



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
01.02.2017 Bulletin 2017/05

(51) Int Cl.:
B63B 17/04 (2006.01) **B63B 29/02 (2006.01)**
E04B 1/00 (2006.01)

(21) Application number: **16179768.3**

(22) Date of filing: **15.07.2016**

(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
Designated Extension States:
BA ME
Designated Validation States:
MA MD

(71) Applicant: **B. Financial S.r.L.**
24067 Sarnico (BG) (IT)

(72) Inventor: **BESENZONI, Giorgio**
24067 SARNICO (BG) (IT)

(74) Representative: **Burchielli, Riccardo**
Barzano & Zanardo Roma S.p.A.
Via Piemonte 26
00187 Roma (IT)

(30) Priority: **31.07.2015 IT UB20152699**

(54) **A FOLDAWAY BALCONY FOR BOATS**

(57) A foldaway balcony for boats, comprising a frame (10) configured to rotate, by means of hinge means (13), from a vertical closed position, in which it is substantially aligned with the boat side (M), to a horizontal open position, in which it is arranged protruding from said boat side (M), a walking platform (11), arranged above said frame (10), and a plurality of protection railings (12); in particular, respective lateral uprights (14) are positioned on opposite sides and inside respective seats (17) of the frame (10) and the protection railings (12) are fixed

to the lateral uprights (14) by means of hinge means (19, 26) and the lateral uprights (14) are connected to the frame (10) by means of respective joints, so that each upright (14) is able to rotate upwards, through first actuating means (16), starting from a horizontal position. Each upright (14) is also provided with second actuating means (18) for driving the upward extension of a telescopic portion of the upright (14), which brings said protection railings (12).

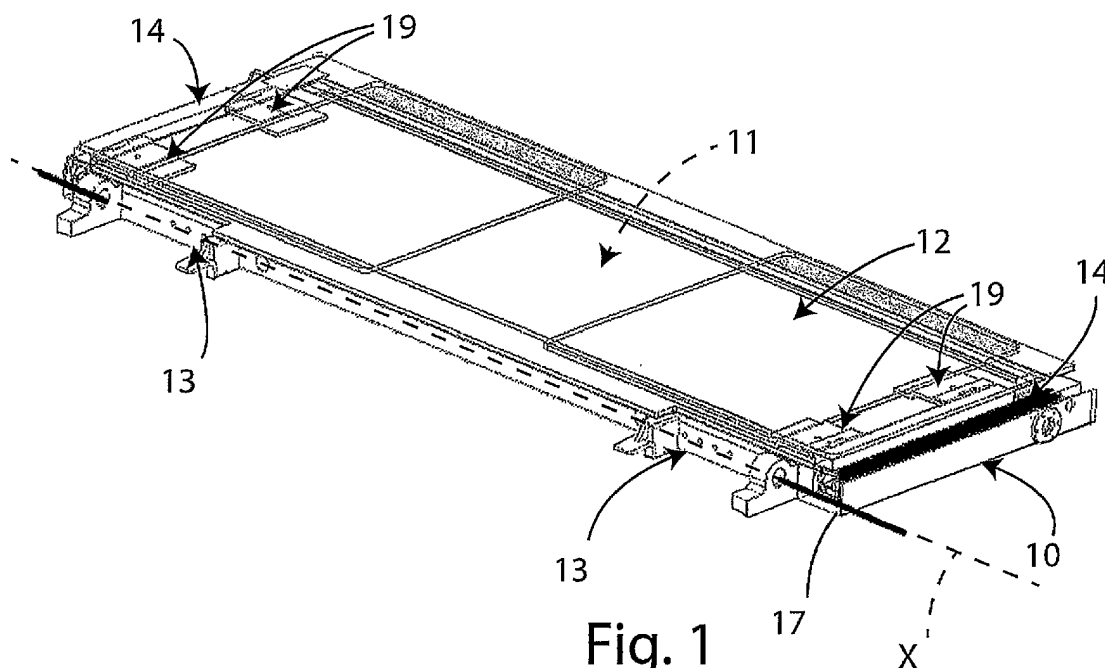


Fig. 1

Description

[0001] The present invention generally relates to a retractable balcony for boats, such as for example yachts, super-yachts and other crafts or boats in general.

[0002] More in particular, in use, the decking and/or protection balcony of the present invention is arranged projecting from the boat side, preferably in correspondence with the shipowner housing chamber.

[0003] As known, the most modern, sophisticated and generally luxurious pleasure crafts, such as yachts, super-yachts, catamarans or the like, include a service side door that normally, during shipping, closes a compartment obtained in the boat side, in correspondence with the internal environments more comfortable and prestigious of the boats.

[0004] The service side door includes at least one shaped door provided with an outer surface, which is usually made of the same material of the boat side or the boat hull, for example fiberglass, and which, when the side door closes the compartment, makes continuous and uniform the boat side, thus being coplanar.

[0005] This is due primarily to the fact that the outer surface of the shaped door is convex according to a radius of curvature that follows faithfully the radius of curvature of the boat side parts which are adjacent to the compartment that houses the side door.

[0006] Usually, the service side door also comprises a second shaped door, placed above the first shaped door and cooperating with said first shaped door to close the compartment.

[0007] In particular, the second shaped door comprises a perimetral loading chassis supporting a panel made of transparent material, for example glass, to allow the view of the external environment to people standing within the premises of the boat.

[0008] If necessary, especially when the boats are moored at the port or at sea, the shaped doors of the service side door are moved to open partially or completely the compartment and allow the airing of said internal premises of the boat.

[0009] Where the opening of said shaped doors of the service side door is complete, each of said doors protrudes from the boat side along a plane which is substantially orthogonal with or incident the curved plane of said boat side to define, respectively, a support plane, provided with a suitable protective balustrade, and a covering plane.

[0010] In practice, on such occasions, the first shaped door of the service side door becomes a real balcony, facing and overlooking the sea, walkable from the people to enjoy the open air and sea views directly from the boat, while the second shaped door becomes a kind of canopy, also projecting from the boat side and facing the sea, which protects from the weathering, such as the beating sun, the people standing on the below balcony.

[0011] In order to have, when docking, a balcony of a certain room of a boat and in order to have, generally

and simultaneously, an overhanging roof above the balcony, allowing people to have a direct access outside from said room overlooking the sea in full comfort, the service side door includes actuating means, which are operatively connected to the shaped doors. The actuating means, coupled to the boat side and particularly contained in the compartment formed in said boat side, move the shaped doors between at least one rest position, according to which the shaped doors are coplanar to the boat side and close the compartment, and a working position, according to which the shaped doors protrude laterally from the boat side along planes that are substantially horizontal to become, respectively, a decking plane and a covering plane and to open the compartment.

