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(54) DRILLSHIP

BOHRSCHIFF

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Description

Field of application

[0001] The present invention relates to a drillship, in particular for localising, exploring and exploiting deposits of hydrocarbons or other energy and mineral resources.

[0002] The drillship according to the present invention is intended, in particular, for operating in deep (over 450m) and ultra-deep (over 1,500m) waters.

State of the art

[0003] Drillships are a class of offshore unit specialised in drilling underwater oil wells at depths of over 3000 m in the seabed. The typical operational activity of these units consists of searching and preparing oil wells for future use by other offshore units specialised in the production of natural gas and crude oil.

[0004] Generally drillships comprise at least three separate operating zones distributed between bow and stern along the longitudinal extension axis of the ship.

[0005] A first operating zone is used for ship management. Such area, normally positioned at the bow, is where the crew's quarters are located and the safety and abandon ship means are stored.

[0006] A second operating zone is destined for the drilling rig. In particular, in this area at least one derrick is installed and a drilling aperture through the hull (known in the jargon as moonpool) is made. The derrick is used to support the drill strings and manoeuvres them through the aforesaid aperture in the hull. Such second operating zone is normally positioned at midship.

[0007] A third operating zone, normally situated at the stern, is used for power generation for the propulsion of the ship. All the electricity generation and propulsion systems are concentrated in this third area.

[0008] The document US 6, 056, 071 which represents the closest prior art discloses a drillship comprising three separate operating zone.

[0009] From a planning point of view, the flow of technical personnel develops horizontally from the crew quarters at the bow towards the drilling rig and well systems at midship and towards the control rooms of the systems required to manoeuvre the ship in the stern zone.

[0010] As regards the efficiency of the ship system it is of crucial importance to ensure spacious and rapid horizontal connection corridors protected from the weather elements, which connect the three aforesaid zones for an efficient transfer of people and plant components.

[0011] In addition, to ensure the maximum safety of personnel in the event of an accident at midship, in the drilling rig zone regulatory bodies require that at least one protected route leading to the abandon ship means stored in the first operating zone be provided.

[0012] Drillships are known of having two longitudinal lateral corridors made under the main deck, each of which extends beside a ship side. The two corridors connect the drilling zone and the power generation zone to the first operating zone and ensure the mobility of the crew inside the ship. In addition, in the event of an accident in the drilling zone, they constitute two entirely independent escape routes towards the first operating zone (where the safety and abandon ship means are stored).

[0013] The independence of the two corridors has advantages and disadvantages. The advantage is that in the event of a serious accident - for example a fire in the drilling zone in midship - affecting one of the corridors, the other corridor remains available to permit the evacuation of personnel towards the first operating zone. The disadvantage is that the personnel which are on the side of the ship affected by the accident, at the stern of the accident, find the escape corridor obstructed and are forced to come out on deck (exposing themselves to risks)to reach the first operating zone at bow as rapidly as possible, or to reach the generation zone at stern to then use the other longitudinal corridor, wasting precious time.

Presentation of the invention

[0014] Consequently, the purpose of the present invention is to eliminate or at least attenuate the drawbacks of the prior art mentioned above, by making available a drillship which in the event of an accident at midship allows the crew to reach the first operating zone of the ship rapidly and safely.

[0015] A further purpose of the present invention is to make available a drillship which guarantees at least two independent escape routes in the event of fire.

[0016] A further purpose of the present invention is to make available a drillship which makes it possible to achieve the aforesaid purposes by means of simple construction expedients.

Brief description of the drawings

[0017] The technical characteristics of the invention, according to the aforesaid purposes, can be seen clearly from the contents of the following claims and the advantages thereof will be more clearly comprehensible from the detailed description below, made with reference to the attached drawings, showing one or more embodiments by way of non-limiting examples, wherein:

[0018] - Figure 1 shows a view of a side of a drillship according to a particular embodiment of the invention, partially in cross-section;

[0019] - Figure 2 shows a cross-section plan view of the under the main deck of the ship shown in figure 1 according to the plane II-II indicated therein;

[0020] - Figure 3 shows a transversal cross-section of a portion of the ship shown in figure 2 according to the cross-section plane III-III indicated therein.

Detailed description

[0021] With reference to the appended drawings reference numeral 1 globally denotes a drillship according to the invention.

[0022] Moreover, here and henceforth in the description and the claims, reference will be made to the ship 1 in conditions of use. References to an upper or lower position or horizontal or vertical direction should therefore be understood in this sense.

[0023] According to a general embodiment of the invention, the drillship 1 comprises a hull 2 which extends along a longitudinal axis X between a bow 3 and a stern 4.

