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(54) Inflatable evacuation and positioning system

(57) The present invention relates to an inflatable evacuation slide (100) for positioning an inflatable floatable unit (200) along a vessel (11). The inflatable evacuation slide comprises an inflatable main portion (101) for being attached to the vessel (11) in one end and with the inflatable floatable unit (200) in the opposite end, the inflatable main portion (101) constituting two spaced apart tube elements (120) extending in a longitudinal direction; and a slide sheet (104) secured to the inflatable

main portion (101) extending between the two tube elements (120) to provide a slide path (105) down which evacuees may slide from the vessel (11) to the inflatable floatable unit (200); wherein the inflatable evacuation slide (100) further comprises a main cord (103) attached to the inflatable main portion (101), the main cord (103) being adapted to be attached to the vessel (11) at one end and to the inflatable floatable unit (200) at the opposite end.

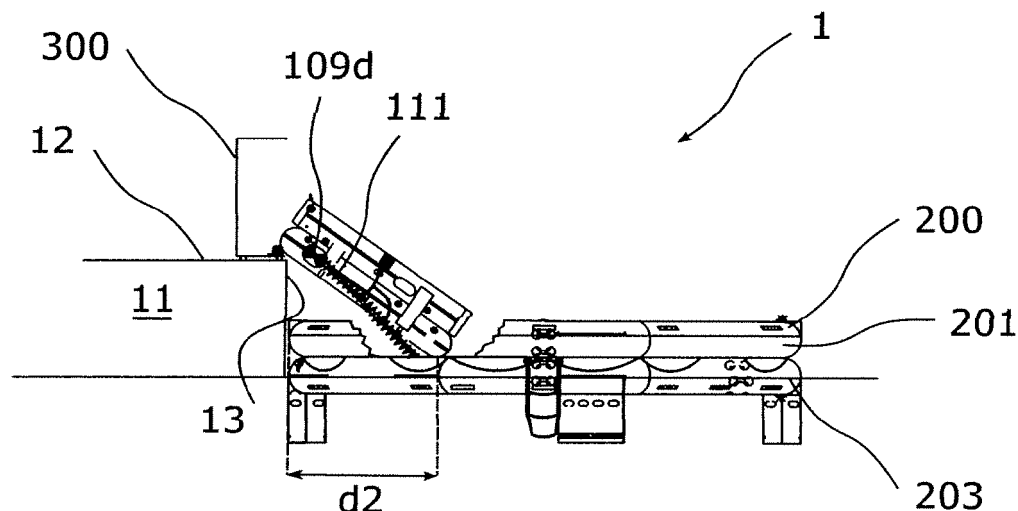


Fig. 3b

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Description

Field of the invention

[0001] The present invention relates to an inflatable evacuation slide for positioning an inflatable floatable unit along a vessel.

Background art

[0002] The requirement for reliable evacuation of ship passengers and crew members in the event of an emergency is well-known. A conventional method for quick evacuation of a large number of passengers dry-shod from a vessel or ship is to provide an inflatable evacuation slide from the vessel to a platform or a liferaft.

[0003] These evacuation slides may normally be stored in a container or packsack on board, requiring a minimum of space on the vessel. In case of evacuation, the slide is typically either mounted on the deck of the ship or immediately adjacent thereto.

[0004] The routine during evacuation procedures is that a deflated life raft is thrown into the water, after which it is inflated and moored to the vessel side using bowsing or mooring lines. Subsequently, the evacuation slide, which is safely connected to the vessel, is inflated and lowered into the life raft. Hereinafter the evacuation of persons may take place.

[0005] However, the above-mentioned evacuation procedure is time-consuming and requires several crew members to deploy the evacuation system. The crew members have to see to that the life raft is securely moored and that the slide and life raft are correctly positioned in relation to one another.

Summary of the invention

[0006] It is an object of the present invention to wholly or partly overcome the above disadvantages and drawbacks of the prior art. More specifically, it is an object to provide an improved inflatable evacuation slide for positioning an inflatable floatable unit in a controlled manner in relation to a vessel without the need for separate bowsing lines attached to the vessel.

[0007] It is further an object to provide an improved inflatable evacuation slide which is stabilised in view of changing environmental parameters, such as wind forces and direction, wave height and direction and/or current strength and direction.

[0008] The above objects, together with numerous other objects, advantages, and features, which will become evident from the below description, are accomplished by a solution in accordance with the present invention by an inflatable evacuation slide for positioning an inflatable floatable unit along a vessel, comprising:

- an inflatable main portion for being attached to the vessel in one end and with the inflatable floatable

unit in the opposite end, the inflatable main portion constituting two spaced apart tube elements extending in a longitudinal direction;

- a slide sheet secured to the inflatable main portion extending between the two tube elements to provide a slide path down which evacuees may slide from the vessel to the inflatable floatable unit;

wherein the inflatable evacuation slide further comprises a main cord attached to the inflatable main portion, the main cord being adapted to be attached to the vessel at one end and to the inflatable floatable unit at the opposite end.

[0009] Hereby the inflatable evacuation slide positions the inflatable floatable unit in a controlled manner in relation to the vessel and the inflatable evacuation slide provides a bowsing function, replacing traditional bowsing lines used to position the inflatable floatable unit. By integrating the bowsing functionality in the inflatable evacuation slide, bowsing lines requiring independent operation may be dispensed with.

[0010] Furthermore, the main cord may be divided into a first cord part attached to the main portion at the one end, and a second cord part attached to the main portion at the opposite end.

[0011] Also, the main cord may be through going and extending substantially from one end of the inflatable main portion to the other end.

[0012] Moreover, the main cord may be made of a non-flexible material, a partly flexible material, a flexible material, or a combination thereof.

[0013] Additionally, the inflatable main portion may be reinforced for providing stability and rigidity to the evacuation slide. Hereby, it is obtained that the inflatable evacuation slide may absorb and withstand tension forces, thereby facilitating the positioning of the inflatable floatable unit.

[0014] In one embodiment, the main cord may be attached to the inflatable main portion to prevent displacement of the inflatable main portion in relation to the main cord.

[0015] Also, the main cord and the inflatable main portion may be glued, welded or stitched together.

[0016] Further, the main cord may be kept in place in the longitudinal direction of the inflatable main portion by a number of fixtures.

[0017] The inflatable main portion may constitute an annular tube extending along a circumference of the inflatable evacuation slide, and the slide sheet may be stretched across a centre part of the annular tube element.

