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(71) Applicant: **Sapio, Pio**

80126 Napoli (IT)

(72) Inventor: **Sapio, Pio**

80126 Napoli (IT)

(74) Representative: **Cirillo, Gennaro**

Brevetti Ing. Cirillo G. & C. SAS

Via Santa Lucia 15

80132 Napoli (IT)

(54) **Boat mooring and unmooring system without any ashore backing**

(57) The system allows a boat to be moored or unmoored without any ashore backing to secure and/or release the mooring ropes to/from the bollard and/or ring. This is achieved by providing the ends of the ropes with

a preferably ball-shaped end-piece as well as by installing ashore a little column provided with a channel with conical mouth and frontal slot into which the ball secured to the end of the rope can slide downwards together with the rope running along the slot.

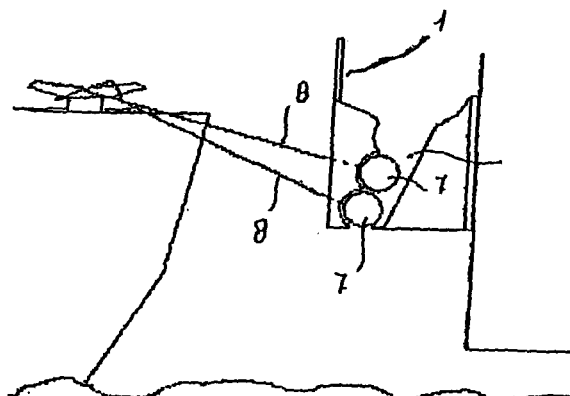


Fig: 4

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Description

[0001] As boats are drawing in to wharfs or piers for landing, they have to be moored by securing ropes to suitable bollards or rings installed ashore.

[0002] While in offshore coasting sailing such operation are committed to special sailors or ashore workers, in coasting boating the same are performed by someone on board who goes ashore after hauling the pier to secure the ropes to bollards or rings, and upon sailing performs the reverse operation by releasing the ropes and jumping on board while the boat is still close to the pier.

[0003] In case of little boats such operations are often performed by the sole sailor on board who should manoeuvre acrobatically on a boat's side for mooring and unmooring operations.

[0004] The present patent application for industrial invention seeks to provide a system which allows the ropes to be secured to and released from suitable little columns by a simple operation that can be performed staying on board at a distance from the pier without any ashore backing.

[0005] The solution consists of providing two separate parts consisting of a ball or other suitable end-piece to be secured to the end of the mooring rope as well as a little column installed on a pier and provided with a conical mouth and a channel which is such shaped as to receive the ball-shaped end-pieces of the ropes, thus allowing the balls to slide up or down keeping the ropes outside of a suitable groove formed longitudinally along the channel.

[0006] Thus, the sailor on the boat will engage the ball at the end of the rope with a suitable rod (boat hook) and will enter it into the conical mouth of the little column causing it to go down into the channel by gravity and to secure it to the column automatically.

[0007] Upon unmooring the sailor will operate reversely lifting the ball upwards along the channel by means of the boat hook and causing it to come out of the conical mouth.

[0008] Both operations can be performed from the boat even from the helm of the boat without hauling the pier or ashore backing.

[0009] This solution will be better understood referring to the accompanying sheets of drawings in which an indicative, not limiting embodiment is shown. In the drawings:

Fig. 1 of sheet I shows schematically a sailor who draws the ball at the end of the mooring rope close to the mouth of the little column while staying on board of the boat.

Fig. 2 shows a longitudinal section view of a little column with a conical mouth and a sliding channel for the ball.

Fig. 3 shows the insertion of a rope with the spherical

end-piece inside the little column in the final locking position.

Fig. 4 shows the insertion of two balls at the ends of respective ropes inside the sliding channel.

Fig. 5 shows three boats moored by the system of the invention.

Fig. 6 of sheet II shows a side view of a little column, and Fig. 7 shows the same little column installed on a floating wharf.

Figs. 8 and 9 show side and front views of a little column provided with a dual channel to allow two boats to be moored, respectively.