[0024] As shown in Figure 2, the ship 1 comprises at least three separate operating zones (10, 20, 30) distributed between bow and stern along the axis X:

- a first operating zone 10 of ship management, in which the safety and abandon ship means 12 (lifeboats) are stored;
- a second operating zone 20 of drilling, where at least one derrick 21 is installed and a drilling aperture 22 through the hull 2 is made; and
- a third operating zone 30 of power generation for the propulsion of the ship; in particular, all the electricity generation and propulsion systems are concentrated in this third area.

[0025] In particular, as shown in Figure 1, the first operating area 10 may comprise a bow superstructure 11, which preferably extends over various decks. Such first operating area in particular also contains the crew's quarters.

[0026] As shown in Figure 2, the second operating zone 20 (drilling) and the third operating zone 30 (power generation) are connected to the first operating zone (equipped with the safety and abandon ship means) by two longitudinal lateral corridors 41 and 42. Each of such longitudinal lateral corridors extends beside one of the two sides 5, 6 of the hull.

[0027] The aforesaid longitudinal lateral corridors 41 and 42 are made under the main deck so as to create routes protected from the weather elements or any accidents occurring above the main deck. The expression "under the main deck" is understood to include both the case in which such longitudinal corridors are made on the first deck immediately under the main deck and the case in which such corridors are made on lower decks.

[0028] Operatively, such two corridors 41 and 42 constitute from a planning point of view the main transit routes inside the ship from bow to stern.

[0029] According to the invention, said two longitudinal corridors 41 and 42 are connected to each other transversally by one or more transversal corridors 51, 52, 53, each of which extends from one ship side to the other.

[0030] Such one or more transversal corridors 51, 52 are also made under the main deck so as to create routes protected from the elements or any accidents occurring above the main deck. The expression "under the main deck" is understood to include both the case in which such transversal corridors are made on the first deck immediately under the main deck and the case in which such corridors are made on lower decks.

[0031] The term "corridor" is understood to mean a continuous space dedicated specifically for transit, along which there are no obstructions, except at most the doors provided for by naval design, such as watertight doors or fire doors.

[0032] The aforesaid one or more transversal corridors 51, 52, 53 increase the mobility of the crew inside the ship given that they transversally directly interconnect the two lateral corridors 41 and 42, preventing personnel from having to cross areas not specifically intended for transit and thereby encountering unexpected obstacles. The presence of such one or more corridors thus permits faster movement from one lateral longitudinal corridor to the other.

[0033] Compared to traditional ships, thanks to the aforesaid transversal corridors, secondary transit routes are thus created protected from the weather elements and any accidents above the main deck.

[0034] This increased mobility significantly improves safety on board ship, considerably facilitating evacuation operations of the second operating zone 20 (drilling) and of the third operating zone 30 (power generation) towards the first operating zone (equipped with the safety and abandon ship means).

[0035] In the event of a serious accident in midship affecting one of the two lateral longitudinal corridors, for example a fire, the personnel which are on the side of the ship affected by the accident, finding the escape corridor towards the first operating zone obstructed, may take the first available transversal corridor thus reaching the other lateral longitudinal corridor in safety. Unlike traditional drillships, thanks to the transversal corridors 51, 52, 53 the personnel which are in the above emergency conditions are no longer forced to come out on the main deck (exposing themselves to risks) or cross another operating zone of the ship (also subject to evacuation) to reach the other longitudinal corridor. Thanks to the invention in particular it is avoided that the personnel are forced to go towards and to cross areas not specifically destined for transit, preventing traffic jams. Evacuation times are thus significantly reduced.

[0036] The presence of the aforesaid transversal corridors considerably improves normal operating of the ship. Thanks to such transversal corridors it is in fact possible to reach both the end zones at bow and stern and the operating rooms and technical offices located under the main deck much faster.

[0037] According to the preferred embodiment illustrated in the appended Figures, the aforesaid at least three operating areas are arranged as follows:

- the first operating zone 10 (equipped with the safety and abandon ship means) is positioned at the bow;

- the second operating zone 20 (drilling) is positioned at midship; and
- the third operating zone 30 (power generation) is positioned at the stern.

[0038] The arrangement of the first operating zone 10 at bow is functional to having the area equipped with the safety and abandon ship means as far as possible from zones subject to accidents.

[0039] The arrangement of the second operating zone 20 of drilling at midship is functional to the operation of the drill rigs and the stability of the ship itself.

[0040] The arrangement of the third operating zone 30 of power generation at stern is related to the positioning of the propulsive devices generally at the stern.

[0041] More in detail, with reference to the specific arrangement of the three operating zones as expounded above, as shown in Figure 2, the ship 1 comprises two transversal end corridors 51 and 52, of which:

- a first end corridor 51 positioned between the first operating zone 10 and the second operating zone 20;
- a second end corridor 52 positioned between the second operating zone 20 and the third operating zone 30.