[0018] In addition, the inflatable evacuation slide as described above may comprise two main cords attached to the inflatable main portion on opposite sides of the slide path.

[0019] Moreover, a distance between the end of each of the main cords for being attached to the vessel and a first attachment point at which each of the main cords

are attached to the inflatable main portion may be adapted to allow pivotal movement of the inflatable evacuation slide in relation to the vessel.

[0020] By providing a certain distance between the attachment point of the main cords on the vessel and the first attachment points of the main cords on the inflatable evacuation slide, the ability of the cords to twist and bend allows for the inflatable evacuation slide to pivot relative to the side of the vessel, whereby the inflatable floatable unit may also move relative to the vessel. Hereby buckling of the inflatable evacuation slide may be prevented.

[0021] In one embodiment, the inflatable evacuation slide as described above may further comprise one or more inflatable upper tube elements arranged on top of the inflatable main portion to provide a barrier on opposite sides of the slide path in a longitudinal direction of the inflatable evacuation slide.

[0022] Also, the inflatable evacuation slide as described above may further comprise two second cords, each being attached to one of the upper tube elements and for being attached to the vessel in one end.

[0023] Moreover, each of the second cords may further be attached to the inflatable main portion, thereby providing a connection between the inflatable main portion and the upper tube elements.

[0024] Additionally, a distance between the end of each of the second cords for being attached to the vessel and a first point at which each of the second cords are attached to the inflatable main portion or the upper tube element may be adapted to allow pivotal movement of the inflatable evacuation slide in relation to the vessel.

[0025] Advantageously, the inflatable evacuation slide may further comprise one or more stability lines extending along the inflatable evacuation slide and being adapted to be attached, directly or indirectly, to the vessel and adapted to be attached to the inflatable floatable unit at the opposite free end of the inflatable evacuation slide. During use, the one or more stability lines assist in positioning the inflatable floatable unit in relation to the vessel. Furthermore, the stability lines absorb the lateral forces asserted on the inflatable floatable unit, again so that positioning of the inflatable floatable unit is facilitated.

[0026] Furthermore, the one or more stability lines may be indirectly attached to the vessel via the evacuation slide or a container mounted on the vessel.

[0027] The inflatable evacuation slide may also comprise two stability lines being attached to the opposite sides of the inflatable main portion extending along an outer periphery, and for being attached to the inflatable floatable unit at the opposite free end.

[0028] Moreover, the stability lines may be attached to the inflatable floatable unit at the same point as the main cord.

[0029] A ratio of a length of the inflatable evacuation slide to a length of the stability lines may be between 0.3 and 0.6.

[0030] Also, the stability lines may be attached to the inflatable floatable unit in a distance from the point,

wherein the main cord is attached to the inflatable floatable unit.

[0031] Additionally, the stability lines may extend from the one end of the main portion and outwards ending in attachment points in the inflatable floatable unit, the attachment points being arranged in a distance away from the evacuation slide.

[0032] Moreover, the ratio of the length of the inflatable evacuation slide to the length of the stability lines may be between 0.3 and 2.5 in the circumstance where the stability lines end in attachment points arranged in a distance away from the evacuation slide.

[0033] Furthermore, the one or more stability lines may be made of an elastic material, thereby providing an elastic effect.

[0034] Also, the stability lines may have a substantial extension parallel to an extension of the evacuation slide. The stability lines may also be guided along an outer side of the evacuation slide.

[0035] Moreover, the stability lines may have an inclined extension being substantially 45 degrees in relation to the inflatable floatable unit. Hereby, the stability lines are capable of absorbing both vertical and horizontal forces asserted on the inflatable floatable unit by waves and wind.

[0036] The present invention also relates to an evacuation system comprising:

- a system container for being mounted on a vessel,
- an inflatable floatable unit for evacuating persons from the vessel,
- an inflatable evacuation slide according to any of the preceding claims,

wherein the inflatable evacuation slide is attached to the system container at one end and with the inflatable floatable unit at the opposite end, whereby the inflatable evacuation slide positions the inflatable floatable unit in a controlled manner in relation to the vessel.

[0037] In one embodiment, the inflatable evacuation slide may be attached to a centre portion of the inflatable floatable unit at a particular distance from a periphery of the inflatable floatable unit defined by the length and angle of the inflatable evacuation slide in relation to the vessel, such that the inflatable floatable unit abuts the vessel when the inflatable floatable unit has been inflated and positioned along a side of the vessel.

[0038] Also, the properties of the inflatable evacuation slide and the specification of the inflatable floatable unit may be balanced with characteristics of the vessel such that the inflatable floatable unit is positioned correctly in relation to the vessel without the need for subsequent adjustment of tension of bousing or mooring lines.

[0039] Hereby crew members do not have to waste valuable time adjusting or positioning the inflatable evacuation slide and inflatable floatable unit after deployment, and the need for winches or the like for adjusting e.g. bousing or mooring lines may be eliminated.

[0040] Furthermore, the one or more stability lines may be attached to the inflatable evacuation slide in one end and to the inflatable floatable unit in the opposite end, thereby improving the ability of the inflatable evacuation slide to position the inflatable floatable unit in relation to the vessel.

[0041] The inflatable evacuation slide may be releasably attached to the system container and to the inflatable floatable unit.

[0042] Moreover, the evacuation system as described above may further comprise an activation button for activating the evacuation system, wherein activation of the evacuation system causes the system container to open automatically and initiates inflation of the inflatable evacuation slide and the inflatable floatable unit.

[0043] Also, the evacuation system as described above may further comprise a slide fixture secured to the system container or a deck of a vessel, and each of the main cords of the inflatable evacuation slide and/or the second cords of the inflatable evacuation slide may be attached to the slide fixture.

[0044] In addition, the evacuation system as described above may further comprise a release mechanism for releasably securing the slide fixture to the system container or a deck of a vessel, whereby the slide fixture may be released in case of a float free situation.

[0045] The present invention also relates to a method for deploying an evacuation system as described above, comprising the steps of:

- activating the evacuation system by pushing the activation button,
- disembarking evacuees to the inflatable floatable unit via the inflatable evacuation slide,
- releasing the one or more connections between the inflatable evacuation slide and the inflatable floatable unit
- moving away the inflatable floatable unit from the vessel.

[0046] Finally, the present invention relates to a vessel comprising the inflatable evacuation slide and/or the evacuation system as described above.