Figs. 10, 11 and 12 of sheet III show solutions to secure the rope or chain to the ball.

Figs. 13 and 14 of sheet IV show other solutions to secure the rope or chain to the ball.

[0010] Referring to the figures a little column which can be made of die-cast steel or any other suitable material is secured to the pier or wharf or installed on a floating wharf.

[0011] By the sake of simplicity a little column with only one element is disclosed, however, there can also be provided two or more identical constructions which are put side by side or integrated in one body to be used at the same time by one or more boats.

[0012] Little column 1 consists of a funnel 2 with a neck or channel 3 directed downwards and preferably inclined to the outside to provide a greater shoulder angle in case the boat is lifted by the backwash.

[0013] Such neck is partially closed at its one end and is crossed vertically by a slot 4 with both rounded edges 5 to reduce the wiping wear of the rope or chain passing through the slot.

[0014] The upper edge of the slot is suitably saddle-shaped at 6 to fit the rope or chain upon its release, thus helping its recovery.

[0015] The little column has the slot directed to the sea.

[0016] The inside of neck is shaped to receive even two balls from the same boat to strengthen the mooring, if necessary.

[0017] From the foregoing the operation of the system as disclosed and illustrated is self-evident.

[0018] After hauling at a distance from the little column it is sufficient to draw ball end 7 of rope 8 near to funnel 2 on the top of the little column by a boat hook and to put it down therein.

[0019] Now the ball will be positioned in the lowest portion of the funnel's neck by gravity so that the rope or chain will come out of the frontal slot such as to be secured to the bollard of the boat.

[0020] The system can be provided with a covering

plate 9 if the little column is embodied in the wharf.

[0021] Ball 7, as shown in table III, can be formed of two hemispheres 10 and 11 separated by a bush 12 and held together by a crossing pin 13.

[0022] Ball 7 will be rung about by the rope or chain 8 or connected thereto by a snap-hook 14 or suitable metal ring 15.

[0023] According to a variation, ball 7 can also be secured to a chain or rope, as shown in table IV, by providing the ball with a shaped housing 16 in which a spigot 17 fastened to the chain or rope is forced.

[0024] The system disclosed reduces considerably the times and the difficulties connected to mooring and unmooring and needs nobody who moors the boat ashore.

[0025] The system has been conceived to be used with a rope or chain provided with an end ball, and the channel in the little column is adapted and shaped to receive said ball, however, it can be assumed that the system is provided with other end-pieces and suitable channels to receive them.

[0026] The system has further been conceived to be used in boating, however, it can also be applied wherever a quick hooking/release system between two fixed or moving members is required.

[0027] Shape and construction variations can be made both as far as the little column and the connection of the ball to the rope or chain is concerned without departing from the scope of the invention as defined by the appended claims.

Claims

1. A boat mooring and unmooring system without any ashore backing to secure and release the mooring ropes, **characterized in that** it consists of at least one end-piece (7) secured to a rope or chain (8), and a little column (1) located ashore, said end-piece being able to be inserted and to slide into a suitable channel (3) by gravity so that the rope or chain can come out of a slot (4) formed along said channel and directed to the sea.
2. The mooring system of the preceding claim, wherein the end-piece secured to the rope or chain is a ball.
3. The mooring system of the preceding claims, **characterized in that** the end-piece connected to the rope or chain can also not be spherical.
4. The mooring system of the preceding claims, **characterized in that** the ball end-piece secured to the rope or chain consists of two hemispheres with a central bush connected by a crossing pin.
5. The mooring system of the preceding claims, **characterized in that** the chain or rope is secured to the ball end-piece through a shaped spigot connected

thereto and forced into a shaped housing of the ball.