[0042] Preferably, as shown in Figure 2, each of the two longitudinal lateral corridors 41, 42 extends at least for the entire longitudinal extension of the operating zone situated in midship, which preferably consists of the second drilling operating zone 20.

[0043] In particular, as shown in Figure 2, the two transversal end corridors 51 and 52 connect the two longitudinal lateral corridors 41 and 42 to each other at their respective ends, at bow 41a and 42a and at stern 41b and 42b, forming a loop path. The two transversal end corridors 51 and 52 are positioned between two different operating zones without crossing them.

[0044] A continuous path is thus created which is convenient to use by the crew and is structurally of reduced invasiveness in relation to the other operating zones of the ship situated under the main deck.

[0045] According to an embodiment not shown, the two longitudinal lateral corridors 41 and 42 may possibly extend in a longitudinal direction beyond the end transversal corridors 51 and 52, in the operating zones at stern and bow.

[0046] According to alternative embodiments (not shown in the appended drawings) the aforesaid three operating areas may be differently arranged. In particular, an embodiment may be provided for wherein the third operating zone 30 (power generation) is positioned at midship and the second operating zone 20 (drilling) at stern.

[0047] Preferably, as shown in Figure 2, the ship 1 comprises at least one central transversal corridor 53, positioned between the two transversal end corridors 51 and 52. Such at least one central transversal corridor 53 crosses the operating zone positioned at midship, which given its position is strategic for the movement of the personnel.

[0048] Advantageously, when the operating zone positioned at midship is the second operating zone 20 of drilling, such at least one central transversal corridor 53 assumes a particularly strategic character. In terms of risk of occurrence of serious accidents, the second operating zone 20 (drilling) is considered the most dangerous, given the dangerousness of the materials treated (hydrocarbons).

[0049] The aforesaid one or more central transversal corridors 53 thus create secondary transit routes which divide the operating zone situated in midship into subzones. This considerably increases the possibility for the personnel to move safely between one lateral longitudinal corridor and the other in this central part of the ship.

[0050] In the preferred case, in which the operating zone positioned at midship is the second operating zone 20 of drilling, such at least one central transversal corridor 53 is positioned at bow or at stern in relation to the drilling aperture 22.

[0051] In particular, as shown in Figure 2, the ship 1 comprises inside the second operating zone 20 a hold 23 for the drill strings. Said hold 23 is made between the drilling aperture 22 and the first operating zone 10. The hold 23 creates a safety zone between the first operating zone 10 (where in particular, the safety and abandon ship means 12 of the ship are stored) and the heart of the second operating zone 20 of drilling (that is to say the derrick 21).

[0052] Preferably, the aforesaid at least one central transversal corridor 53 is made between the drilling aperture 22 and the hold 23.

[0053] According to alternative embodiments (not shown in the appended drawings) the ship 1 may comprises two or more central transversal corridors, not only at the bow of the drilling aperture 22, but also at the stern.

[0054] According to the preferred embodiment illustrated in the appended Figures, each transversal corridor, whether end 51, 52 or central 53 is provided with one or more fire doors 54. The presence of the fire doors prevents the short circuiting of the two lateral longitudinal corridors 41 and 42 connected by transversal corridors in the event of a fire. The fire doors 54 intercept the transversal corridors and thus guarantee, in the case of fire and smoke, the total independence of the two lateral longitudinal corridors 41 and 42.

[0055] Preferably, the two longitudinal lateral corridors 41, 42 are on the same deck.

[0056] Preferably, the aforesaid one or more transversal corridors 51, 52, 53 are on the same deck of the two longitudinal lateral corridors 41, 42, so as to create a completely level escape and transit route.

[0057] According to alternative embodiments (not shown in the appended drawings) the two longitudinal lateral corridors 41, 42, may be positioned on different

decks and be connected by the aforesaid one or more transversal corridors 51, 52, 53 which extend over two or more decks by means of stairs.

[0058] Embodiments may be provided for (not shown in the appended drawings) wherein the two longitudinal lateral corridors 41, 42, are positioned on the same deck and are connected by the aforesaid one or more transversal corridors 51, 52, 53 which extend over two or more decks by means of stairs.

[0059] According to the preferred embodiment illustrated in the appended Figures, the ship 1 comprises a second hull 200 placed inside the first hull 2 to define a double hull structure which forms a structural barrier for protection from lateral breaches on each ship side 5, 6. As shown in Figure 2, the aforesaid two longitudinal lateral corridors 41, 42 extend longitudinally alongside the second hull 200 on the inner side of the ship.

[0060] Advantageously, the presence of the double hull and thus of the structural barrier protecting the ship sides from lateral breaches makes it possible to avoid - along the longitudinal lateral corridors - water tight compartment doors in correspondence of each water tight bulkhead, thereby drastically reducing the obstacles to transit in such corridors along the ship. Each longitudinal corridor 41 and 42 can thus define a continuous path without intermediate barriers composed of watertight doors.