Brief description of the drawings

[0047] The invention and its many advantages will be described in more detail below with reference to the accompanying schematic drawings, which for the purpose of illustration show some non-limiting embodiments and in which

Figs. 1a-d show an inflatable evacuation slide according to an embodiment of the invention,

Fig. 2 shows the inflatable evacuation slide attached to a slide fixture and a stability line extending from the inflatable main portion,

Figs. 3a-b show an evacuation system according to an embodiment of the invention,

Figs. 4a-b show a system container of the evacuation system, and

Fig. 5 shows a release mechanism for a slide fixture.

[0048] All the figures are highly schematic and not necessarily to scale, and they show only those parts which are necessary in order to elucidate the invention, other parts being omitted or merely suggested.

Detailed description of the invention

[0049] Referring to Figs. 1a-d, an inflatable evacuation slide 100 according to an embodiment of the invention is shown. The inflatable evacuation slide 100 comprises an inflatable main portion 101 in the form of an annular tube element 120 extending along a circumference of the inflatable evacuation slide. The inflatable main portion thus constitutes two spaced apart tube elements 120 extending in a longitudinal direction of the inflatable main portion. A slide sheet 104 is secured to the inflatable main portion and extends across a centre part of the annular tube element between the two tube elements to provide a slide path 105.

[0050] The skilled person would recognise that the inflatable main portion may be constructed in a number of different ways without departing from the invention. Instead of taking the form of an annular tube element, the inflatable main portion may for example be U shaped or H shaped constituting two mutually connected and spaced apart tube elements 120 extending in a longitudinal direction.

[0051] The inflatable evacuation slide further comprises two inflatable upper tube elements 102 arranged on top of the inflatable main portion 101 on opposite sides of the slide path to provide a barrier in a longitudinal direction of the inflatable evacuation slide.

[0052] To connect the inflatable evacuation slide with a vessel 11 in one end and with an inflatable floatable unit 200 in an opposite end, the inflatable evacuation slide comprises two main cords 103 attached to the lower tube element 101 on opposite sides of the slide path 105 and extending substantially from one end of the inflatable evacuation slide to the other. One end 106 of the main cord is adapted to be attached to the vessel 11, and an opposite end 108 is adapted to be attached to the inflatable floatable unit 200. As shown in Fig. 1c, the main cord 103 extends along a bottom side of the inflatable main portion 101. A number of patches 109a-c are provided along the bottom side to reinforce the inflatable main portion and to provide fixation points for the main cord 103. The main cords are also kept in place by a number of fixtures 110. The main cord may be attached to the inflatable main portion, e.g. by means of gluing, welding and/or stitching, at one or several fixation points.

In another embodiment, the main cord may be attached to the inflatable main portion only by use of fixtures such that the inflatable main portion may be displaceable in relation to the main cord.

[0053] In an evacuation situation when the inflatable evacuation slide and the inflatable floatable unit have been activated and inflated, the inflatable evacuation slide connects the vessel with inflatable floatable unit, and evacuees may slide down the slide path from the vessel to the inflatable floatable unit. In addition to providing an evacuation route, the inflatable evacuation slide has the functionality of positioning the inflatable floatable unit in a controlled manner relative to the vessel, i.e. the inflatable evacuation slide provides a bowing function, replacing traditional bowing lines used to position the inflatable floatable unit. By integrating the bowing functionality in the inflatable evacuation slide, bowing lines requiring independent operation may be dispensed with.

[0054] In an alternative embodiment, the inflatable evacuation slide may be connected with a vessel 11 at one end and with an inflatable floatable unit 200 at an opposite end by sets of main cords (not shown) attached to opposite ends on the inflatable lower tube element, thus replacing the main cords extending substantially from one end of the inflatable evacuation slide to the other. A first set of main cords are attached on opposite sides of the slide path at the end of the evacuation side adjacent the inflatable floatable unit, and a second set are attached in a similar manner at the end adjacent the vessel.

[0055] In another embodiment, the main cord may be attached and extends along an upper side of the inflatable main portion 101.

[0056] Referring to Figs. 1c and 2, a first attachment point of each of the main cords to the inflatable main portion is referred to by reference number 112. By providing a certain distance between an attachment point of the main cords on the vessel and the first attachment point 112 of the main cords on the inflatable evacuation slide, the ability of the cords to twist and bend allows for the inflatable evacuation slide to pivot relative to a side 13 of the vessel 11. Hereby the inflatable floatable unit 200 may also move relative to the vessel 11 and buckling of the inflatable evacuation slide 100 may be prevented.

[0057] The inflatable evacuation slide further comprises two second cords 107, each being attached to one of the upper tube element 102 and/or the inflatable main portion 101 on opposite sides of the slide path 105. One end 113 of each of the second cords is adapted to be attached to the vessel in order to further secure the inflatable evacuation slide to the vessel. The second cords may also secure that the inflatable upper tube elements 102 are adequately fixated on top of the inflatable main portion 101.

[0058] Similar to what has been described in relation to the main cords, a certain distance may be provided between a first point 114 of the second cords on the inflatable evacuation slide and an attachment point of the

second cords on the vessel to allow for pivotal movement of the inflatable evacuation slide relative to the vessel 11.

[0059] In Fig. 2, an enlarged side view of the end of the evacuation slide attached to the vessel 11 is shown.

Advantageously, the inflatable evacuation slide may further comprise one or more stability lines 111 extending along the inflatable evacuation slide and being adapted to be attached, directly or indirectly, to the vessel and adapted to be attached to the inflatable floatable unit at the opposite free end of the inflatable evacuation slide. In Fig. 2, the stability line 111 is indirectly attached to the vessel 11 via the inflatable evacuation slide. The stability slide 111 is attached to the main portion 101 at a distance from the end of the main portion 101. The stability line 111 is attached to the main portion via a reinforced patch 109d, which patch 109d is adapted to withstand the tension forces from the stability line.