6. The mooring system of the preceding claims, **characterized in that** the channel is shaped as a funnel (2) with its neck directed downwards and shaped to receive the end-piece.
7. The mooring system of the preceding claims, **characterized in that** the channel or funnel's neck is partially opened at the bottom.
8. The mooring system of the preceding claims, **characterized in that** the channel or funnel's neck is inclined to the outside.
9. The mooring system of the preceding claims, **characterized in that** the channel or funnel's neck has a longitudinal slot (4) opened to the sea.
10. The mooring system of the preceding claims, **characterized in that** the channel or funnel's neck (2) can receive two or more end-pieces at the same time.
11. The mooring system of the preceding claims, **characterized in that** slot (4) of claim 9 has rounded edges (5).
12. The mooring system of the preceding claims, **characterized in that** several little columns can be disposed side by side or inserted in only one block.
13. The mooring system of the preceding claims, **characterized in that** the little column can be embodied into a wharf.
14. The mooring system of the preceding claims, **characterized in that** it can not only be used in boating but also where a quick hooking and release between two fixed or moving members is required.

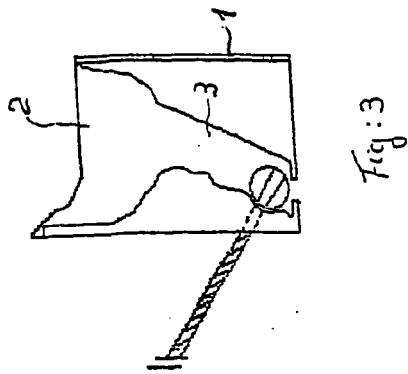


Fig. 3

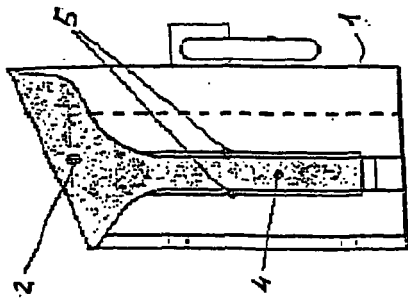


Fig. 2

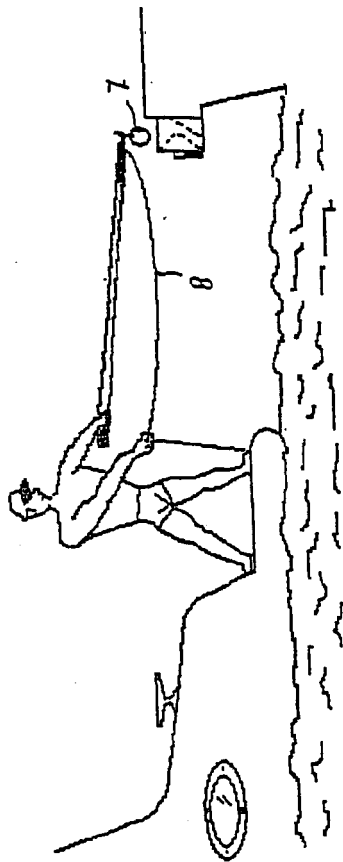


Fig. 1

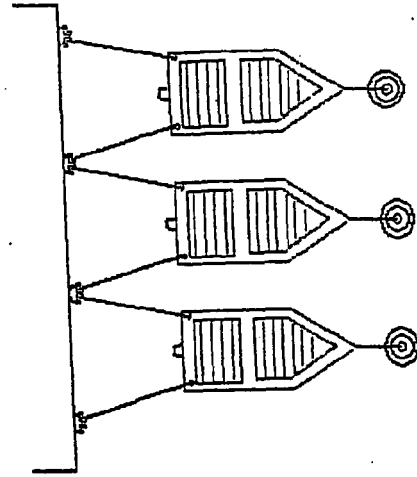


Fig. 5

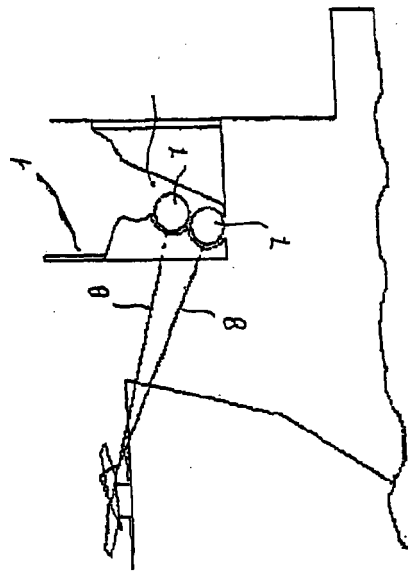
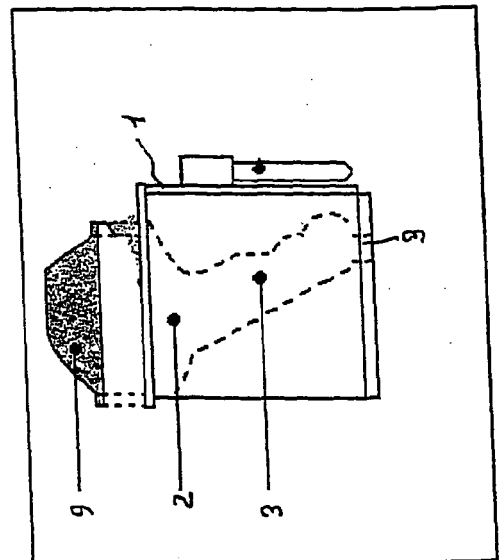
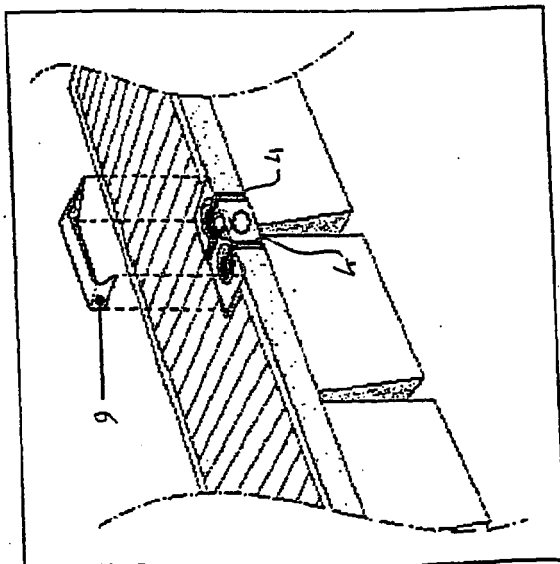
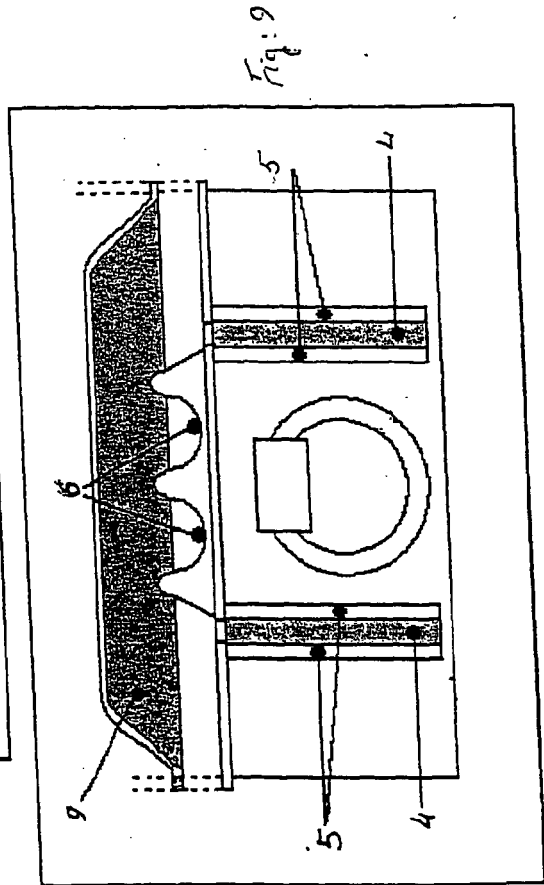
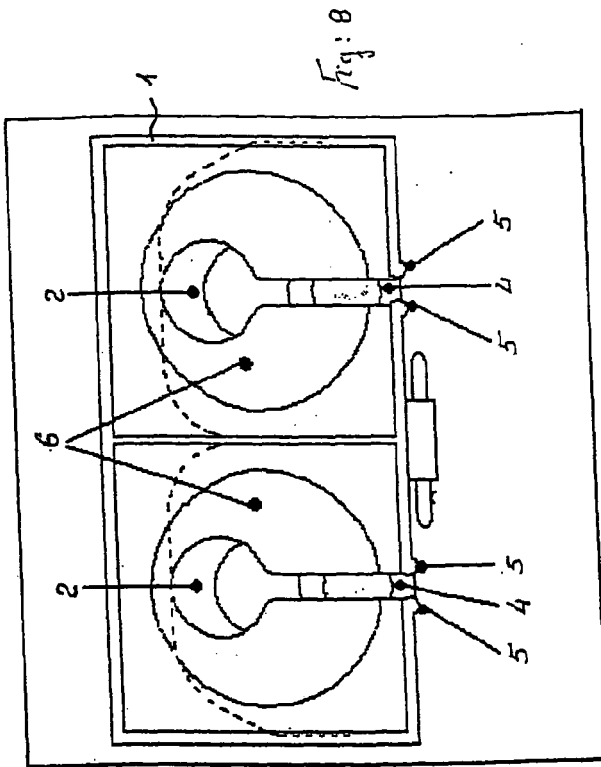