[0061] The invention makes it possible to achieve numerous advantages some of which already described.

[0062] The drillship according to the invention has a structure such that in the event of an accident the personnel can reach the first operating zone of the ship where the safety and abandon ship means are stored faster and more safely than in the traditional drillships.

[0063] The corridor structure according to the present invention defines a main transit and escape circuit of the entire technical/operating zone of the naval unit (drilling and generation operating zones), with the dual function of service for the fast and efficient transfer of people and technical materials, and of rapid and redundant escape for the transfer of all the people from the operating zones at risk to the lifeboats.

[0064] In particular, the drillship according to the invention, while offering a direct interconnection between the two lateral longitudinal corridors, continues to guarantee that such escape routes are independent of each other in the event of a fire.

[0065] In particular, the presence of at least one central transversal corridor 53 which crosses the operating zone positioned at midship makes it possible to divide such operating zone - strategic for the movement of the personnel - into sub-zones. This considerably increases the possibility for the personnel to move in safety between one lateral longitudinal corridor and the other in this central part of the ship.

[0066] The ship according to the present invention makes it possible to achieve the aforesaid purposes by means of simple construction expedients. The transversal connection corridors between the lateral longitudinal corridors are not in fact invasive in relation to the operating structures and do not necessitate drastic changes to the topography of the ship.

[0067] The invention thus conceived thereby achieves the purposes set out.

[0068] Obviously, its practical embodiments may assume forms and configurations different from those described while remaining within the sphere of protection of the invention.

[0069] Furthermore, all the parts may be replaced with technically equivalent parts and the dimensions, shapes and materials used may be varied as required.

Claims

1. Drillship comprising a hull (2) which extends along a longitudinal axis (X) between a bow (3) and a stern (4), said ship (1) comprising at least three operating zones (10, 20, 30) distributed between bow and stern along said axis (X):

   - a first operating zone (10) of ship management, in which the safety and abandon ship means (12) are stored;
   - a second operating zone (20) of drilling, where at least one derrick (21) is installed and a drilling aperture (22) through the hull (2) is made; and
   - a third operating zone (30) of power generation for the propulsion of the ship;

   the second operating zone (20) and third operating zone (30) being connected to the first operating zone by two longitudinal lateral corridors (41, 42), made under the main deck, each of which extends beside a ship side (5, 6),
   characterised in that said two longitudinal corridors (41, 42) are connected to each other transversally by one or more transversal corridors (51, 52, 53), each of which extends from one ship side to the other under the main deck

2. Ship according to claim 1, wherein the first operating zone (10) is positioned at the bow, the second operating zone (20) at midship and the third operating zone (30) at the stern, said ship comprising two transversal end corridors (51, 52), of which one corridor (51) is positioned between the first operating zone (10) and the second operating zone (20) and one corridor (52) is positioned between the second operating zone (20) and the third operating zone (30).

3. Ship according to claim 2, wherein each of said two longitudinal lateral corridors (41, 42) extends for the entire longitudinal extension of the second operating zone (20).

4. Ship according to claims 2 and 3, wherein said two transversal end corridors (51, 52) connect the longitudinal lateral corridors (41, 42) to each other at their respective ends (41a, 41b; 42a, 42b), forming a loop path.

5. Ship according to one or more of the previous claims, comprising at least one central transversal corridor (53), positioned between the two transversal end corridors (51, 52), which crosses the second operating zone (20) and is positioned at bow or stern in relation to the drilling aperture (22).

6. Ship according to claim 5, comprising inside the second operating zone (20) a hold (23) for the drill strings, said hold (23) being made between the drilling aperture (22) and the first operating zone (10), said at least one central transversal corridor (53) being made between the drilling aperture (22) and the hold (23).

7. Ship according to one or more of the previous claims, wherein each transversal corridor (51, 52, 53) has one or more fire doors (54).

8. Ship according to one or more of the previous claims, wherein the two longitudinal lateral corridors (41, 42) are on the same deck.

9. Ship according to claim 8, wherein said one or more transversal corridors (51, 52, 53) are on the same deck of the two lateral longitudinal corridors (41, 42).

10. Ship according to one or more of the previous claims, comprising a second hull (200) placed inside the first hull (2) to define a double hull structure which forms a structural barrier for protection to lateral breaches on each ship side (5, 6), said two longitudinal lateral corridors (41, 42) extending longitudinally alongside the second hull (200) on the inner side of the ship.

11. Ship according to claim 10, wherein each longitudinal corridor (41, 42) defines a continuous path without intermediate barriers consisting of watertight doors.

