



(12)

EUROPEAN PATENT APPLICATION

(21) Application number : **94200292.4**

(51) Int. Cl.⁵ : **B63B 21/56**

(22) Date of filing : **03.02.94**

(30) Priority : **03.02.93 NL 9300217**

(43) Date of publication of application :
10.08.94 Bulletin 94/32

(84) Designated Contracting States :
BE DE DK ES FR GB GR NL PT

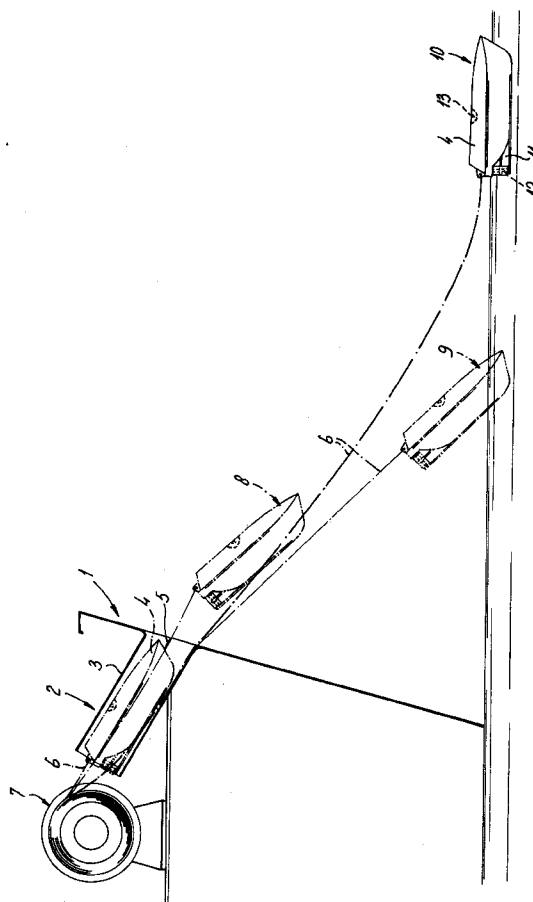
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(54) **Installation for running out a ship's cable and ship equipped therewith.**

(57) An installation for running out a tow rope from a ship or freighter, such as an oil tanker or a container ship, comprises a floating body, which is connected to the tow rope or an auxiliary cable and is provided with propelling means, and launching means intended to be fitted on board the ship for launching the floating body from the ship, such that, after the floating body has been launched, the cable can be run out with respect to the ship by means of the traction force delivered by the propelling means of the floating body, and can be kept in the run-out position for a prolonged period.



The invention relates to the field of towing ships. In particular, the invention relates to the towing of ships which, as a consequence of calamities, such as the failure of the main propeller, collisions or the break-out of fire on board, are no longer able to reach a harbour under their own power. In these cases another vessel, usually a tug, must be called for assistance to take the damaged ship under tow. To this end, a tow rope must be transferred between ship and tug, which in most cases is a routine matter.

As long as the weather conditions are not too severe, and/or the nature of the defects is not too serious, no great difficulties are encountered in transfer of a tow rope. However, this changes when the ship concerned is in an area where weather is poor and there are high seas and, moreover, is on fire. Such a combination of factors makes transfer of a tow rope virtually impossible, the more so in view of the fact that the crew has by then already abandoned ship.

Especially in the case of tankers, the consequences of such emergency conditions can be serious. Frequently the poor weather conditions and/or the heat of fires on board force such a long delay in the operations necessary for transferring the tow rope that the ship sinks with its cargo or founders on a nearby coast. This type of outcome in such emergency situations is disastrous for the environment and, if the area concerned is important for activities such as fishing or tourism, for the economy.

The aim of the invention is, therefore, to offer a solution to the problems with regard to the towing of a vessel which is in a serious emergency situation. This aim is achieved in that an installation is provided for running out a tow rope from a ship or freighter, such as an oil tanker or a container ship, comprising a floating body, which is connected to the tow rope or an auxiliary cable and is provided with propelling means, and launching means intended to be fitted on board the ship for launching the floating body from the ship, such that, after the floating body has been launched, the cable can be run out with respect to the ship by means of the tensile force delivered by the propelling means of the floating body, and can be kept in the run-out position for a prolonged period.

