopf (10), der an den Verbindungsstangenmitteln (4) wirkt, umfasst.
6. Ladebrückenkonstruktion nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** jedes Strebenelement (7) ein demontierbares, aus einem synthetischen Material hergestelltes, Element ist.
7. Ladebrückenkonstruktion nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** jedes Strebenelement (7) aus beliebigen geeigneten Werkstoffen und mit einer beliebigen geeigneten Form und Größe hergestellt ist und ebenfalls von einer aufblasbaren Art sein kann.

5

10

15

20

25

30

Revendications

35

1. Construction de passerelle (1) pour l'usage marin, comprenant un corps gonflable (2) ayant une configuration d'utilisation, dans laquelle ledit corps (2) est gonflé et rigide, et comprend un passage pour piétons (3), et une configuration rétractée, dans laquelle ledit corps (2) présente une taille réduite et une configuration non rigide, pour être facilement plié, **caractérisée en ce que** ledit corps gonflable (2) est constitué de tissu comprenant deux couches de caoutchouc réunies par des fils l'une à l'autre, lesdites couches de caoutchouc étant réunies sur leur contour par collage ou thermoscellage ; à l'état gonflé, les deux surfaces couplées l'une à l'autre par lesdits fils qui sont parallèles et forment un corps de passage pour piétons.
2. Construction de passerelle, selon la revendication 1, **caractérisée en ce que**, dans ladite configuration d'utilisation, ledit corps (2) présente une configuration repliée en passerelle assurée par des tirants (4) agissant sur les parties d'extrémité (5, 6) dudit corps (2).

40

45

50

55

3. Construction de passerelle, selon la revendication 2, **caractérisée en ce que** lesdits tirants (4) comprennent une ou plusieurs courroies fixée(s) aux parties d'extrémité dudit corps gonflable (2).

4. Construction de passerelle, selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** ladite construction comprend un élément de support (7) disposé entre chacun desdits tirants (4) et le corps gonflable (2).

5. Construction de passerelle, selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** chacun desdits éléments de support (7) comprend une tige d'élément de support (8) ayant une base d'appui (9) qui s'appuie sur le corps gonflable (2), et une tête élargie (10) agissant sur les tirants (4).

6. Construction de passerelle, selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** chacun desdits éléments de support (7) est un élément démontable en matière synthétique.

7. Construction de passerelle, selon l'une ou plusieurs des revendications précédentes, **caractérisée en ce que** chacun desdits éléments de support (7) est en une matière adaptée quelconque, de forme et de taille adaptées quelconques, et peut également être de type gonflable.