Patentansprüche

1. Bohrschiff, das einen Schiffsrumpf (2) umfasst, der sich entlang einer Längsachse (X) zwischen einem Bug (3) und einem Heck (4) erstreckt, wobei das Schiff (1) wenigstens drei Arbeitszonen (10, 20, 30), die zwischen dem Bug und dem Heck entlang der Achse (X) verteilt sind, umfasst:

   - eine erste Arbeitszone (10) der Schiffsverwaltung, in der die Sicherheitsmittel und Mittel (12) zum Verlassen des Schiffs gelagert sind;
   - eine zweite Arbeitszone (20) zum Bohren, wo wenigstens ein Bohrturm (21) installiert ist und eine Bohröffnung (22) durch den Schiffsrumpf (22) hergestellt ist; und
   - eine dritte Arbeitszone (30) zur Leistungserzeugung für den Antrieb des Schiffs;

   wobei die zweite Arbeitszone (20) und die dritte Arbeitszone (30) durch zwei Längsseitengänge (41, 42), die unter dem Hauptdeck hergestellt sind, von denen sich jeder neben einer Schiffseite (5, 6) erstreckt, mit der ersten Arbeitszone verbunden sind, **dadurch gekennzeichnet, dass** die zwei Längsgänge (41, 42) durch einen oder mehrere Quergänge (51, 52, 53), von denen sich jeder unter dem Hauptdeck von einer Schiffseite zu der anderen erstreckt, quer miteinander verbunden sind.

2. Schiff nach Anspruch 1, wobei die erste Arbeitszone (10) an dem Bug, die zweite Arbeitszone (20) im Mittelschiff und die dritte Arbeitszone (30) am Heck positioniert ist, wobei das Schiff zwei Querendgänge (51, 52) umfasst, wobei ein Gang (51) zwischen der ersten Arbeitszone (10) und der zweiten Arbeitszone (20) positioniert ist und ein Gang (52) zwischen der zweiten Arbeitszone (20) und der dritten Arbeitszone (30) positioniert ist.

3. Schiff nach Anspruch 2, wobei jeder der zwei Längsseitengänge (41, 42) sich über die gesamte Längsausdehnung der zweiten Arbeitszone (20) erstreckt.

4. Schiff nach den Ansprüchen 2 und 3, wobei die zwei Querendgänge (51, 52) die Längsseitengänge (41, 42) an ihren jeweiligen Enden (41a, 41b; 42a, 42b) verbinden und einen Schleifenweg bilden.

5. Schiff nach einem oder mehreren der vorhergehenden Ansprüche, das wenigstens einen mittleren Quergang (53) umfasst, der zwischen den zwei Querendgängen (51, 52) positioniert ist, der die zweite Arbeitszone (20) durchquert und in Relation zu der Bohröffnung (22) an dem Bug oder Heck positioniert ist.

6. Schiff nach Anspruch 5, das im Inneren der zweiten Arbeitszone (20) einen Laderaum (23) für die Bohrstränge umfasst, wobei der Laderaum (23) zwischen der Bohröffnung (22) und der ersten Arbeitszone (10) hergestellt ist, wobei der wenigstens eine mittlere Quergang (53) zwischen der Bohröffnung (22) und dem Laderaum (23) hergestellt ist.

7. Schiff nach einem oder mehreren der vorhergehenden Ansprüche, wobei jeder Quergang (51, 52, 53) eine oder mehrere Feuerschutztüren (54) hat.

8. Schiff nach einem oder mehreren der vorhergehenden Ansprüche, wobei die zwei Längsseitengänge (41, 42) auf dem gleichen Deck sind.

9. Schiff nach Anspruch 8, wobei der eine oder die mehreren Quergänge (51, 52, 53) auf dem gleichen Deck wie die Längsseitengänge (41, 42) sind.

10. Schiff nach einem oder mehreren der vorhergehenden Ansprüche, das einen zweiten Schiffsrumpf (200) umfasst, der im Inneren des ersten Schiffsrumpfs (2) angeordnet ist, um eine Doppelschiffsrumpfstruktur zu definieren, die eine bauliche Barriere zum Schutz vor seitlichen Einbruchstellen auf jeder Schiffsseite (5, 6) bildet, wobei die zwei Längsseitengänge (41, 41) sich längs entlang des zweiten Schiffsrumpfs (200) auf der Innenseite des Schiffs erstrecken.

11. Schiff nach Anspruch 10, wobei jeder Längsgang (41, 42) einen kontinuierlichen Weg ohne Zwischenbarrieren, die aus wasserdichten Türen bestehen, definiert.

