

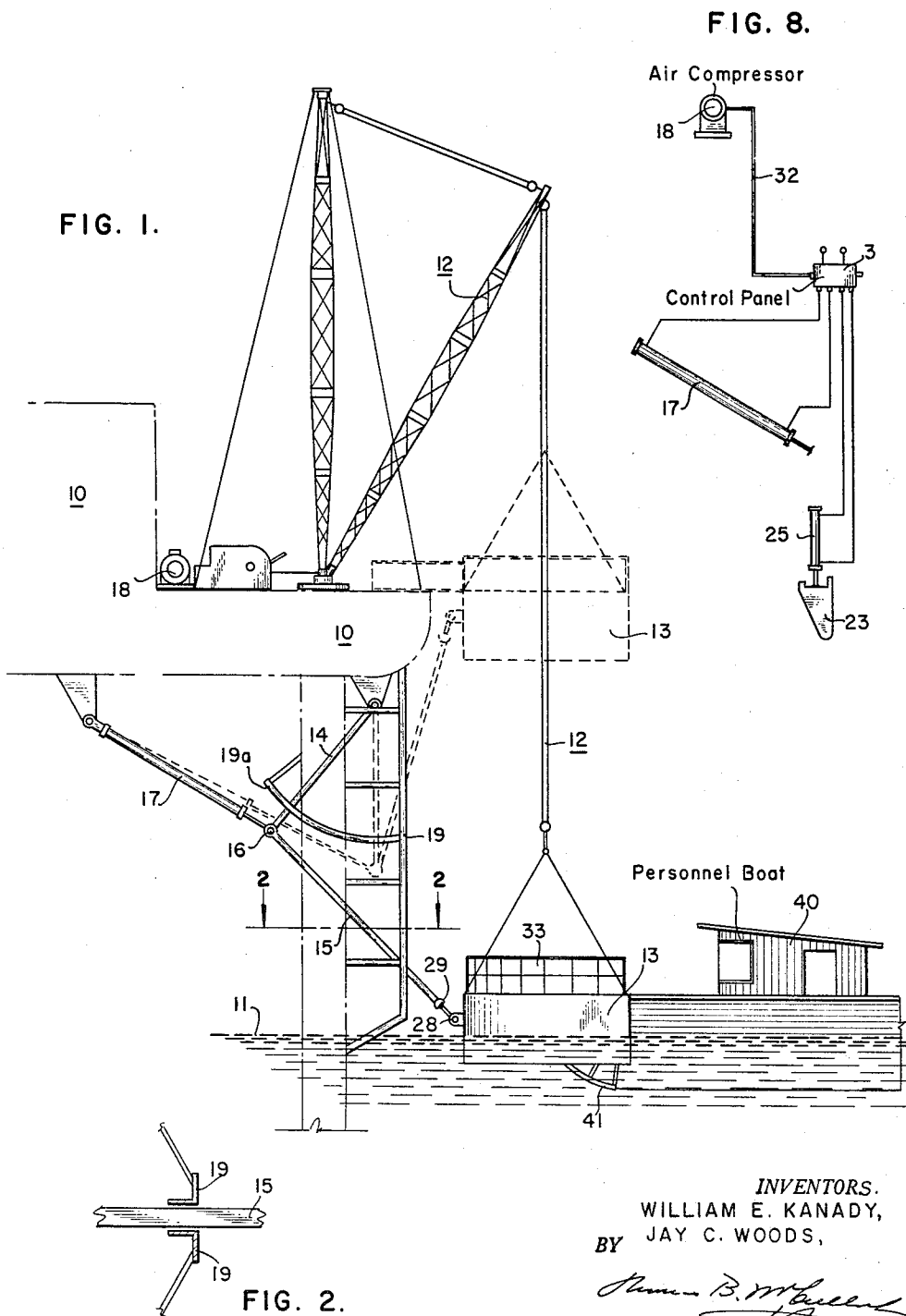
Dec. 6, 1960

W. E. KANADY ET AL
MARINE TRANSFER ASSEMBLY

2,963,179

Filed March 13, 1959

2 Sheets-Sheet 1



INVENTORS.
WILLIAM E. KANADY,
JAY C. WOODS,
BY
James B. Maxwell
ATTORNEY

Dec. 6, 1960