According to the invention it is now no longer necessary to gain access from the tug to the stricken ship in order to transfer a tow rope. A cable can be run out to beyond the danger zone from the ship itself, without the intervention of crew present on said ship. Said cable can then be picked up by a tug at a safe distance.

A command to set the installation according to the invention in operation can be given in various ways. For example, if the installation is equipped with a launching device which can be actuated by a receiver, use can be made of radio signals for this purpose. The installation is then set in operation from the tug.

It is also conceivable to set the installation in op-

eration automatically, by means of sensors on board the ship concerned itself.

The floating body can be constructed in various ways. However, it is important that, even in heavy seas, said floating body must be able to travel in a specific line, in the direction away from the ship. The floating body is therefore preferably constructed as an auxiliary vessel which also comprises steering means.

In connection with the pick-up, the auxiliary vessel carries fixing means to which a hoisting cable from a tug can be attached.

Preferably, the floating body comprises an energy source which can supply power to the propelling means at least for a few hours. The installation can keep the auxiliary cable or tow rope in the run-out position for a prolonged period. This period must be at least so long that a tug has sufficient time to sail, for example from a harbour where it is lying ready, to the stricken ship and to pick up the run-out auxiliary cable or tow rope.

The propelling means can comprise either a combustion engine or an electric motor, or a combination of the two.

The invention also relates to a ship provided with the installation described above, the launching means being installed close to the bow or the stern of the ship and pointing obliquely downwards, such that, on launching, the auxiliary vessel can be moved directly towards the water surface taking with it the auxiliary cable or the rope, which rope is attached to the ship on which the launching means are provided. The launching means can be located somewhat wide of the outermost point of the bow or stern. It is also possible to install two sets of launching means, directed towards different sides of the ship, at the bow or stern.

The invention also relates to the use of an auxiliary vessel, which can be launched to sea and has an auxiliary cable or tow rope attached thereto, on board a ship or freighter for running out the auxiliary cable or tow rope, and keeping said cable or rope in the run-out position for a prolonged period, such that another ship, such as a tug, can take the run-out auxiliary cable or tow rope on board in order to tow the first ship.

A floating body which is provided with propelling means and can be launched from a platform erected in the sea is disclosed in "Ship & Boat International", Part 41, No. 1, January 1988, Worchester Park, pages 19-20, "Getting Clear". The purpose of the launched floating body is to pull a lifeboat lowered into the water from the platform away from the vicinity of said platform as quickly as possible. The energy source of the propelling means is exhausted after a few minutes. Within this period the lifeboat has been towed a sufficient distance away from the platform to enable it to sail further under its own power.

This known installation is not suitable for running out a tow rope from a stricken ship, or for keeping the tow rope or auxiliary cable in the run-out position for a sufficiently long period such that a tug would be able to pick up the rope.

The invention will be explained in more detail below with the aid of the illustrative embodiment shown in the figures.

An installation according to the invention, which is indicated in its entirety by 2, is installed on board the ship 1, only part of which is shown in the figure. Said installation 2 comprises mounting means 3, which are constructed as a tubular housing in which an auxiliary vessel 4 is housed. Said auxiliary vessel 4 is secured with respect to the mounting means 3 in a known manner.

Launching means, which are known per se, are also provided. Said launching means comprise the rails 5, which are shown diagrammatically and extend to either side of the auxiliary vessel 4 in the mounting means 3. It is also possible to provide a drive charge, by means of which the auxiliary vessel 4 can be shot out of the mounting means 3 over the rails 5.

The auxiliary vessel 4 is connected to a cable 6, which is wound on a reel 7.

If the ship gets into an emergency situation, the auxiliary vessel 4 can be shot out, pulling the cable 6 with it. When it is shot out, the auxiliary vessel makes a free fall, passing through the positions indicated by 8 and 9.

The auxiliary vessel becomes submerged, comes up again and then floats on the surface of the water as shown at 10.

In the meantime, the propeller installation of the auxiliary vessel 10, which installation is indicated diagrammatically by 11, has been set in operation, such that the auxiliary vessel sails away from the stricken ship 1, taking cable 6 with it.