[0012] In a nutshell, when you want to transform the service side door in a balcony with a roof, the drive means, suitably actuated by control means, such as for example a hydraulic control unit, overturn outwards the shaped doors making them protruding from the boat side.

[0013] On the contrary, when you want to return the shaped doors in a compartment closed position, the drive means rotate in the opposite direction the shaped doors, by performing on them an upward traction. The tilting and traction movement of the shaped doors essentially consists in a rotation of said doors about an axis defined by mechanical elements placed on the lower edge of the perimeter wall delimiting the compartment formed on the boat and to which the service side door is associated.

[0014] A service side door having the above technical features is described, for example, in EP2305553A1, in the name of the same applicant of the present invention.

[0015] However, the side door described in said patent application has a remarkable manufacture complexity, as well as complicated and expensive precision drives; said drawbacks, in addition to affecting the hydraulic seal in the area of the boat side where the side door is provided and the aesthetic effect of said side door, also involve, in turn, a lengthening of the production times for making the side door, as well as high production costs.

[0016] An alternative solution of a service side door is described in EP2332820A1, which relates to a retractable balcony for boats, comprising a foldable platform which is mounted on the boat side and a railing structure mounted on the platform; the platform comprises a foldable box-like support and a foldable planar floor, which are tiltable with respect to the boat side separately one from one another, while the railing structure comprises a plurality of railing elements, hinged at the edge of the box-like support and tiltable between a rest position, in which said railing elements lie within the box-like support, and an unfolded position, in which said railing elements rise vertically with respect to the box-like support.

[0017] When the platform passes from a closed position to an open position, initially the box-like support is tilted and then the railing elements pass from the rest position to the unfolded position and finally the planar floor is tilted.

[0018] Even in this case, however, further drawbacks

are clear, such as the complexity of movement, the overall dimensions of the structure and the high construction and operating costs.

[0019] An object of the present invention is therefore to provide a retractable balcony for boats, that allows to simplify, with respect to the prior art, the processing to be performed for its installation on the boat side and which allows to reduce, accordingly, the production and operating costs. Another object of the present invention is to provide a retractable balcony for boats, which maintains the structural integrity and the aesthetic effect of the boat side.

[0020] A further object of the invention is to provide a retractable balcony for boats, which is applicable to any point of the boat side, thus allowing, in the design and installation, to release the choices of the boat side area on which said balcony is provided from the shaping of said boat side, thus increasing the versatility with respect to the prior art.

[0021] These and other objects are achieved by means of a retractable balcony for boats as claimed in the enclosed claim 1; other detailed technical features are shown in the other dependent claims.

[0022] Advantageously, the retractable balcony for boats, which is the object of the present invention, allows to simplify and minimize the processes to be performed at a shipyard to make the compartment on the boat side where the balcony is obtained, thanks to the use of specific means of rotation and translation, which act for moving a planar structure from a resting position to a working position, so as to obtain, quickly and easily, a balcony with a decking platform and with a plurality of extensible and collapsible guardrails made of glasses or railings placed at a proper height.

[0023] Furthermore, the retractable balcony of the invention can be applied to any area of the boat side, such as aft or bow, and not only in correspondence with the straight portions of said boat side.

[0024] It is clear that this feature increases the flexibility of the design and installation, which allows to meet new needs and feel of the customers and which is therefore extremely appreciated and distinctive.

[0025] Further purposes and advantages of the invention will become clear from the following description, relating to preferred embodiments of the retractable balcony, and from the enclosed drawings, in which:

- figure 1 shows a first embodiment of a retractable balcony for boats, according to the present invention, in a first folded resting position;
- figure 2 shows the retractable balcony of figure 1 in an intermediate position, during rotation;
- figure 3 shows the retractable balcony of figure 1 in a fully rotated position;
- figure 4 shows the retractable balcony of figure 1 in a fully rotated position and with the extended front railing;
- figure 5 shows an enlarged detail of the retractable

balcony of figure 4;

- figure 6 shows the retractable balcony of figure 1 in a final position of use, with the extended front railing and the rotated side railings, according to the present invention;
- figure 7 shows a second embodiment of a retractable balcony for boats, according to the present invention, in a first folded resting position;
- figure 8 shows the retractable balcony of figure 7 in an intermediate position, during rotation;
- figure 9 shows the retractable balcony of figure 7 in a fully rotated position;
- figure 10 shows the retractable balcony of figure 7 in a fully rotated position and with the extended front railing;
- figure 11 shows the retractable balcony of figure 7 in a final position of use, with the extended front railing and the rotated side railings, according to the present invention;
- figures 12 and 13 show the retractable balcony in one of the embodiments according to the present invention, respectively, in a vertical closed position and in an open position projecting from the boat side.

[0026] With particular reference to the enclosed figures from 1 to 6, as well as to the enclosed figures 12 and 13, which relate to a first embodiment of the retractable balcony for boats, according to the present invention, in which the protection railings of the balcony are made of glasses at a proper height, the overall structure is substantially composed of a frame 10, preferably made of stainless steel and configured to be rotated from a vertical position on the boat side M to a horizontal position, through the hinge brackets 13, of a walking platform 11, preferably made of teak and attached above the frame 10, and of a system of folding guardrails or protective railings 12, which are preferably constituted by glasses.

[0027] In detail, the balcony is initially moved (tilted) from a vertical closed position, in which it is substantially aligned with the boat side M (as shown in the enclosed figure 12), to a horizontal open position, in which it is arranged protruding from the boat side M (as shown in the enclosed figure 13), through a rotation, performed by the hinge brackets 13, about the axis X which is parallel to the longitudinal extension of the frame 10.

[0028] In the closed position, the overall structure of the balcony constitutes a part of the same boat side M (fig. 12), which is coplanar with respect to the adjacent wall, while, in the open position (fig. 13), due to the lowering of the structure, a compartment is obtained in the boat side M, which allows access to the walking platform 11 of the balcony from inside the boat, and vice-versa.

[0029] Two side uprights 14 are arranged on the opposite sides and within suitable seats 17 of the frame 10 and to said uprights 14 are fixed a front protection glass 15A and two protection side glasses 15B; in particular, the side glasses 15B are folded on the front glass 15A and are configured to be moved by means of special

manual hinges 19.

[0030] The side uprights 14 are connected to the frame 10 by means of respective joints and can rotate upwards making a complete angle ranging from 0° to 90°, starting from the horizontal position of housing within the respective seats 17, thanks to the drive of respective actuators, such as the hydraulic cylinders 16.