[0060] Preferably, the stability lines 111 are made of an elastic material, thereby providing an elastic and resilient effect to the stability lines 111. During use, the one or more stability lines 111 assist in positioning the inflatable floatable unit in relation to the vessel both in a length direction, in a transverse direction and in a height direction in relation to the vessel. Since the stability lines 111 are made of an elastic material, and they may have a certain pretension during use, the stability lines 111 are pulling the inflatable floatable unit towards the side of the vessel, thereby positioning and assisting in maintaining the inflatable floatable unit in position during evacuation. Furthermore, since the stability lines 111 are arranged on opposite sides of the evacuation slide, thus having a distance between them, they are adapted to absorb the movement of the inflatable floatable unit along the side of the vessel, which is due to wave, current and wind influences. The matter is that the stability line 111 facing the wind/wave/current side will be tensioned when the inflatable floatable unit starts to move along the vessel, on the other hand, the opposite stability line will slacken. The inherent elasticity of the stability line will pull the inflatable floatable unit back to its position as soon as the wind/wave/current influence minimises. Furthermore, the stability lines 111 absorb the lateral forces asserted on the inflatable floatable unit by the environmental conditions, such as wind, waves, current, etc., again so that positioning of the inflatable floatable unit is facilitated. A further advantage is that the stability lines also stabilise the evacuation slide in relation to the inflatable floatable unit so that the persons to be evacuated experience a more stable evacuation slide having less movements.

[0061] In another not shown embodiment, the one or more stability lines may be indirectly attached to the vessel via a container mounted on the vessel.

[0062] In the circumstance where the stability lines are directly connected to the vessel, or are indirectly connected to the vessel via for instance a container mounted on the vessel, release mechanisms are arranged in connection with the stability lines enabling the stability lines to be released if the circumstance requires it.

[0063] Only one side is shown in Fig. 2, however, the inflatable evacuation slide may as well comprise two stability lines 111 being attached to opposite sides of the inflatable main portion extending along an outer periphery, and for being attached to the inflatable floatable unit at the opposite free end.

[0064] The stability lines 111 will be described further below in relation to Fig. 3b.

[0065] The inflatable evacuation slide 100 described above may be part of an evacuation system 1 as shown in Figs. 3a-b. The evacuation system 1 may be mounted on a deck 12 of a vessel 11 and activated in case of emergency, whereby the inflatable evacuation slide and an inflatable floatable unit 200 are deployed. The evacuation system comprises a system container 300 in which the inflatable evacuation slide 100 and the inflatable floatable unit are stored. In one embodiment, the inflatable floatable unit and slide may be arranged in an aluminium bag providing a dry environment suitable for storing the inflatable floatable unit and slide.

[0066] The inflatable floatable unit 200 comprises an inflatable outer barrier tube 201 defining an outer periphery 202 and enclosing a centre portion 204 of the inflatable floatable unit. The inflatable outer barrier tube 201 is connected with an inflatable outer flotation tube 203 arranged below the inflatable outer barrier tube 201 when regarded in a substantially upright position, as shown in Fig. 3b. A flooring element 205 is arranged between the inflatable outer barrier tube 201 and the inflatable outer flotation tube 203, thereby providing a bottom of the inflatable floatable unit.

[0067] The inflatable evacuation slide is attached to two slide fixtures mounted inside the system container as shown in Fig. 3a. A close-up of a slide fixture is also shown in Fig. 5. In an alternative embodiment, the slide fixture may be mounted directly on the vessel, e.g. on the deck or the side of the vessel. As shown in Fig. 2, each of the main cords and the second cords comprise an eye arranged around a pulley 312 of the slide fixture, thereby fixating the main cords and the second cords to the slide fixtures. The opposite end of the inflatable evacuation slide is secured to the inflatable floatable unit and the inflatable evacuation slide extends from the deck 12 of the vessel 11 to the bottom of the inflatable floatable unit 200. The ends 108 of the main cords 103 are attached to the inflatable floatable unit by reinforced patches, wherein the reinforcement of the patches are adapted to take up pull forces in the extension of the main cords. The inflatable evacuation slide is attached at the centre portion 204 of the inflatable floatable unit at a distance d2 from the periphery 202. The distance d2 is defined by the length and angle of the inflatable evacuation slide 200 in relation to the vessel, such that the inflatable floatable unit is positioned in the vicinity of the side 13 of the vessel and/or abuts the vessel, when the inflatable floatable unit 200 has been inflated and positioned along the vessel.

[0068] The inflatable evacuation slide 100 is further at-

tached to the inflatable floatable unit 200 via the stability lines 111 being secured to opposite sides of the inflatable main portion. The stability lines 111 extend from the inflatable main portion to the bottom of the inflatable floatable unit as shown in Fig. 3b. At the bottom, the stability lines are attached to the inflatable floatable unit by reinforced patches. As mentioned above, the stability lines 111 may comprise an elastic material or other elastic means, such as a spring, providing an elastic effect. Using the stability lines 111 in combination with the inflated main portion 101 improves the stability of the evacuation.

[0069] In the side view in Fig. 3b, the stability lines 111 are shown extending from the attachment point at the patch 109d to the inflatable floatable unit. In this embodiment, the stability lines may be attached to the inflatable floatable unit at the same point as the main cord.

[0070] In another not shown embodiment, the stability lines may be attached to the inflatable floatable unit in a distance from the point, wherein the main cord is attached to the inflatable floatable unit. For instance, the stability lines may extend from the one end of the main portion and outwards ending in attachment points in the inflatable floatable unit, the attachment points being arranged in a distance away from the evacuation slide.

[0071] Also, the stability lines may have a substantial extension parallel to an extension of the evacuation slide. The stability lines may also be guided along an outer side of the evacuation slide.

[0072] Moreover, the stability lines may have an inclined extension being substantially 45 degrees in relation to the inflatable floatable unit. Hereby, the stability lines are capable of absorbing both vertical and horizontal forces asserted on the inflatable floatable unit by waves, current and/or wind.

[0073] In one embodiment, the inflatable floatable unit and the inflatable evacuation slide comprise separate inflation systems. Further, the inflatable main portion 101 may comprise multiple chambers separated by one-way control valves. Thus, if part of the inflatable main portion ruptures, the separate chambers prevent the entire inflatable main portion from deflating. Also, the pressure inside the inflatable main portion may be controlled by excess pressure valves. In one embodiment, the pressure inside the inflatable main portion is kept at a level between 0.20 bar and 0.35 bar.

[0074] The evacuation system is activated by pushing a single button 303 arranged on the system container as shown in Fig. 4B or in a location remote from the system container, e.g. on the bridge of the vessel. Activation of the evacuation system causes the system container to open automatically and initiates inflation of the inflatable evacuation slide 100 and the inflatable floatable unit 200. When the system container opens, the inflatable evacuation slide 100 and the inflatable floatable unit 200 leave the system container. A line extending from an inflation unit in the inflatable floatable unit and/or in the inflatable evacuation slide and being secured to the system container activates the inflation unit(s).