To ensure that the auxiliary vessel sails in the right direction, that is to say away from the ship 1, and also, in the event of the vessel foundering, away from the coast, steering means 12, which are known per se and are also indicated diagrammatically, are provided.

The auxiliary vessel sails further and further away from the ship 1, until the entire cable 6 has been unwound from the reel 7. However, the propeller device 11 of the auxiliary vessel continues to operate, so that the cable 6 is continuously held in its position, pointing away from the ship 1.

The auxiliary vessel is sufficiently large to carry a substantial energy source, so that such a position can be maintained over several hours. In the intervening period a tug is able to approach the auxiliary vessel 4 and pick it up by means of the fixing points 13.

After the auxiliary vessel 4 has been taken on board a tug, the cable 6 can be pulled in by the tug

and, where necessary, a rope located on board ship 1 can be pulled to the tug.

A lightweight cable is preferably used for cable 6, such that the auxiliary vessel 4 is well capable of dragging said cable 6 along over a fairly long distance from the ship. Nevertheless, cable 6 can also be made sufficiently heavy to enable it to be used itself as tow cable.

If cable 6 is a lightweight auxiliary cable, a heavier tow rope can also be wound on reel 7. In this case means can be provided on reel 7 which allow the auxiliary vessel 10 to unwind the relatively lightweight auxiliary cable 6 from the reel 7. Said means must then be constructed in such a way that they allow unwinding of the relatively heavy tow rope only if a traction force is exerted which is greater than the tensile force which can be exerted by the auxiliary vessel 4. A higher traction force of this type can easily be exerted by a tug, such that the tow rope is released by the reel 7 only under the influence of traction force exerted by the tug.

Claims

1. Installation for running out a tow rope from a ship or freighter, such as an oil tanker or a container ship, comprising a floating body, which is connected to the tow rope or an auxiliary cable and is provided with propelling means, and launching means intended to be fitted on board the ship for launching the floating body from the ship, such that, after the floating body has been launched, the cable can be run out with respect to the ship by means of the tensile force delivered by the propelling means of the floating body, and can be kept in the run-out position for a prolonged period.
2. Installation according to Claim 1, wherein the rope or cable can be unwound from a reel on board the ship.
3. Installation according to Claim 1 or 2, wherein the floating body is connected to one end of an auxiliary cable, which auxiliary cable is connected at its other end to a tow rope.
4. Installation according to Claim 1, 2 or 3, wherein the floating body is an auxiliary vessel which also comprises steering means.
5. Installation according to Claim 4, wherein the auxiliary vessel carries fixing means to which a hoisting cable from a tug can be attached.
6. Installation according to one of the preceding claims, wherein the floating body is provided with

an energy source which can supply power to the propelling means for at least several hours.