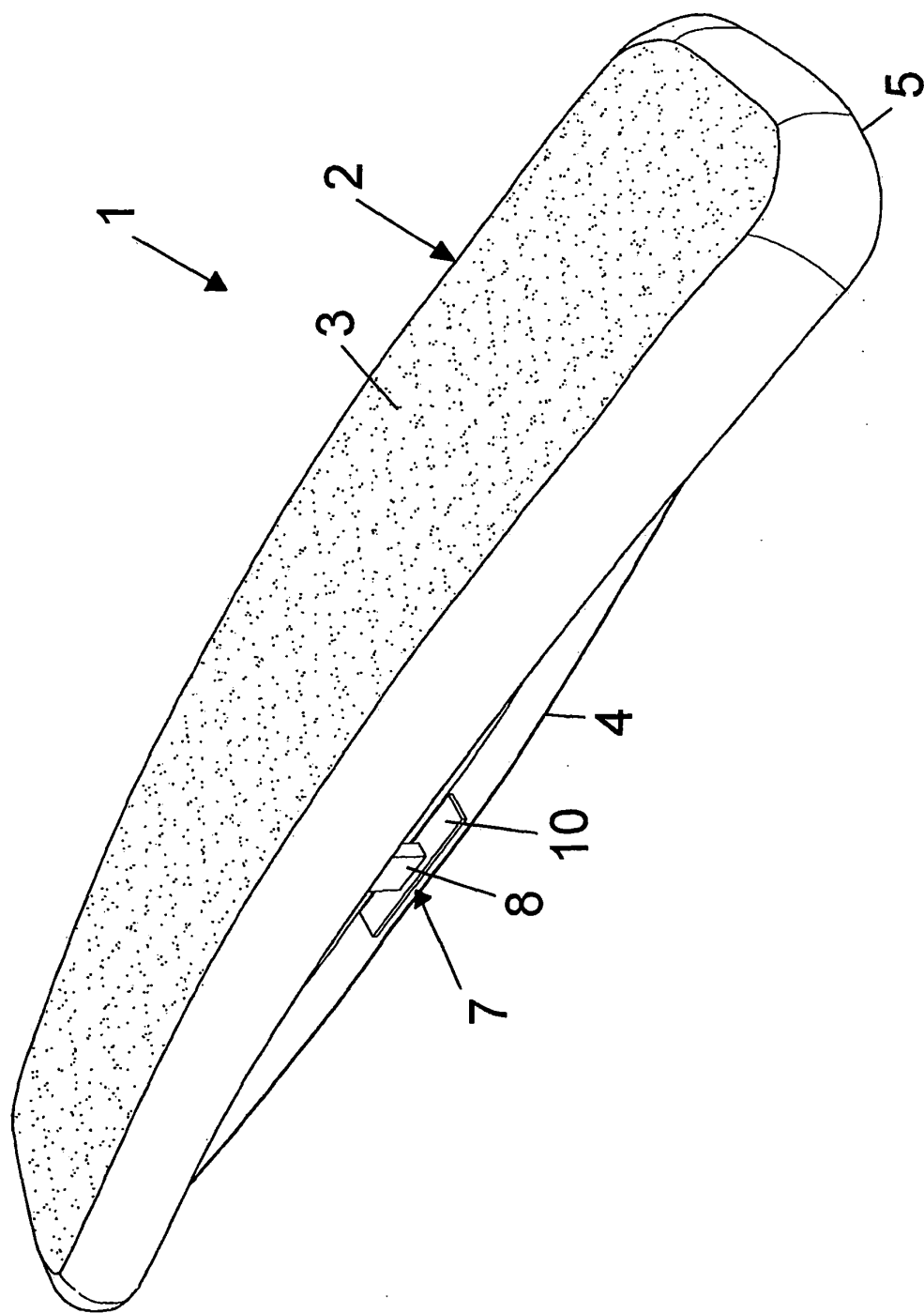


FIG. 1

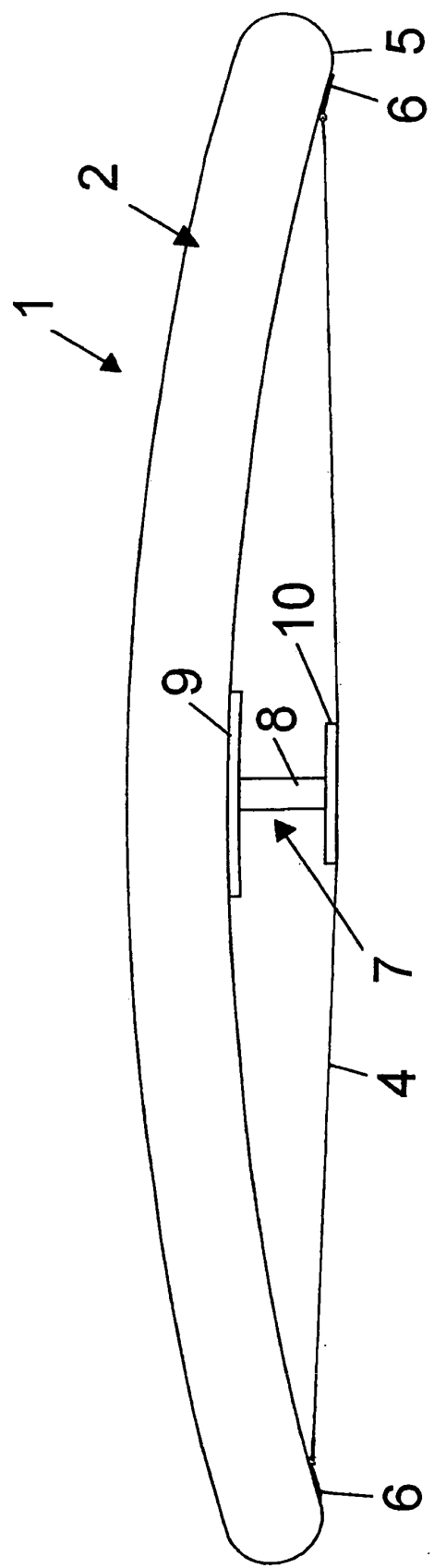