[0075] When the inflatable evacuation slide 100 and the inflatable floatable unit 200 are inflated, the inflatable evacuation slide controls the position of the inflatable floatable unit along the side 13 of the vessel 11. The inflatable evacuation slide abuts the side 13 of the vessel 11 to provide for the stability of the inflatable evacuation slide and the inflatable floatable unit. The main cord and/or the inflatable main portion 101 absorb(s) pulling forces affecting the inflatable floatable unit and prevent (s) the inflatable floatable unit from drifting away from the vessel.

[0076] In a further embodiment, the inflatable evacuation slide may be attached to the inflatable floatable unit in such a way as to prevent the inflatable floatable unit from being pushed towards the side 13 of the vessel 11. The rigidity of the inflatable evacuation slide thus prevents the inflatable floatable unit from being pushed towards the vessel 11. However, this construction may cause an increase in the forces affecting the inflatable evacuation slide, which in turn may require an inflatable evacuation slide having a higher rigidity and/or strength.

[0077] When the evacuation system has been deployed and the inflatable floatable unit is ready to receive evacuees from the vessel, the evacuees enter the inflatable evacuation slide through an opening 302 in the back of the system container. This opening may be used to control the evacuation and restrict access to the inflatable evacuation slide when the maximum capacity of the inflatable floatable unit has been reached.

[0078] When the maximum capacity of the inflatable floatable unit has been reached, the connection between the inflatable evacuation slide and the inflatable floatable unit is released. In one embodiment, the connection is released by cutting the main cords and the stability lines adjacent the inflatable floatable unit. Hereby the inflatable floatable unit is pulled away from the vessel.

[0079] In case of a float free situation, i.e. the vessel sinks before the evacuation system is deployed and the inflatable floatable unit has been released, the evacuation system is automatically activated when the system container reaches a certain depth. Hereby the system container opens, and inflation of the inflatable floatable unit and the inflatable evacuation slide is initiated. Further, the evacuation system comprises a release mechanism 315 for releasing the slide fixture 310, so that the inflatable evacuation slide and the inflatable floatable unit are detached from the sinking vessel. The release mechanism comprises pivotally mounted locking arm 316 fixated in a locking position by a hydrostatic release unit 317 as shown in Fig. 5. When the locking arm 316 is in the locking position, the slide fixture 310 is fixedly secured to the system container 300 or deck of the vessel, by the locking arm abutting a part 313 of the slide fixture. When the hydrostatic release unit is activated, the locking arm is unlocked and moves into the position indicated by the dotted lines in Fig. 5. Hereby the slide fixture is released from the system container whereby the inflatable evacuation slide and the inflatable floatable unit can freely

ascend to the surface.

[0080] Although the invention has been described in the above in connection with preferred embodiments of the invention, it will be evident for a person skilled in the art that several modifications are conceivable without departing from the invention as defined by the following claims.

10 Claims

1. An inflatable evacuation slide (100) for positioning an inflatable floatable unit (200) along a vessel (11), comprising:

- an inflatable main portion (101) for being attached to the vessel in one end and with the inflatable floatable unit in the opposite end, the inflatable main portion constituting two spaced apart tube elements (120) extending in a longitudinal direction;

- a slide sheet (104) secured to the inflatable main portion extending between the two tube elements to provide a slide path (105) down which evacuees may slide from the vessel to the inflatable floatable unit;

wherein the inflatable evacuation slide (100) further comprises a main cord (103) attached to the inflatable main portion, the main cord being adapted to be attached to the vessel (11) at one end (106) and to the inflatable floatable unit (200) at the opposite end (108).

2. An inflatable evacuation slide (100) according to claim 1, comprising two main cords (103) attached to the inflatable main portion (101) on opposite sides of the slide path (105).

3. An inflatable evacuation slide (100) according to claim 1 or 2, wherein a distance (d) between the end of each of the main cords (103) for being attached to the vessel and a first attachment point at which each of the main cords are attached to the inflatable main portion is adapted to allow pivotal movement of the inflatable evacuation slide in relation to the vessel.

4. An inflatable evacuation slide (100) according to any of the preceding claims, further comprising one or more stability lines (111) extending along the inflatable evacuation slide (100) and being adapted to be attached, directly or indirectly, to the vessel and adapted to be attached to the inflatable floatable unit at the opposite free end of the inflatable evacuation slide.