W. E. KANADY ET AL
MARINE TRANSFER ASSEMBLY

2,963,179

Filed March 13, 1959

2 Sheets-Sheet 2

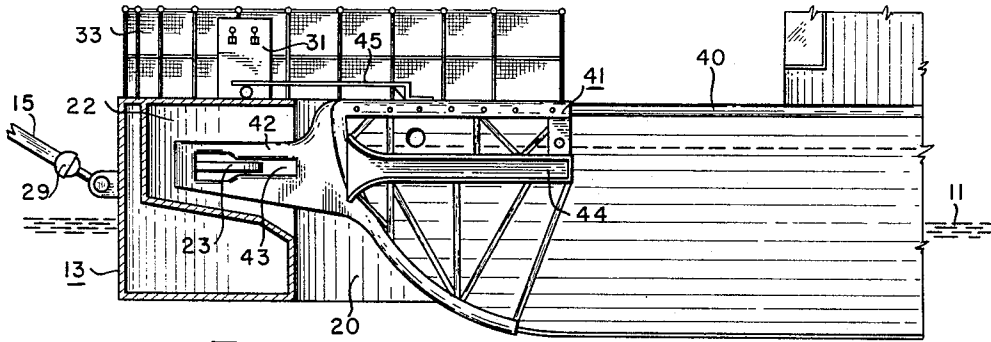


FIG. 5.

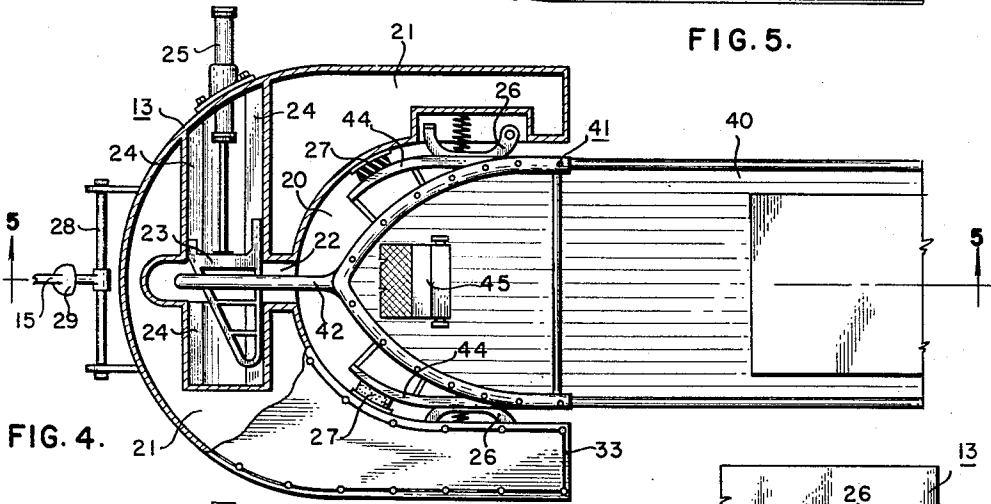


FIG. 4.

FIG. 6.

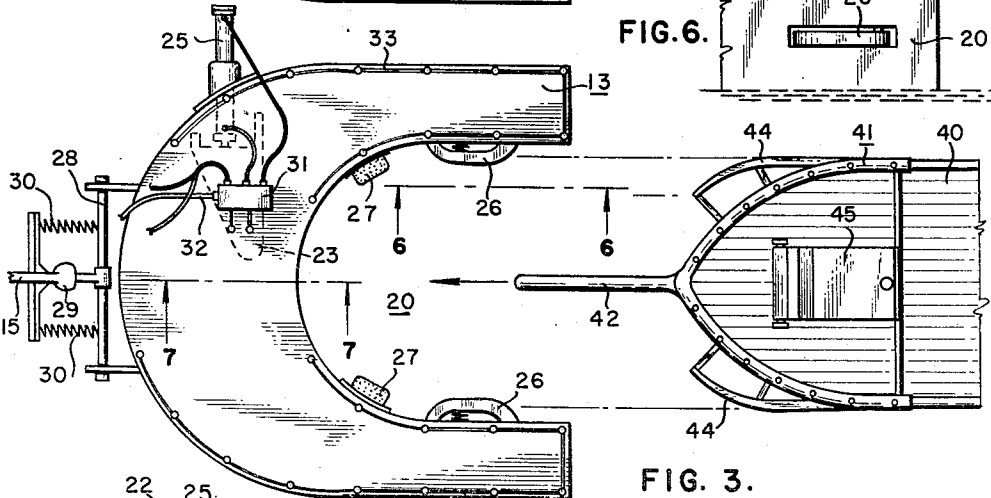


FIG. 3.