FIG. 2

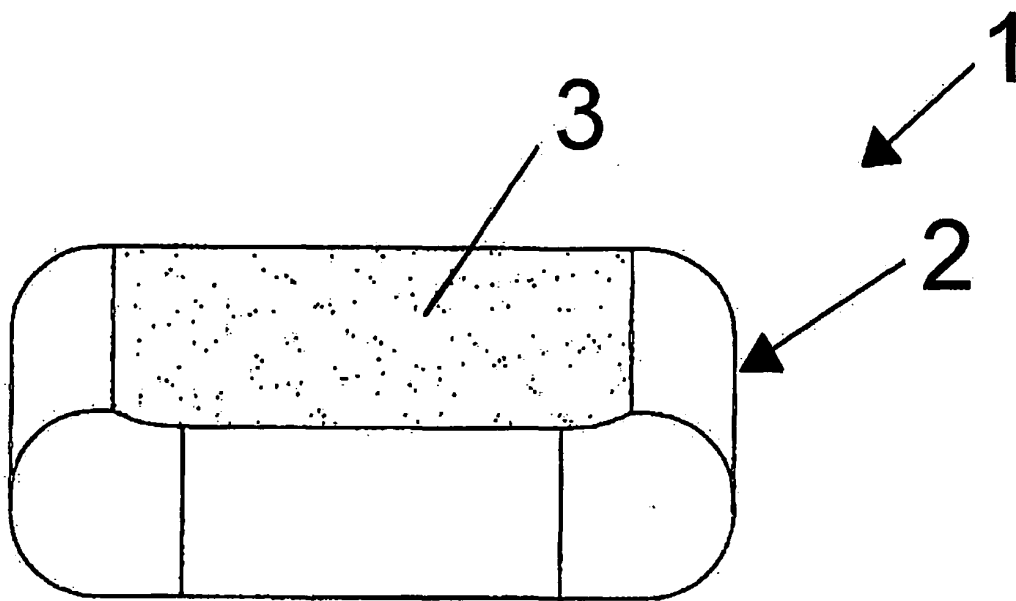


FIG. 3