Fig. 4



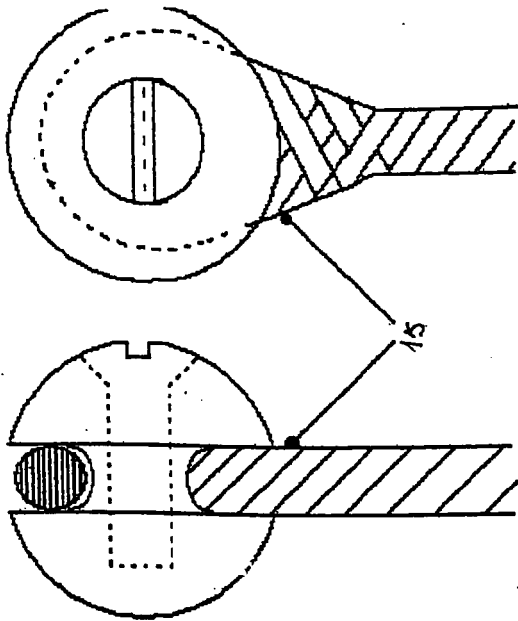


Fig. 11

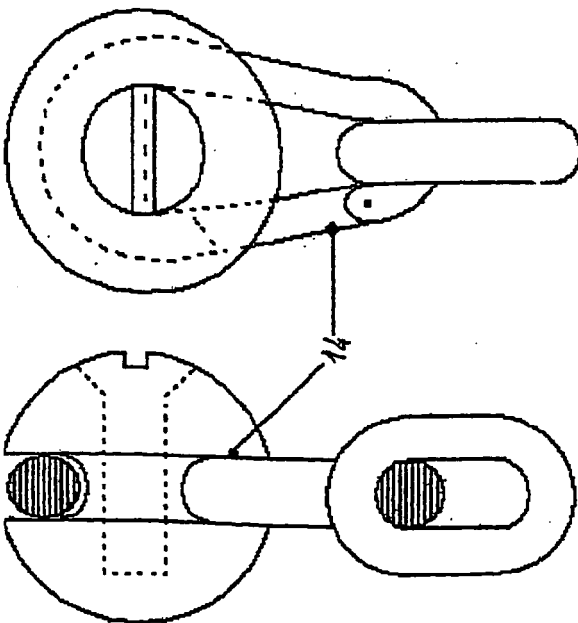


Fig. 10

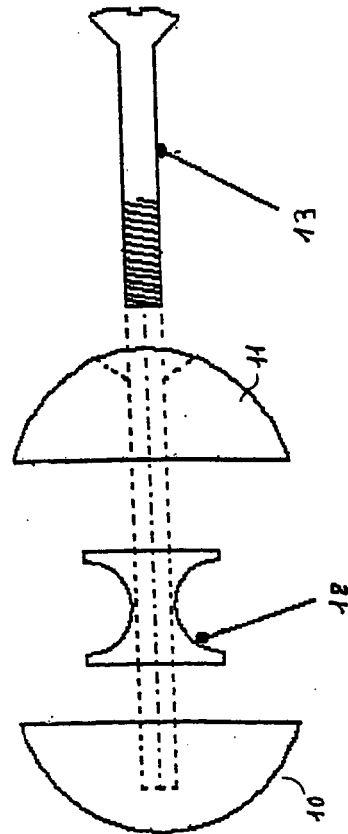


Fig. 12

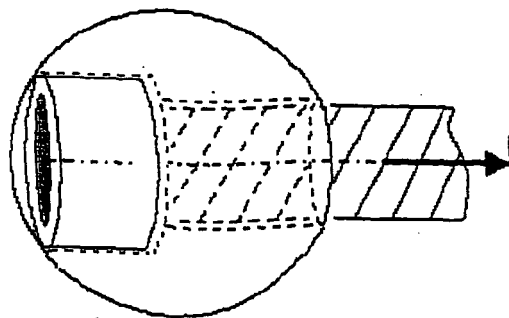
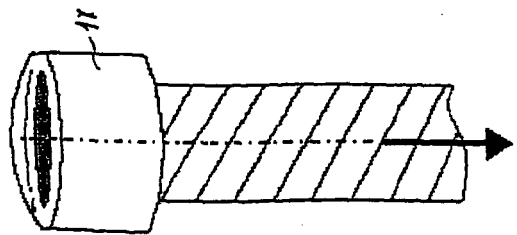
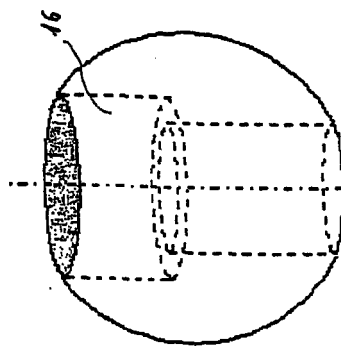
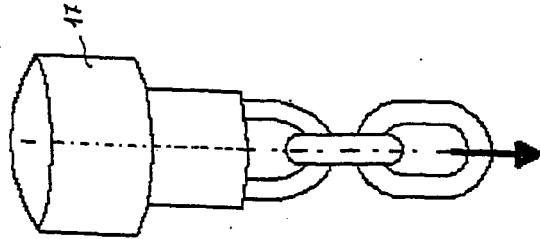
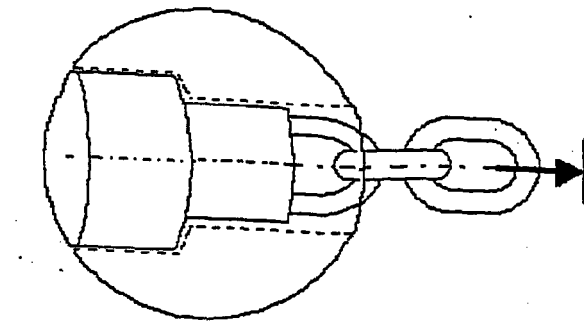


Fig. 13

Fig. 14



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 07 42 5599

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 114 553 A (ZIDEK CHARLES E) 19 September 1978 (1978-09-19) * the whole document *	1-5,7,9, 10,12-14	INV. B63B21/00 B63B21/04
A	US 4 190 011 A (GUTHMANN STEPHEN F [US]) 26 February 1980 (1980-02-26) * abstract; figures *	1-14	
A	US 4 667 617 A (MOLITOR JEROME A [US]) 26 May 1987 (1987-05-26) * abstract; figures *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			B63B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 3 April 2008	Examiner Moya, Eduardo
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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 07 42 5599

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03-04-2008

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