[0031] Furthermore, said side uprights 14 are also each provided with a further actuator, such as a hydraulic cylinder 18, to cause the upward extension and said uprights 14 have also internally the manual hinges 19 for supporting and rotating the side glasses 15B; in particular, the front glass 15A is glued on the telescopic side uprights 14 and the telescopic portion of the side uprights 14 encloses the fixed part so as to provide the bonding surface on the outside edge.

[0032] Therefore, from the horizontal position of figure 1, which is reached from the balcony as a result of a rotation about the X axis starting from the vertical position on the boat side M, a first rotation of the side uprights 14 and of the relative protective glasses 15A, 15B occurs, due to the driving of the respective hydraulic cylinders 16 (fig. 2) up to a full rotation of 90° of said side uprights 14 with respect to the horizontal plane of the frame 10 and the walking platform 11 (fig. 3).

[0033] At this point, a telescopic raising of the lateral uprights 14 is provided, thanks to the drive of the respective hydraulic cylinders 18, with the consequent raising of the front glass 15A and of the side glasses 15B, said side glasses 15B being still folded on the front glass 15A (fig. 4-5). The balcony is then completed by means of a manual rotation of the side glasses 15B, through the mobile hinges 19, and the fixing of said side glasses 15B thanks to internal safety knobs 20, which prevent further rotations; the mobile hinges 19 also have a mechanical stop 21 which prevents rotation of the glasses 15A, 15B along the outside edge (fig. 6). With particular reference to the enclosed figures from 7 to 11, which show a second embodiment of the retractable balcony for boats according to the present invention and wherein the same numerical references have been provided to show elements which are identical to the respective elements shown in the figures from 1 to 6, the retractable balcony has substantially the same structure of the first embodiment, with the only difference consisting in that the protective folding railings 12 include a plurality of tubular pipes 25, which make up a front railing 24A and two side railings 24B at a proper height.

[0034] The handling of the structure from a vertical position of the balcony on the boat side M to a horizontal position (shown in the enclosed figure 7), as well as the handling constituted by the rotation (fig. 8 and 9) and the telescopic extension of the lateral uprights 14 (fig. 10) are all equal to those previously described in the case of the retractable balcony with railings constituted by glasses, with the only difference consisting in that said side uprights 14 have internal plate manual hinges 26 for supporting and rotating the side railings 24B.

[0035] In addition, the front railing 24A is welded on the telescopic side uprights 14 and the telescopic part of said uprights 14 encloses the fixed part so as to provide the sealing surface on the outside edge.

[0036] Finally, also the manual rotation of the side railings 24B takes place with the same modalities previously described, by means of the plate hinges 26; similarly to what already described, also the side railings 24B are fixed through internal safety knobs 20, which prevent a further rotation (fig. 11). It is clear from the given description the features of the retractable balcony for boats, which is the object of the present invention, as well as the related advantages are also clear.

[0037] Obviously, in the executive stage, modifications may be made to the retractable balcony for boats, which is the object of the invention, consisting, for example, in providing translation and/or rotation means which are different from those described earlier and with reference to the accompanying drawings.

[0038] It is finally clear that many other variations may be made to the retractable balcony for boats of the invention, without departing from the novelty principles inherent in the inventive idea and according to the appended claims, as well as it is clear that in the practical actuation of the invention the materials, shapes and dimensions of the illustrated details can be any, according to requirements, and can be replaced with other technically equivalent.

[0039] Where the technical features mentioned in the appended claims are followed by reference numbers or signs, said reference signs have been introduced with the sole purpose of increasing the intelligibility of the claims and consequently they have no limiting effect on the interpretation of each element identified by said reference signs.

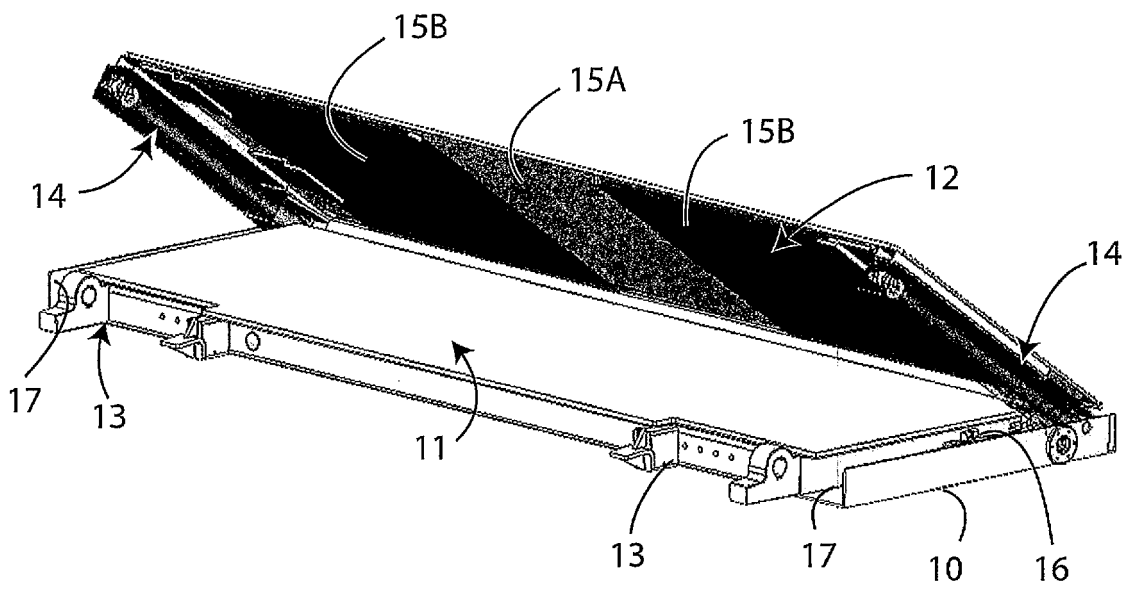
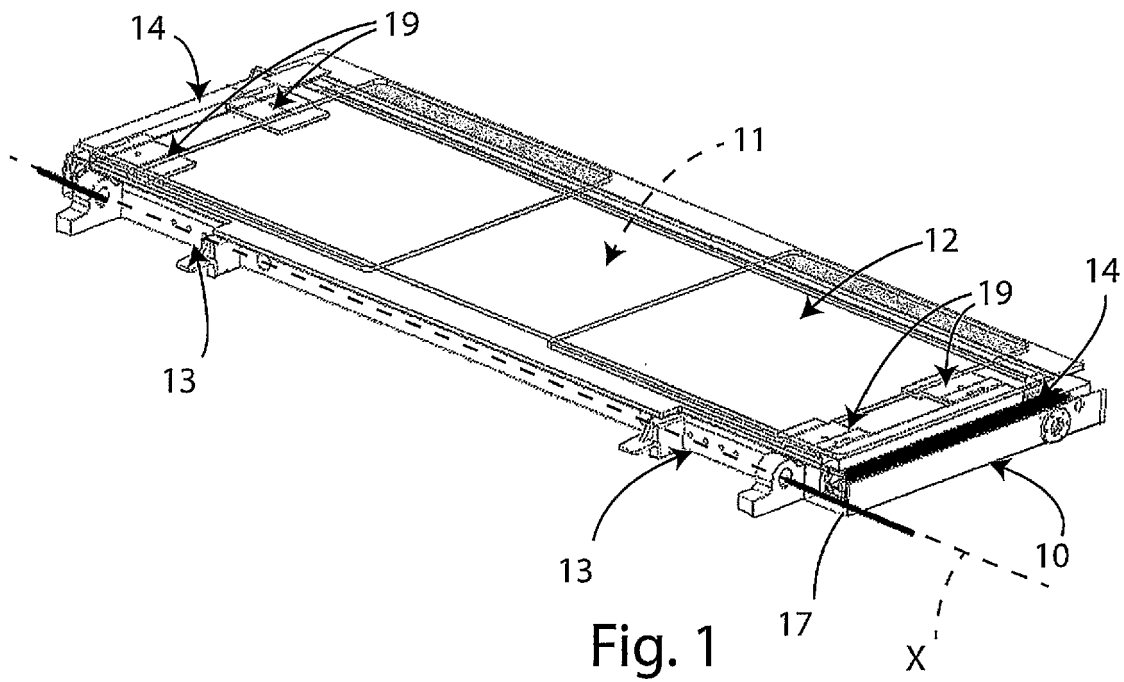
Claims