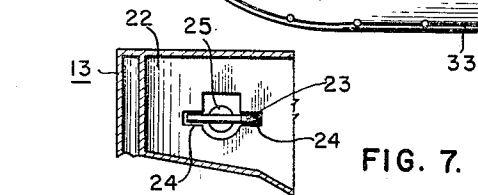


FIG. 7.

INVENTORS.
WILLIAM E. KANADY,
BY JAY C. WOODS,

Thomas B. McQuinn
ATTORNEY.

1

2,963,179

MARINE TRANSFER ASSEMBLY

William E. Kanady and Jay C. Woods, Houston, Tex., assignors, by mesne assignments, to Jersey Production Research Company, Tulsa, Okla., a corporation of Delaware

Filed Mar. 13, 1959, Ser. No. 799,374

5 Claims. (Cl. 214-14)

The present invention is directed to an assembly for the transfer of personnel and cargo from a boat to an elevated platform and vice versa at a marine location such as an off-shore drilling platform or barge.

The transferring of personnel between an elevated platform and a boat is quite dangerous and a number of lives have been lost in the process. Men have fallen between the boat and the platform and have been crushed to death or drowned. One method of transfer, the use of a basket container connected to a hoisting line, has caused the loss of several lives. The basket is lowered to the deck of the boat for personnel to get into and then picked up from the boat and raised to the platform. As the boat is moving and rolling due to wave action, the basket swings and spins as it is raised which causes it to be slammed into the platform structure. This uncontrolled action sometimes causes personnel to be thrown from the basket or injured as it strikes the platform structure. Seeking a safe method of transfer of personnel has been a grave concern of drilling companies for some time.

The present invention is specifically concerned with the transfer of marine personnel to and from elevated off-shore structures such as drilling platforms in as safe a manner as possible. The present invention provides a means whereby a boat does not have to approach dangerously close to a stationary marine platform in order to transfer cargo or personnel. The present invention provides a personnel carrier that is movable between the water's surface and a raised platform without spinning about or being thrown against the platform structure.

Briefly described, the present invention comprises a floating boat ramp which is connected to the elevated platform by a flexible elbow assembly whereby the floating ramp can be moved horizontally across the water's surface toward and away from the platform. A hoisting assembly is connected to the ramp so that the ramp can be moved vertically between the water's surface and the deck of the elevated platform. The ramp is formed to provide an opening for receiving and latching therein the bow of a boat such as one used for the transfer of marine personnel. The boat is equipped with a latching prong on its bow which is extended forward therefrom to operably and releasably engage with the latching means of the floating ramp. Each side of the bow of the boat is equipped with a trackway which engages with spring-biased stabilizer shoes positioned in the wall of the ramp forming the opening for receiving the bow of the boat. The elbow assembly, which includes a piston cylinder connected thereto, controls movement of the ramp as it is raised or lowered between the water's surface and the platform.

One object of the present apparatus is to provide a floating ramp whereby, when a boat is latched thereto, personnel can move from the boat to the ramp and vice versa as safely and easily as they can move about in the boat.

Once the boat is latched within the floating ramp by means of the latching prong and the stabilizer shoes are engaged within the trackways of the boat, the ramp can move freely with the boat as it yaws due to wave and wind action. Once the boat is latched, it is firmly attached to the ramp.

The present invention can be more clearly understood by the following description and drawings in which:

2

Fig. 1 is an elevated view of the general layout of the present invention;

Fig. 2 is a view taken along the line 2-2 of Fig. 1;

Fig. 3 is a top plan view showing a boat approaching the floating ramp for the purpose of latching thereto;

Fig. 4 is a view similar to Fig. 3 showing the boat latched to the ramp;

Fig. 5 is a view taken along the line 5-5 of Fig. 4;

Fig. 6 is a view taken along the line 6-6 of Fig. 3;

Fig. 7 is a view taken along the line 7-7 of Fig. 3; and
Fig. 8 is a view illustrating the control means for operating the floating ramp and the latch means.

Referring now to Figs. 1 and 2, an elevated stationary platform 10 positioned above the water's surface 11 is provided with a hoisting means generally designated as 12. The hoisting means is connected to, for lowering and raising between the platform 10 and the water's surface 11, a floating ramp 13.