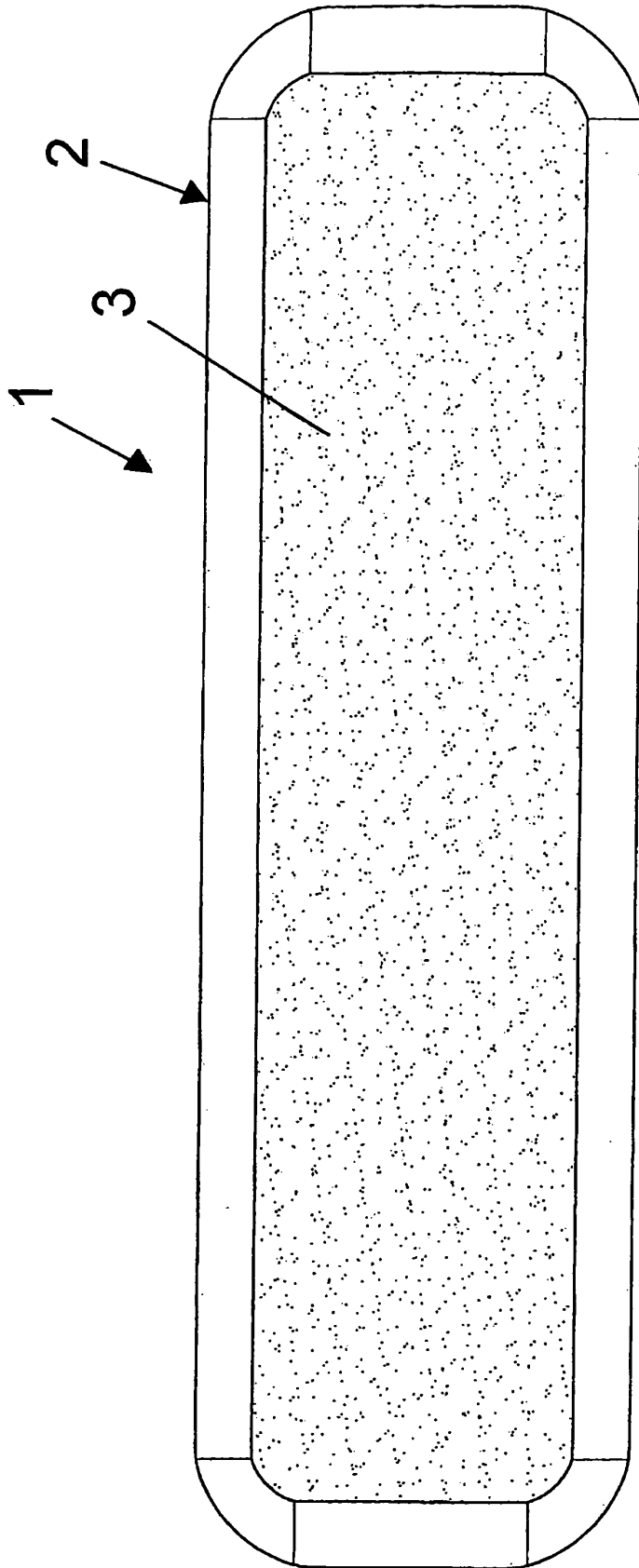


FIG. 4

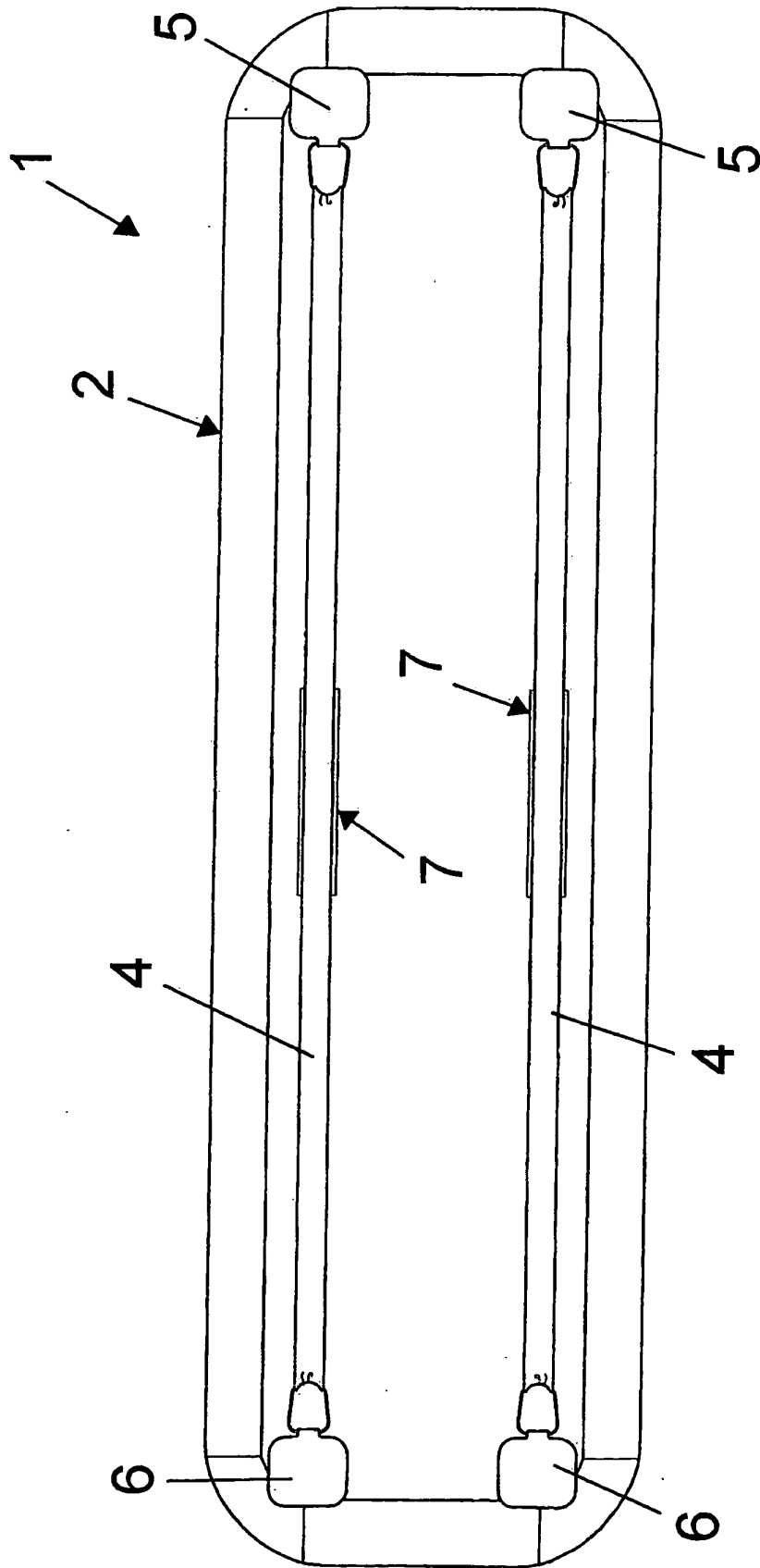


FIG. 5