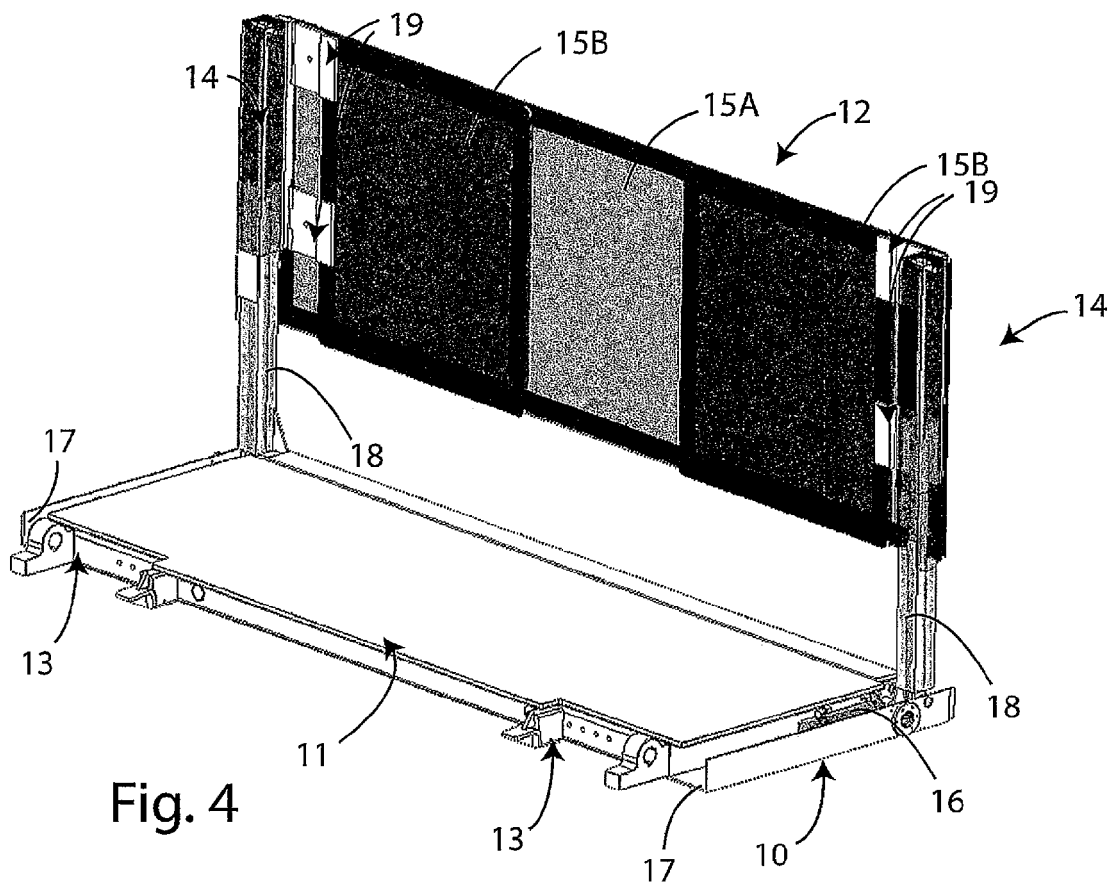
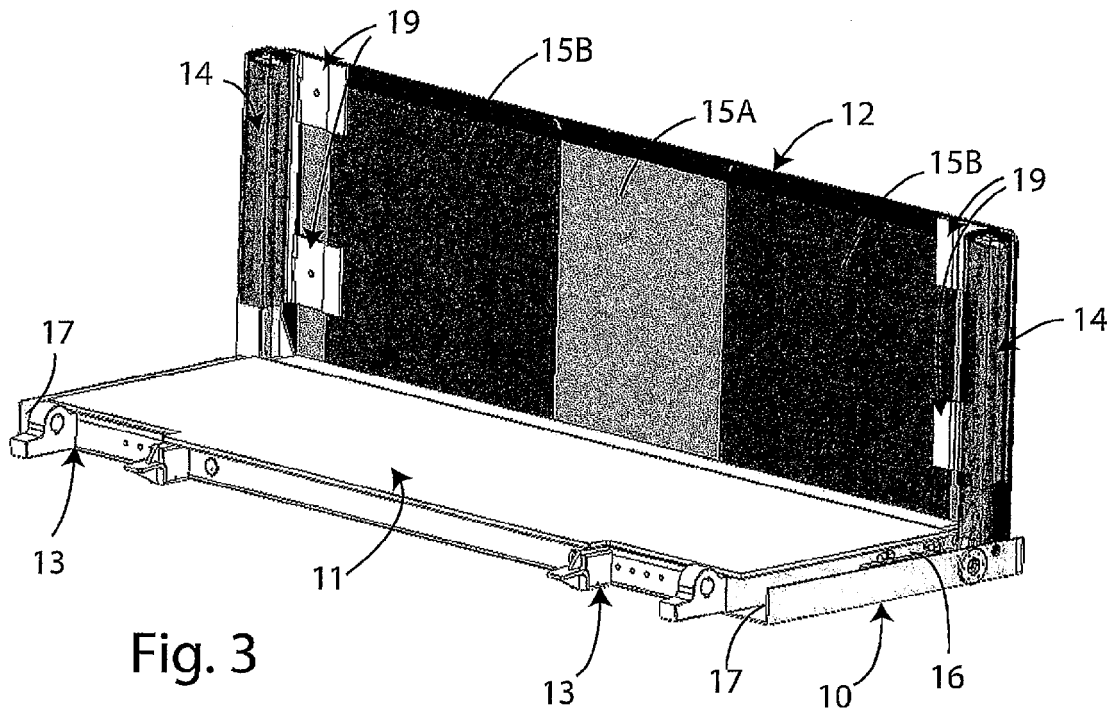
1. A foldaway balcony for boats, comprising a frame (10) configured to rotate, by means of first hinge means (13), from a vertical closed position, in which it is substantially aligned with the side (M) of the boat, to a horizontal open position, in which it is arranged projecting from said side (M) of the boat, a walking platform (11), arranged above said frame (10), and a plurality of protection railings (12), said balcony belonging, in said closed position, to said side (M) of the boat and being configured, in said open position, to create an opening into the side (M) which allows access to said walking platform (11) from inside the boat and vice-versa, **characterized in that** respective lateral uprights (14) are positioned on opposite sides and inside respective seats (17) of said frame (10), said protection railings (12) being fixed to said lateral uprights (14) by means of second hinge means (19, 26) and said lateral uprights (14) being connected to said frame (10) by means of respective