An elbow assembly comprised of link arms 14 and 15 pivotally joined together as at 16 has, as shown, one end thereof pivotally connected to the ramp 13 and the other end connected to platform 10. A piston cylinder assembly 17 is operably connected between the platform 10 and the trunnion 16 of the elbow links 14 and 15.

Movement of the ramp 13 horizontally across the water's surface toward and away from the platform 10 is accomplished by applying pressure to one end or the other of the piston cylinder assembly 17. A source of pressure such as an air compressor 18 is also provided on platform 10. Arm 15 of the elbow assembly moves vertically between a pair of vertical guide rails 19 connected to the platform 10. Also, a pair of guide rails 19a embrace the travel of link arm 14. The guide rails 19 and 19a add stability to the elbow assembly and allow the ramp to be moved vertically and horizontally in a fixed path.

Referring now to Figs. 3 through 8, the ramp 13 is provided with an opening 20 for receiving the bow end of a boat such as 40. The housing of the ramp 13 forms an air-tight compartment 21 which may, if desired, be provided with ballast control means such as sea-cocks and air valves. The housing of the ramp may be divided into individual compartments, if desired.

A latch recess 22 is formed in the ramp 13 and connects with the opening 20. A wedge-shaped latch member 23 is slidably arranged in a horizontal trackway 24 which is formed in the ramp 13 perpendicular to the opening 22. The trackway 24 is divided into two sections in the opposing walls forming the recess 22 whereby the latch member 23 can be extended across the recess 22. The latch 23 is moved in the trackway 24 by a piston cylinder assembly 25 mounted in ramp 13.

Pivotally mounted in the recess of the opposing walls of ramp 13 forming the opening 20 are a pair of spring-biased stabilizer shoes 26 which extend into the opening 20. Also mounted on the ramp 13 are a plurality of rubber bumper members 27 which project into the opening 20 behind the stabilizer shoes 26.

The ramp 13 is connected to elbow arm 15 by means of a pivotal trunnion 28 and a ball and socket joint 29. These connections allow the ramp 13 to move freely with respect to the elbow arm 15. A pair of tension springs 30 are connected between the trunnion rod 28 and the elbow arm 15 to dampen arcuate movement of ramp 13 in a horizontal plane, as viewed in Figs. 3 and 4.

A control panel 31 is positioned on top of ramp 13 for controlling flow of air pressure to wedge operating cylinder assembly 25 and also to piston cylinder assembly 17. Pressure supply is had to control panel 31 from compressor 18 by a supply line 32. The line 32 and the lines leading to piston cylinder assembly 17 may be clamped to the elbow arms 14 and 15. The ramp 13 is provided with a guide rail or fence 33.

3

The personnel boat 40 has mounted on the bow thereof a frame assembly generally designated as 41. The frame 41 provides a latching prong 42 extending forward from the bow of the boat and is provided with a key-shaped slot 43. Each side of the bow 41 has mounted thereon a horizontal track 44 extending forward toward the bow of the boat with the forward ends of the tracks flared, as can be seen in Fig. 5. The forward ends of the tracks 44 are curved in toward the bow of the boat. The entire frame assembly 41 can be constructed of relatively light metal and adapted to be fitted to conventional boats such as those used to transfer work crews to and from off-shore structures. If desired, the stabilizer shoes 26 may be positioned on each side of the bow of the boat 40 and the trackways 44 positioned on the walls of the ramp 13 forming the opening 20.

A walkway 45 is hingedly connected to the forward deck of the personnel boat and is adapted, when pivoted forward, to extend out over the bow of the boat as can be seen in Fig. 5. Although not shown, the walkway 45 would normally be provided with guide rails for the safety of personnel using the walkway.

Operation

During operation of the present apparatus, say in transferring crew personnel from the boat to the ramp 13 and then to the raised platform 10, an operator would be provided on the ramp 13 to control the movement thereof.

As can be seen in Fig. 3, the boat 40 is approaching the ramp 13 and is being guided into the opening 20. When the ramp operator sees that the boat is properly aligned with the ramp opening 20, he may, by means of the control panel 31, advance the ramp toward the boat or he may maintain it stationary. As the boat prong 42 enters the latch recess 22, the stabilizer shoes 26 engage with the trackways 44, the operator will cause the wedge latch 23 to move out into the recess 22 and engage the key slot 43 of the prong 42. As the wedge latch 23 is extended along the trackway 24, it draws the ramp and the boat toward each other until the forward portion of the flared trackway 44 is pressed snugly against the resilient bumper members 27. This latches the ramp 13 and the boat 40 snugly together whereby they will move together as one unit due to the wave and wind action exerted against them. Since both the units are floating and the ramp is a great deal lighter and smaller than the boat, undue stress and strain is eliminated from the bow of the boat.