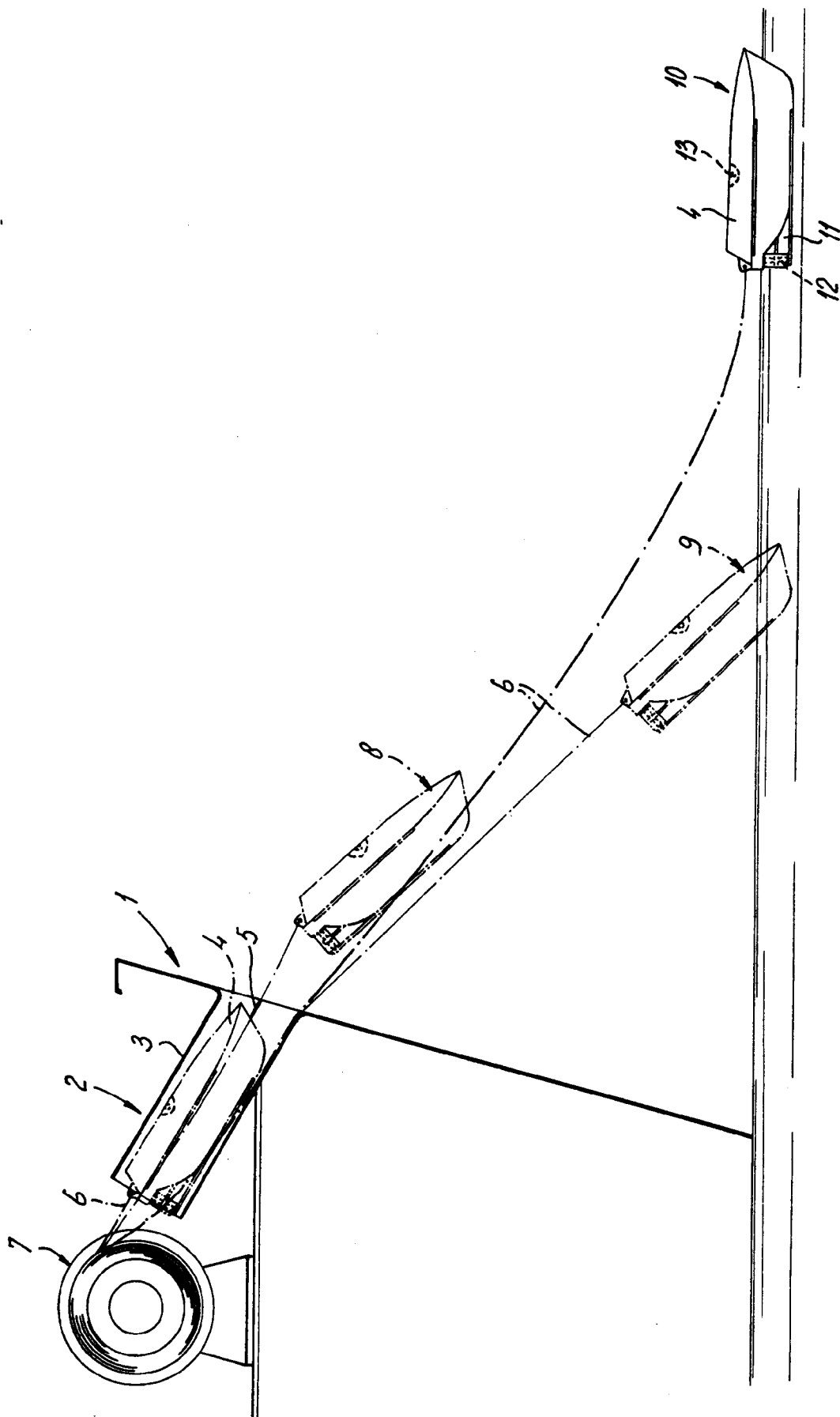
7. Installation according to Claim 6, wherein the auxiliary vessel has a combustion engine for driving a screw, as well as fuel containers having a capacity suitable for supplying the combustion engine for at least a day. 5
8. Ship provided with an installation according to one of the preceding claims, wherein the launching means are installed close to the bow or the stern of the ship and pointing obliquely downwards, such that, on launching, the auxiliary vessel can be moved directly towards the water surface taking with it the auxiliary cable or the rope, which rope is attached to the ship on which the launching means are provided. 10 15
9. Ship according to Claim 8, wherein the rope is attached to the ship in the immediate vicinity of the location where the launching means have been installed on board the ship. 20
10. Ship according to Claim 8 or 9, wherein the cable is a lightweight auxiliary cable which is connected to a tow rope located on board the vessel. 25
11. Use of an auxiliary vessel, which can be launched to sea and has an auxiliary cable or tow rope attached thereto, on board a ship or freighter for running out the auxiliary cable or tow rope, and keeping said cable or rope in the run-out position for a prolonged period, such that another ship, such as a tug, can take the run-out auxiliary cable or tow rope on board in order to tow the first ship. 30 35

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European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 94 20 0292

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
A	SHIP & BOAT INTERNATIONAL vol. 41, no. 1, January 1988, WORCHESTER PARK pages 19 - 20 'Getting clear'	1,8,11	B63B21/56
A	FR-A-2 626 546 (M. GARDE LEBRETON) * abstract; figures *	1,8,11	
A	DE-A-30 49 235 (G.HAMMER) * page 4; claims *	1,8,11	
			TECHNICAL FIELDS SEARCHED (Int.Cl.5)
			B63B B63C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 April 1994	Examiner Stierman, E
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			

EPO FORM 1503.03.92 (P04C01)