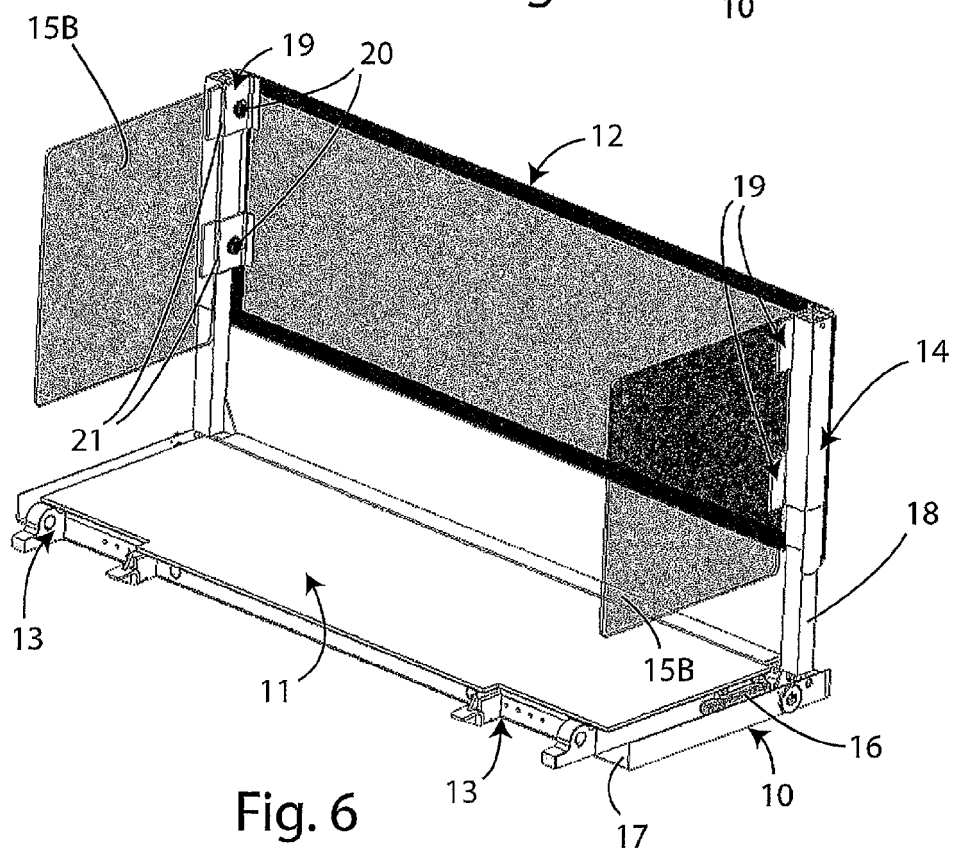
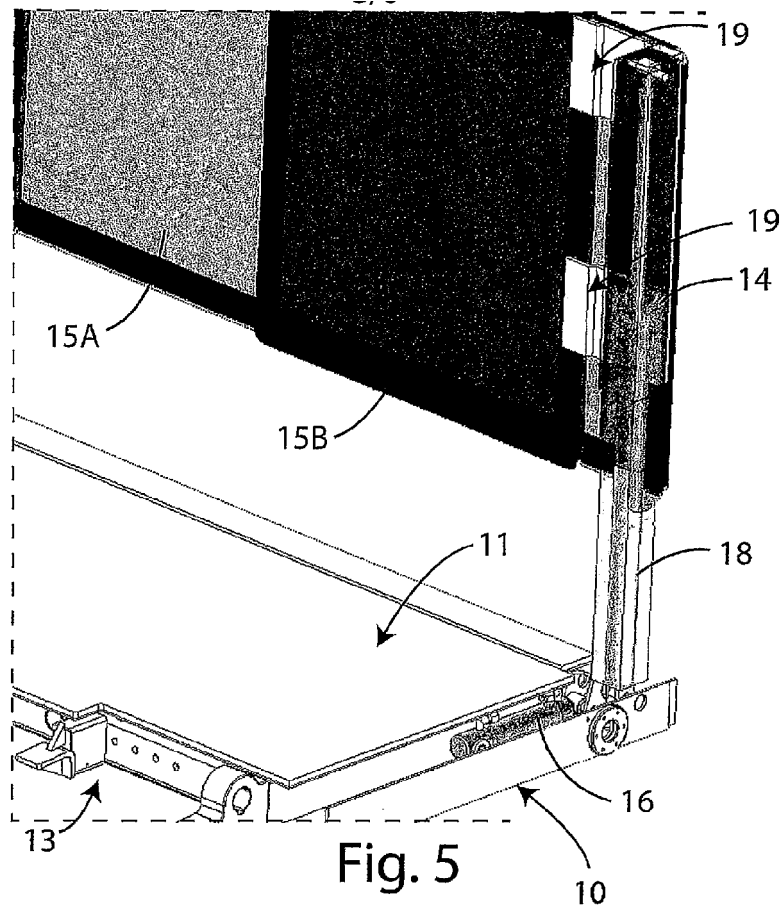
joints, so that each upright (14) is able to rotate upwards making an angle from 0° to 90°, through first actuating means (16), starting from a horizontal position, according to which the upright (14) is housed inside said respective seat (17), each upright (14) being also provided with second actuating means (18) for driving the upward extension of a telescopic portion of said upright (14) and therefore of said protection railings (12).