Revendications

1. Navire de forage comprenant une coque (2) qui s'étend le long d'un axe longitudinal (X) entre une proue (3) et une poupe (4), ledit navire (1) comprenant au moins trois zones d'opération (10, 20, 30) réparties entre la proue et la poupe le long dudit axe (X) :

   - une première zone d'opération (10) de gestion du navire, dans laquelle sont stockés les moyens de sécurité et d'abandon du navire (12) ;
   - une deuxième zone d'opération (20) de forage, où au moins un derrick (21) est installé et un trou de forage (22) à travers la coque (2) est réalisé ; et
   - une troisième zone d'opération (30) de production d'énergie pour la propulsion du navire ;

   la deuxième zone d'opération (20) et la troisième zone d'opération (30) étant reliées à la première zone d'opération par deux corridors latéraux longitudinaux (41, 42), réalisés sous le pont principal, chacun desquels s'étend sur un côté du navire (5, 6), **caractérisé en ce que** lesdits deux corridors longitudinaux (41, 42) sont reliés l'un à l'autre de manière transversale par un ou plusieurs corridors transversaux (51, 52, 53), chacun desquels s'étend d'un côté à l'autre du navire sous le pont principal.

2. Navire selon la revendication 1, dans lequel la première zone d'opération (10) est positionnée à la proue, la deuxième zone d'opération (20) au milieu du navire et la troisième zone d'opération (30) à la poupe, ledit navire comprenant deux corridors d'extrémité transversaux (51, 52), parmi lesquels un corridor (51) est positionné entre la première zone d'opération (10) et la deuxième zone d'opération (20) et un corridor (52) est positionné entre la deuxième zone d'opération (20) et la troisième zone d'opération (30).

3. Navire selon la revendication 2, dans lequel chacun desdits deux corridors latéraux longitudinaux (41, 42) s'étend sur l'ensemble de l'extension longitudinale de la deuxième zone d'opération (20).

4. Navire selon les revendications 2 et 3, dans lequel lesdits deux corridors d'extrémité transversaux (51, 52) relient les corridors latéraux longitudinaux (41, 42) l'un à l'autre à leurs extrémités respectives (41a, 41b ; 42a, 42b), formant un chemin en boucle.

5. Navire selon une ou plusieurs des revendications précédentes, comprenant au moins un corridor transversal central (53), positionné entre les deux corridors d'extrémité transversaux (51, 52), qui traverse la deuxième zone d'opération (20) et est positionné à la proue ou à la poupe par rapport au trou de forage (22).

6. Navire selon la revendication 5, comprenant à l'intérieur de la deuxième zone d'opération (20) une cale (23) pour les trains de tiges de forage, ladite cale (23) étant réalisée entre le trou de forage (22) et la première zone d'opération (10), ledit au moins un corridor transversal central (53) étant réalisé entre le trou de forage (22) et la cale (23).

7. Navire selon une ou plusieurs des revendications précédentes, dans lequel chaque corridor transversal (51, 52, 53) possède une ou plusieurs portes coupe-feu (54).

8. Navire selon une ou plusieurs des revendications précédentes, dans lequel les deux corridors latéraux longitudinaux (41, 42) sont sur le même pont.

9. Navire selon la revendication 8, dans lequel lesdits un ou plusieurs corridors transversaux (51, 52, 53) sont sur le même pont que les deux corridors latéraux longitudinaux (41, 42).

10. Navire selon une ou plusieurs des revendications précédentes, comprenant une seconde coque (200) placée à l'intérieur de la première coque (2) afin de définir une structure de coque double qui forme une barrière structurelle pour protéger de brèches latérales sur chaque côté du navire (5, 6), lesdits deux corridors latéraux longitudinaux (41, 42) s'étendant

de manière longitudinale le long de la seconde coque (200) sur le côté intérieur du navire.

11. Navire selon la revendication 10, dans lequel chaque corridor longitudinal (41, 42) définit un chemin continu sans barrières intermédiaires consistant en des portes étanches.