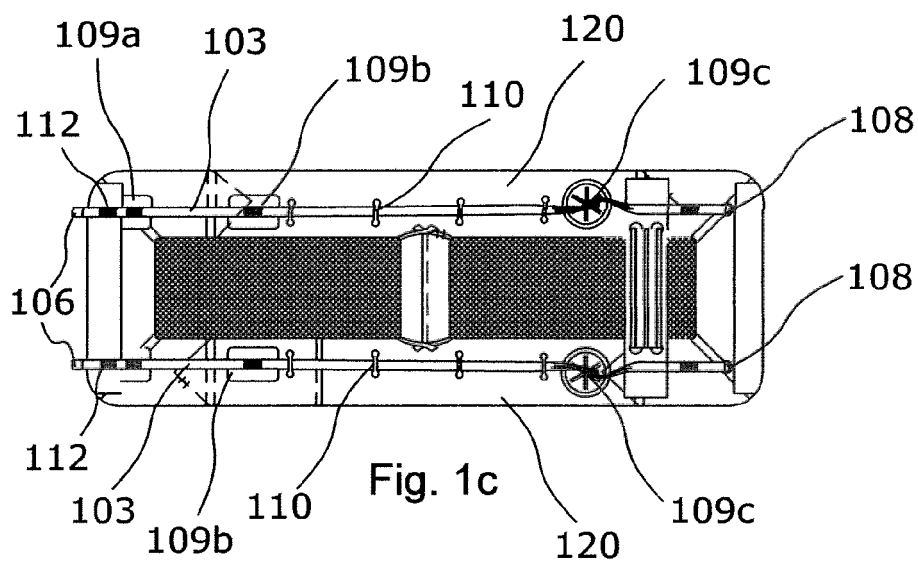
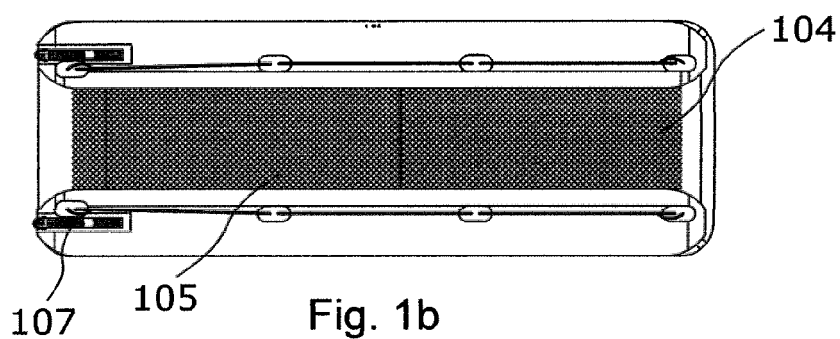
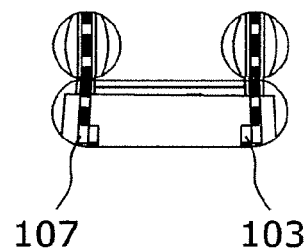
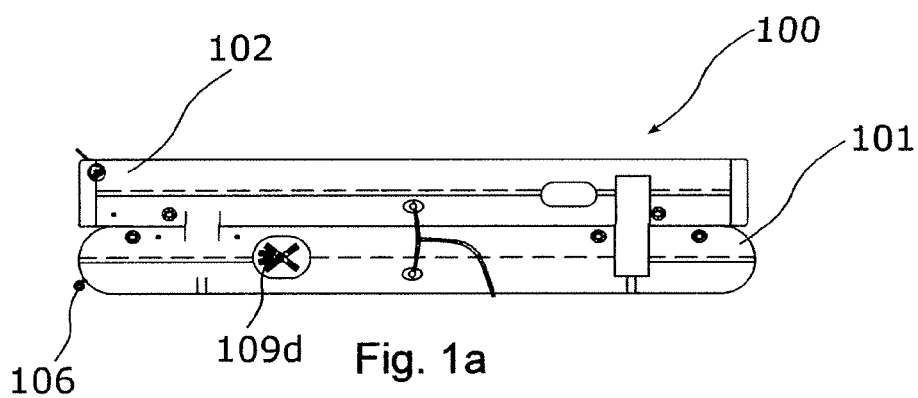
5. An inflatable evacuation slide (100) according to claim 4, wherein the one or more stability lines (111)

are indirectly attached to the vessel (11) via the evacuation slide (100) or a container mounted on the vessel.

6. An inflatable evacuation slide (100) according to claim 5, comprising two stability lines (111) being attached to opposite sides of the inflatable main portion (101) extending along an outer periphery, and for being attached to the inflatable floatable unit (200) at the opposite free end. 5
7. An inflatable evacuation slide (100) according to any of the claims 4-6, wherein the one or more stability lines (111) are made of an elastic material, thereby providing an elastic effect. 10
8. An inflatable evacuation slide (100) according to any of the claims 4-7, wherein the stability lines (111) have a substantial extension parallel to an extension of the evacuation slide. 15
9. An inflatable evacuation slide (100) according to any of the claims 4-8, wherein the stability lines (111) have an inclined extension being substantially 45 degrees in relation to the inflatable floatable unit (200). 20
10. An evacuation system (1) comprising:
- a system container (300) for being mounted on a vessel (300), 25
- an inflatable floatable unit (200) for evacuating persons from the vessel (11),
- an inflatable evacuation slide (100) according to any of the preceding claims,
wherein the inflatable evacuation slide (100) is attached to the system container (300) at one end and with the inflatable floatable unit (200) at the opposite end, whereby the inflatable evacuation slide (100) positions the inflatable floatable unit (200) in a controlled manner in relation to the vessel (11). 30
11. An evacuation system (1) according to claim 10, wherein the inflatable evacuation slide (100) is attached to a centre portion (204) of the inflatable floatable unit (200) at a particular distance (d2) from a periphery (202) of the inflatable floatable unit (200) defined by the length and angle of the inflatable evacuation slide (100) in relation to the vessel (11), such that the inflatable floatable unit (200) abuts the vessel (11) when the inflatable floatable unit (200) has been inflated and positioned along a side (13) of the vessel (11). 35
12. An evacuation system (1) according to claims 10-11, further comprising an activation button (303) for activating the evacuation system (1), wherein activation of the evacuation system (1) causes the system 40

container (300) to open automatically and initiates inflation of the inflatable evacuation slide (100) and the inflatable floatable unit (200).

13. An evacuation system (1) according to claims 10-12, further comprising a slide fixture (310) secured to the system container (300) or a deck (12) of a vessel (11), and each of the main cords (103) of the inflatable evacuation slide and/or the second cords of the inflatable evacuation slide are attached to the slide fixture. 45
14. Method for deploying an evacuation system (1) according to any of the claims 10-13, comprising the steps of:
- activating the evacuation system (1) by pushing the activation button (303),
- disembarking evacuees to the inflatable floatable unit (200) via the inflatable evacuation slide (100),
- releasing the one or more connections between the inflatable evacuation slide (100) and the inflatable floatable unit (200), and
- moving away the inflatable floatable unit (200) from the vessel (11). 50
15. Vessel (11) comprising the inflatable evacuation slide (100) according to any of the claims 1-9 and/or the evacuation system (1) according to any of the claims 10-13. 55