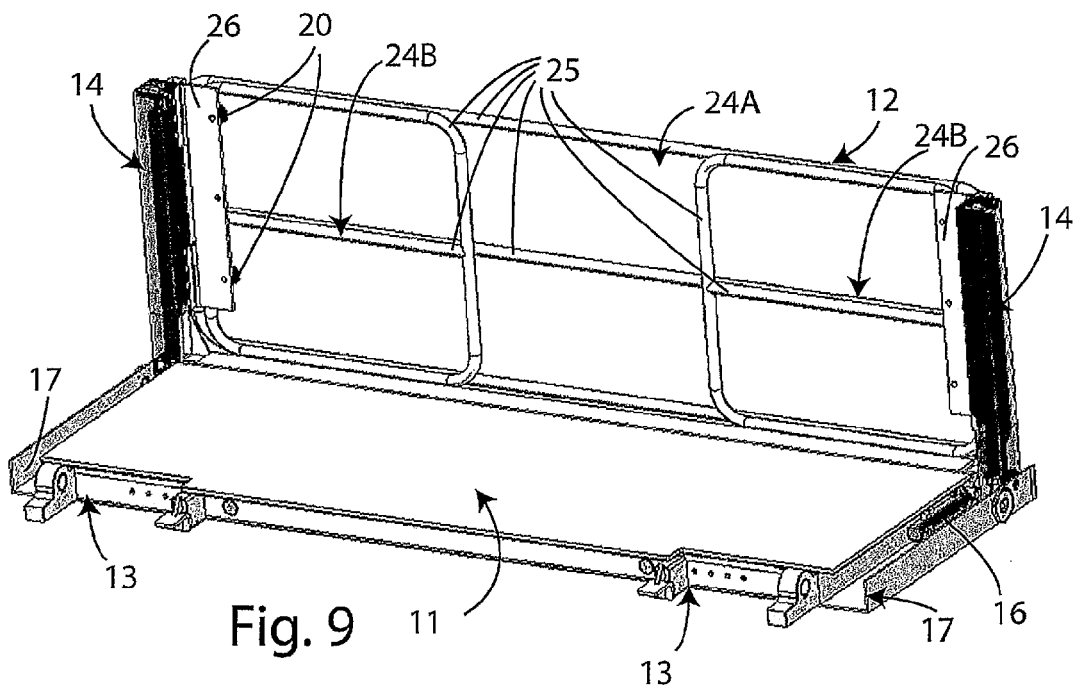
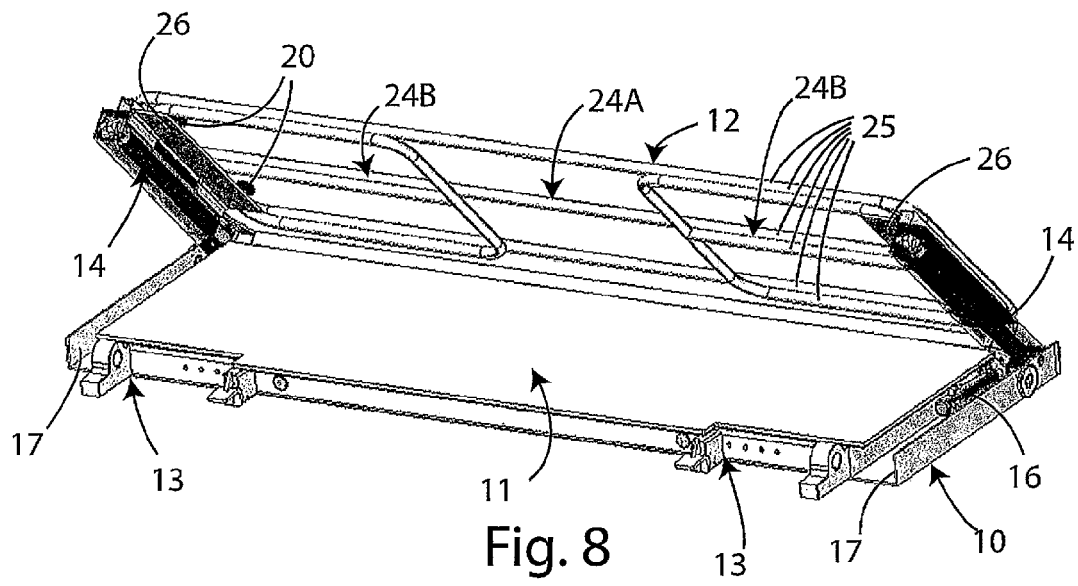
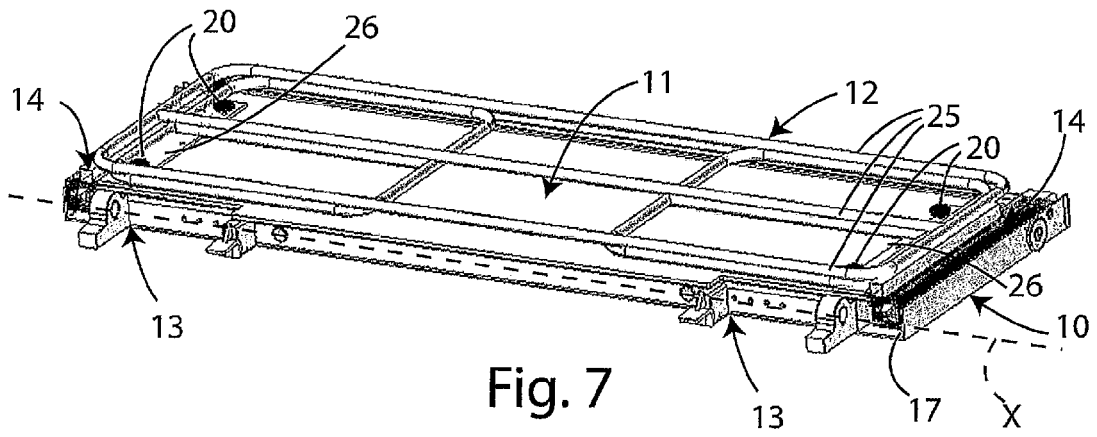
(20), which prevent further rotational movements.