When the ramp 13 and the boat 40 are securely latched together, the walkway 45 is pivoted to extend forward of the boat and personnel may transfer to the ramp. The operator can at this time withdraw the wedge latch 23 from the key-shaped slot 43 of the prong 42. The boat may then move back from the ramp or the ramp operator may cause the ramp to move away from the boat by energizing the piston cylinder assembly 17. The ramp 13 may then be raised by the hoisting assembly 12 to the level of the deck of the platform 10. The elbow assembly, links 14 and 15, and piston cylinder assembly 17 control the vertical movement of the ramp 13 and keep it from rotating or being banged against the platform structure. It will be understood that the control panel 31 may, if desired, be placed on the deck of the platform 10 and the movement of the ramp 13 controlled from there. The process of transferring personnel from the platform 10 to the ramp 13 is carried out in the same manner.

The cylinder assembly may serve to absorb shock as the boat 40 enters the opening 20 and comes into contact with the ramp.

It is apparent from the preceding description that the present invention provides an assembly for transferring personnel between a platform and a boat in a very safe manner.

4

Having fully described and illustrated the apparatus of the present invention, what is claimed is:

1. A transfer assembly, adapted to be arranged in a body of water, comprising in combination: an elevated stationary marine platform, a buoyant ramp, and a boat, means connected between said platform and said ramp for moving said ramp on the surface of said water toward and away from said platform, hoisting means arranged on said platform and connected to said ramp for moving said ramp vertically between the surface of said water and said platform, said ramp being formed to provide an opening for matingly receiving said boat, releasable latching means on said ramp for releasably latching said boat in said opening, and spring-biased stabilizer means arranged on said ramp for engaging with said boat when said boat is latched in said opening to restrain relative movement between said ramp and said boat.

2. An assembly in accordance with claim 1 in which the means for moving said ramp toward and away from said platform is a piston and cylinder assembly pivotally connected between said platform and said ramp.

3. An assembly in accordance with claim 1 in which the means for moving said ramp toward and away from said platform comprises in combination an elbow linkage having one end pivotally connected to said platform and the other end pivotally connected to said ramp and a piston cylinder assembly having one end pivotally connected to said platform and the other end pivotally connected to said elbow linkage.

4. A transfer assembly, adapted to be arranged in a body of water, comprising in combination: an elevated stationary marine platform, a buoyant ramp, and a boat, means connected between said ramp and said platform for moving said platform on the surface of said water toward and away from said platform, hoisting means on said platform for moving said ramp vertically between the surface of said water and said platform, the wall of said ramp being formed to provide an opening for matingly receiving said boat, releasable latching means arranged on said ramp for releasably latching said boat in said opening, a plurality of spring-biased stabilizer shoes mounted on the wall forming said opening, a plurality of trackways arranged on said boat, a plurality of resilient bumper members arranged on said wall, whereby when said boat is releasably latched in said opening said stabilizer shoes engage in said trackways and said resilient bumper members are compressed against said boat.

5. A transfer assembly, adapted to be arranged in a body of water, comprising in combination: a floating stationary vessel and a moving vessel, said stationary vessel formed to provide an opening therein for matingly receiving said moving vessel, said stationary vessel also formed to provide a latch recess connecting with said opening, a wedge-shaped latch member slidably arranged in said stationary vessel and operable to extend across said recess, spring-biased stabilizer shoes pivotally mounted on the walls forming said opening, resilient bumper members mounted on said walls between said stabilizer shoes and said recess, horizontal trackways arranged on the sides of said moving vessel, a latching prong positioned on the bow of said moving vessel and extending forward therefrom, said prong formed to provide a latch slot therein, whereby when said moving vessel is positioned in said opening said wedge-shaped latch member extends across said recess and through said latch slot in said prong, said stabilizer shoes engage with said trackways and said resilient bumper members are compressed against said moving vessel.

References Cited in the file of this patent

UNITED STATES PATENTS

1,154,133	Seltzer	Sept. 21, 1915
2,381,789	Twinbull	Aug. 7, 1945
2,433,858	Maxson	Jan. 6, 1948
2,501,310	Burke	Mar. 21, 1950