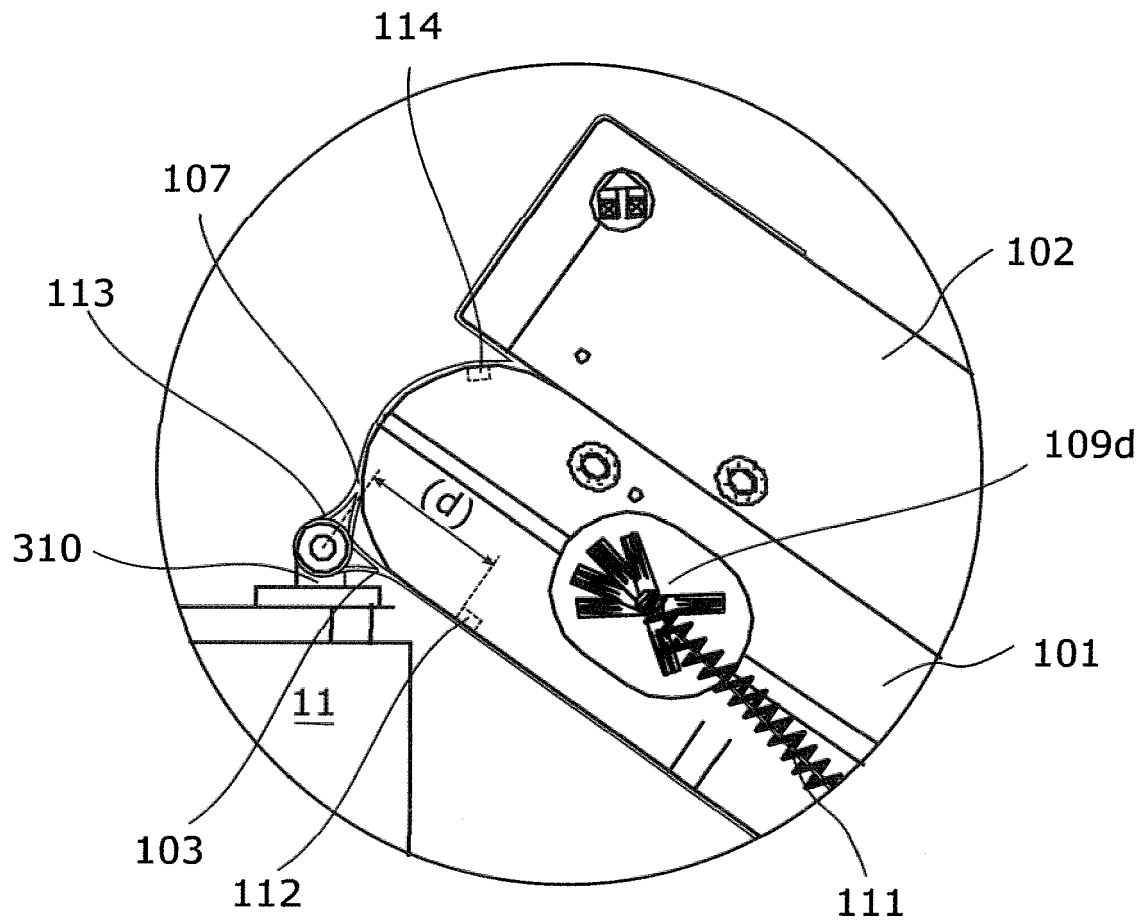


Fig. 2

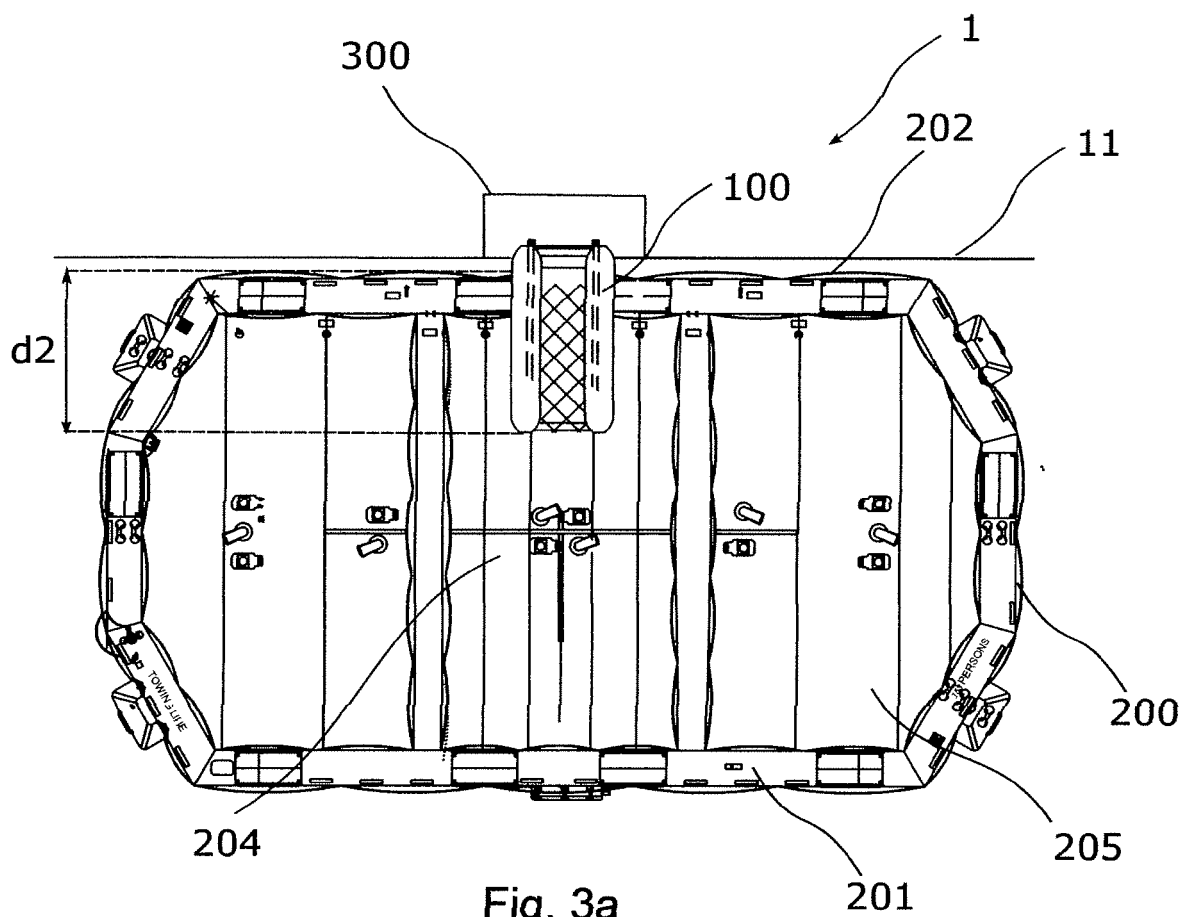


Fig. 3a

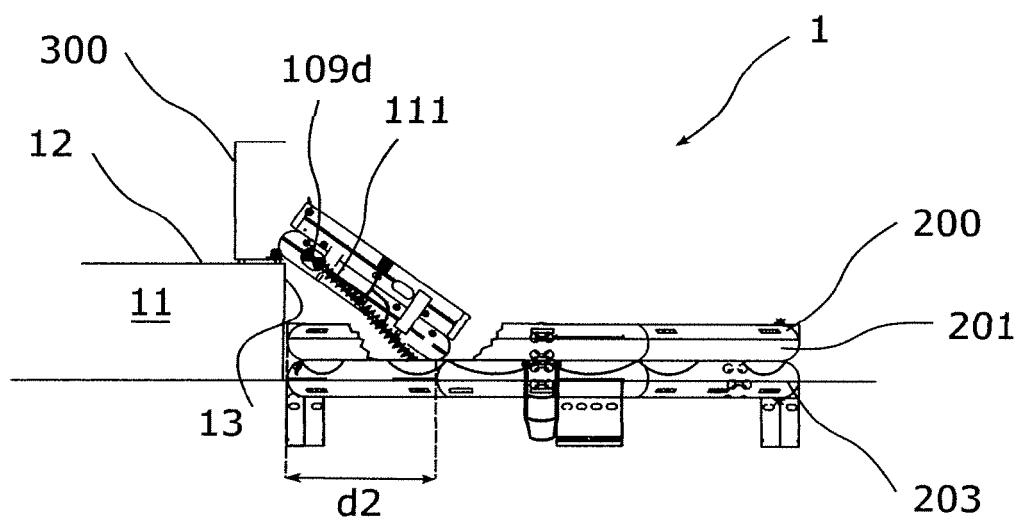


Fig. 3b

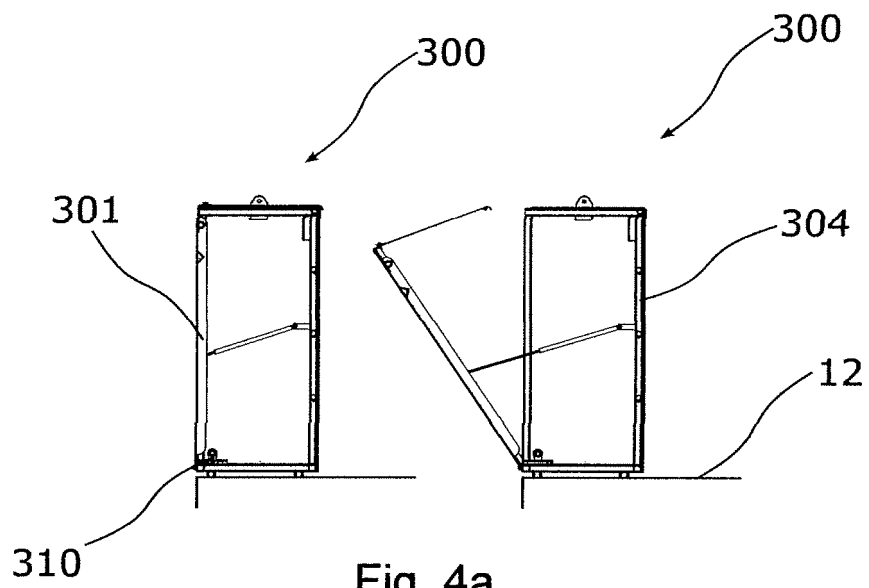