2. A foldaway balcony as claimed in claim 1, **characterized in that** said protection rails (12) comprise a front glass (15A) and two side glasses (15B), said side glasses (15B) being folded on said front glass (15A) and being able to be moved by means of said second hinge means (19).
3. A foldaway balcony as claimed in claim 1, **characterized in that** said protection railings (12) comprise a plurality of tubular members (25), which form a frontal railing (24A) and two side railings (24B), said side railings (24B) being folded on said frontal railing (24A) and being adapted to be moved by means of said second hinge means (26).
4. A foldaway balcony as claimed in claim 1, **characterized in that** said uprights (14) have internally said second hinge means (19, 26) which are configured to support and rotate said protection railings (12).
5. A foldaway balcony as claimed in claim 2, **characterized in that** said front glass (15A) is glued onto said lateral uprights (14) and said telescopic portion of said lateral uprights (14) surrounds the fixed part so as to provide a bonding surface along an outside edge of the boat.
6. A foldaway balcony as claimed in claim 2, **characterized in that** said side glasses (15B) are fixed to said uprights (14) by means of internal safety knobs (20), which prevent further rotational movements.
7. A foldaway balcony as claimed in claim 2, **characterized in that** said second hinge means (19) have a mechanical stop (21) which prevents rotation of said glasses (15A, 15B) along an outside edge of the boat.
8. A foldaway balcony as claimed in claim 3, **characterized in that** said frontal railing (24A) is welded on said lateral uprights (14) and said telescopic portion of said uprights (14) surrounds said fixed part so as to provide a welding surface along the outside edge of the boat.
9. A foldaway balcony as claimed in claim 3, **characterized in that** said side railings (24B) are fixed to said uprights (14) by means of internal safety knobs