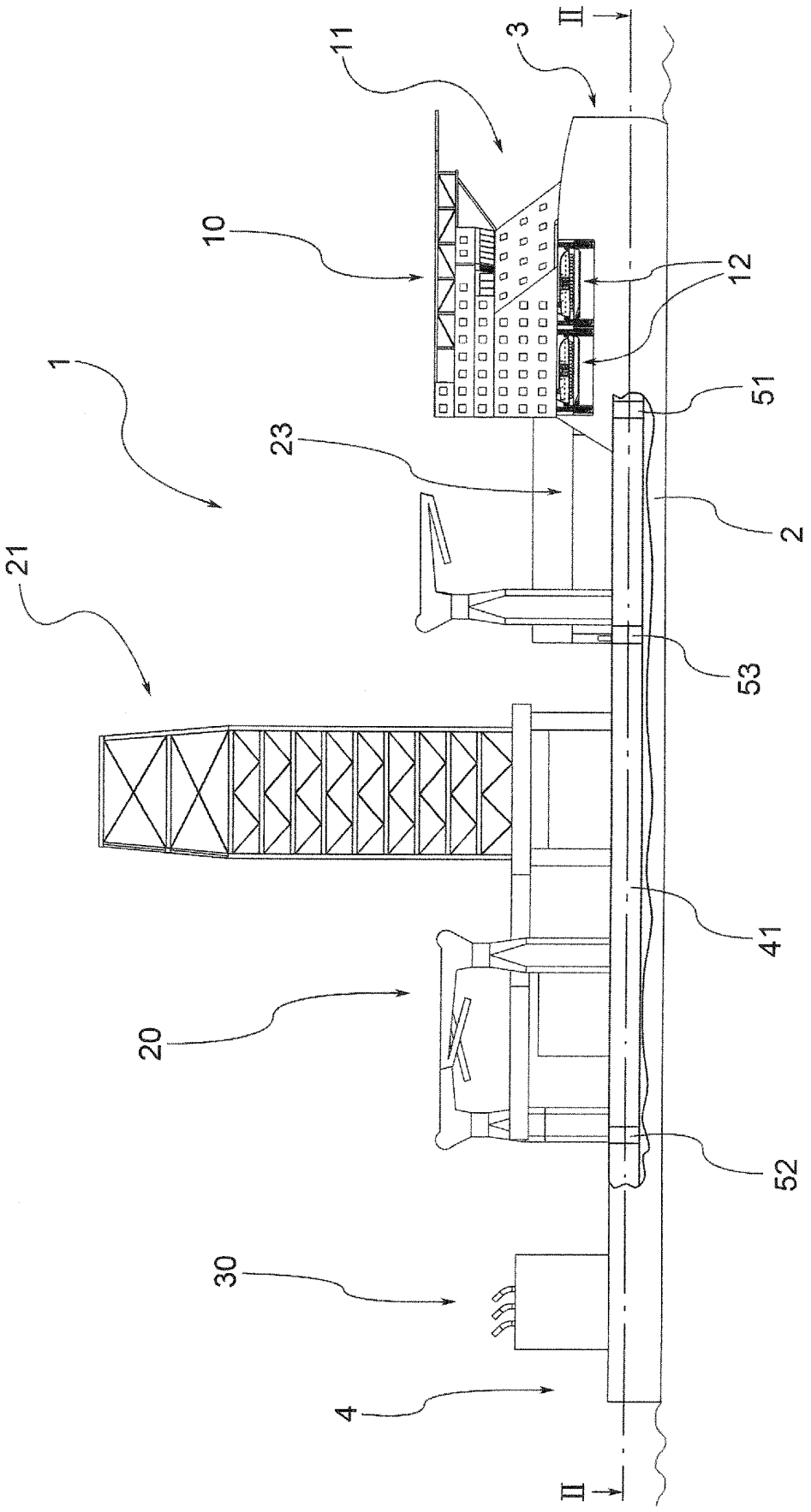


Fig. 1

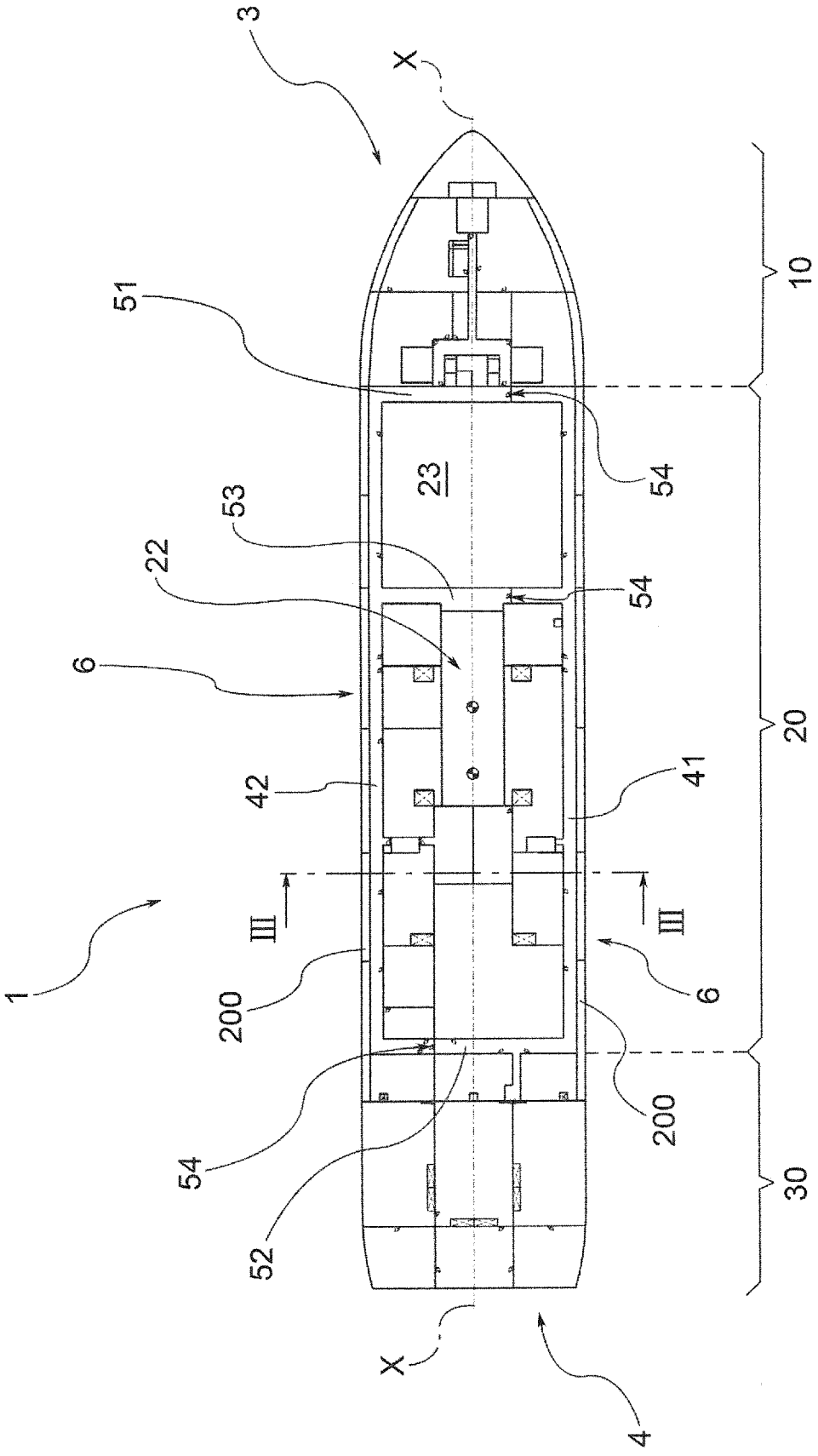


Fig. 2

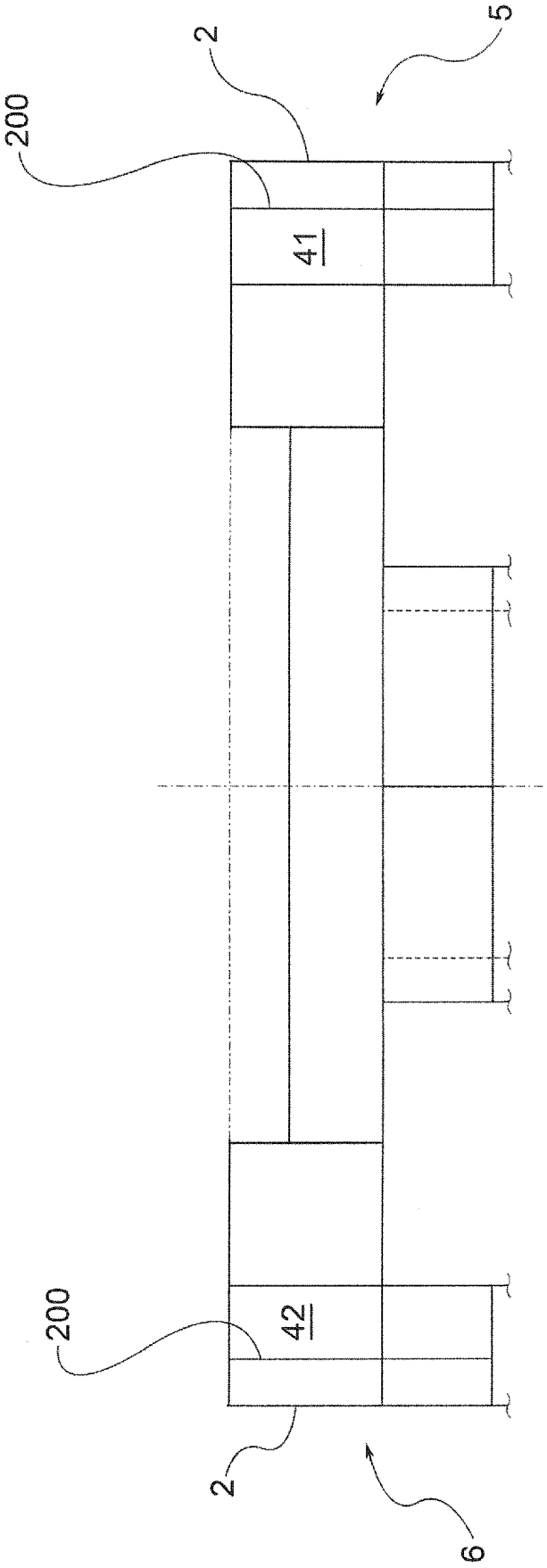


Fig.3

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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