Fig. 4a

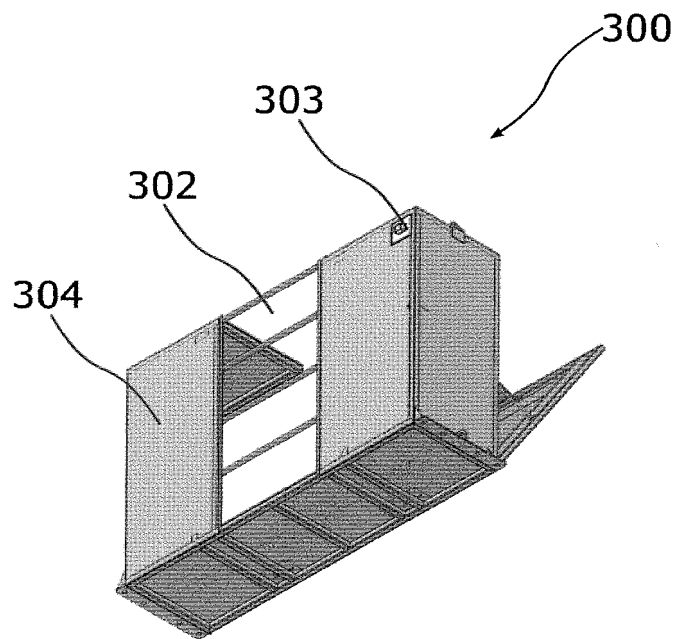


Fig. 4b

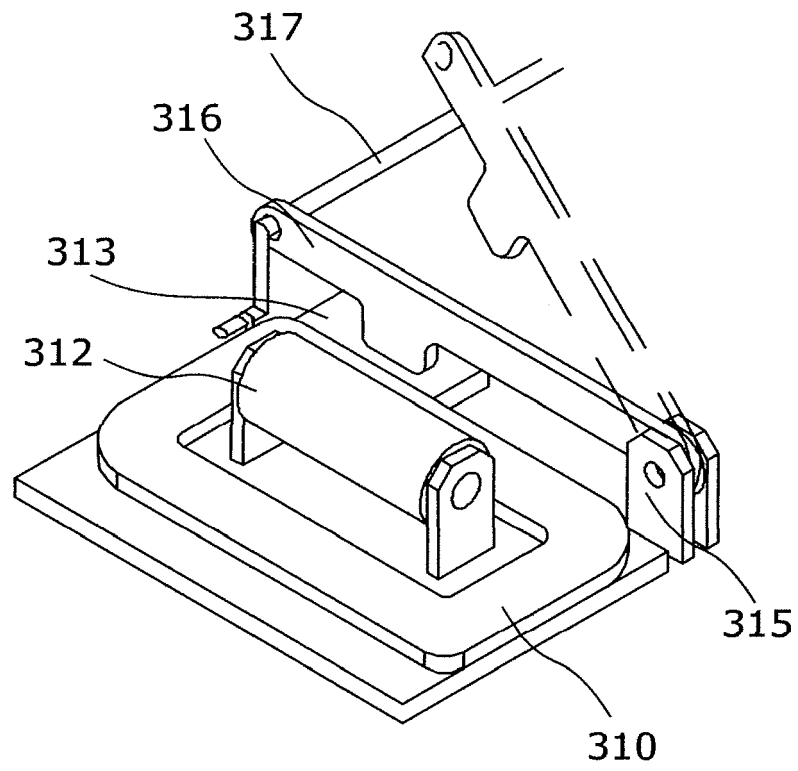


Fig. 5



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