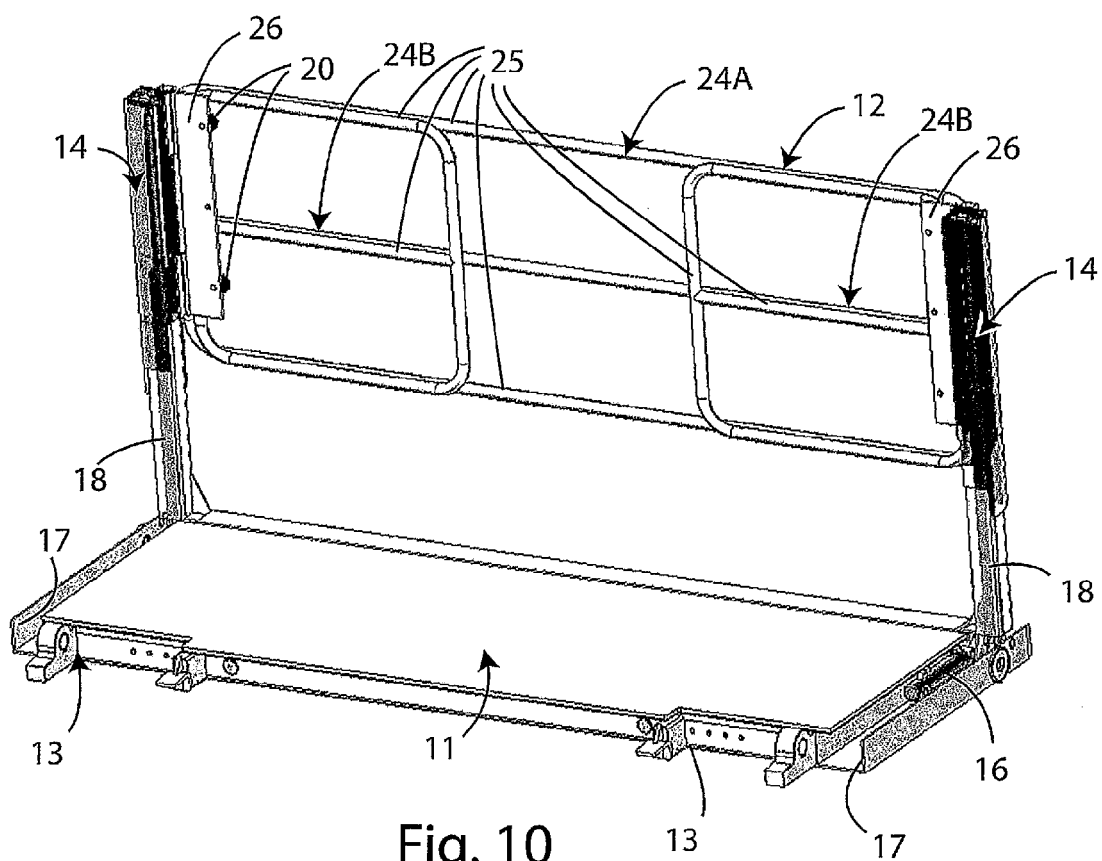


Fig. 10

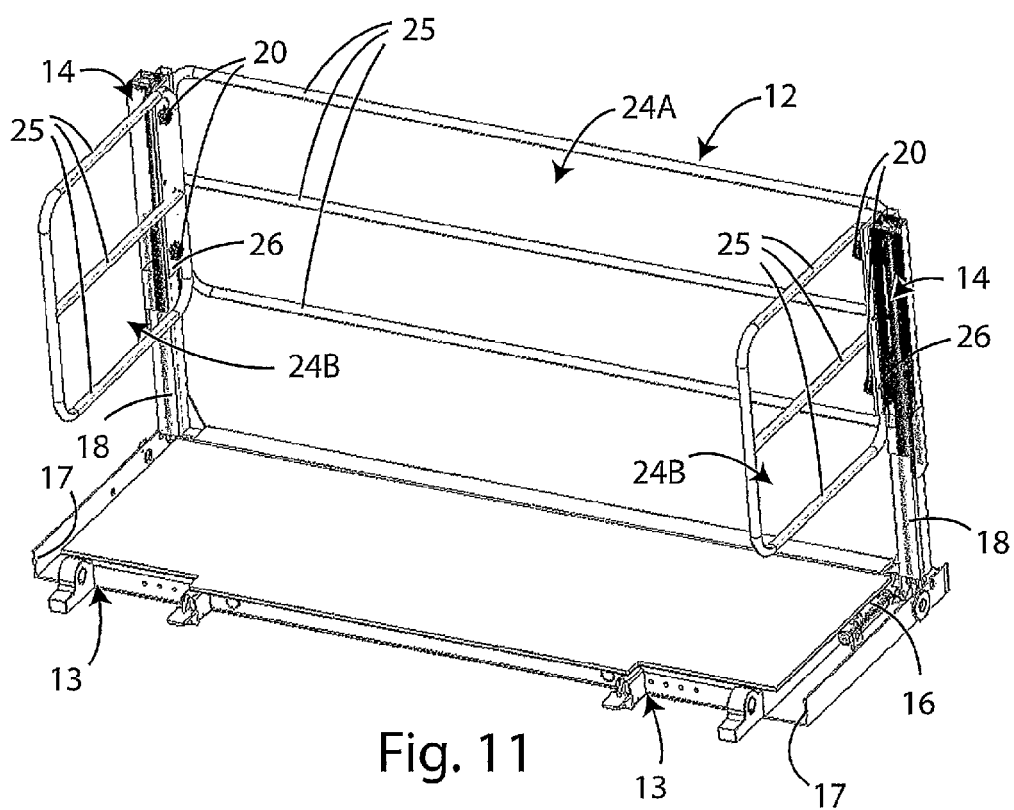
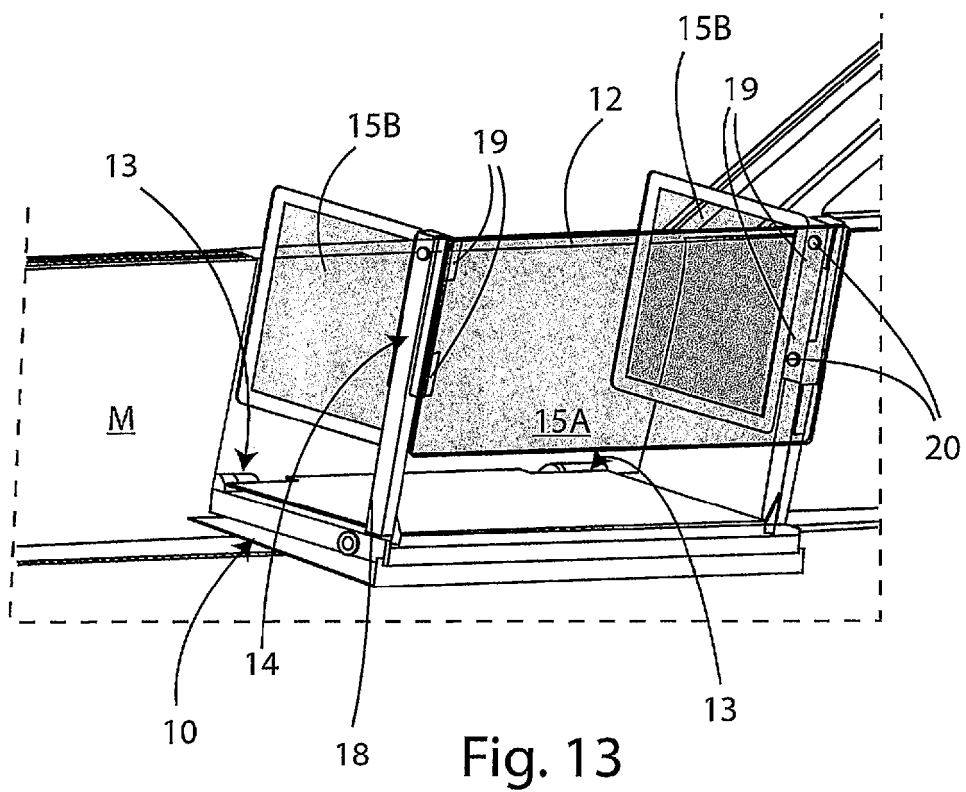
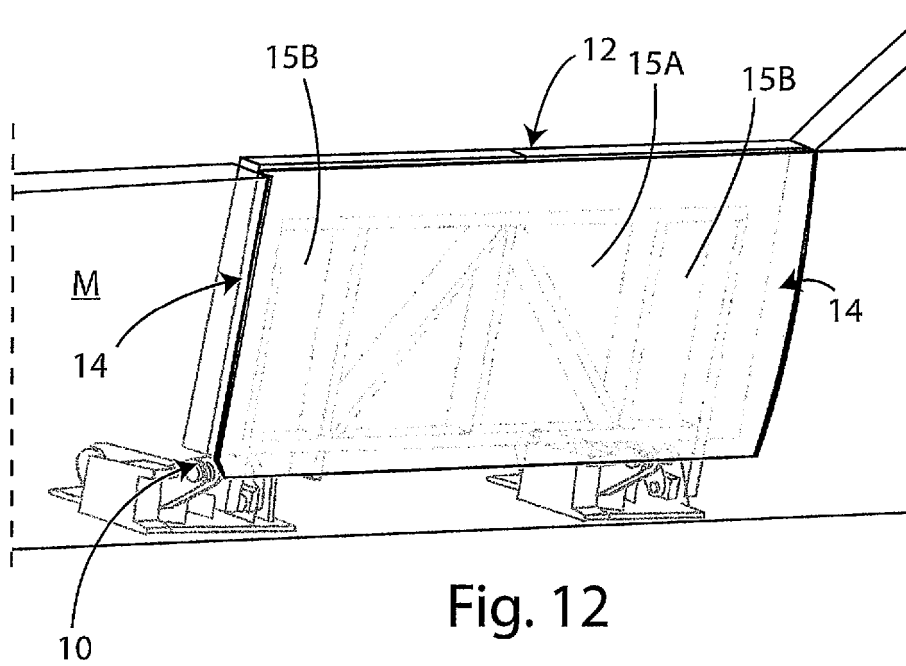


Fig. 11





EUROPEAN SEARCH REPORT

 Application Number
 EP 16 17 9768

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A,D	EP 2 332 820 A1 (OPACMARE SPA [IT]) 15 June 2011 (2011-06-15) * paragraph [0005] - paragraph [0011]; figures 1-6 *	1-9	INV. B63B17/04 B63B29/02 E04B1/00
A	WO 2013/036940 A1 (DE BASTO LUIZ [US]; RAMIREZ MAGANA ENRIQUE [MX]) 14 March 2013 (2013-03-14) * page 3, line 15 - page 9, line 19; figures 1-11 *	1-9	
			TECHNICAL FIELDS SEARCHED (IPC)
			B63B E04B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 6 September 2016	Examiner Martínez, Felipe
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

 2
 EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 16 17 9768

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-09-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2332820 A1	15-06-2011	BR P11005760 A2	02-04-2013
		EP 2332820 A1	15-06-2011
		ES 2423997 T3	26-09-2013
		HR P20130466 T1	30-06-2013
		IT 1397582 B1	16-01-2013
		SI 2332820 T1	31-07-2013
		US 2011138700 A1	16-06-2011

WO 2013036940 A1	14-03-2013	AU 2012305681 A1	17-04-2014
		CN 103906679 A	02-07-2014
		EP 2753537 A1	16-07-2014
		JP 2014526411 A	06-10-2014
		NZ 623380 A	31-07-2015
		US 2013239871 A1	19-09-2013
		US 2014202372 A1	24-07-2014
		WO 2013036940 A1	14-03-2013

ORM P0459

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- EP 2305553 A1 [0014]
- EP 2332820 A1 [0016]