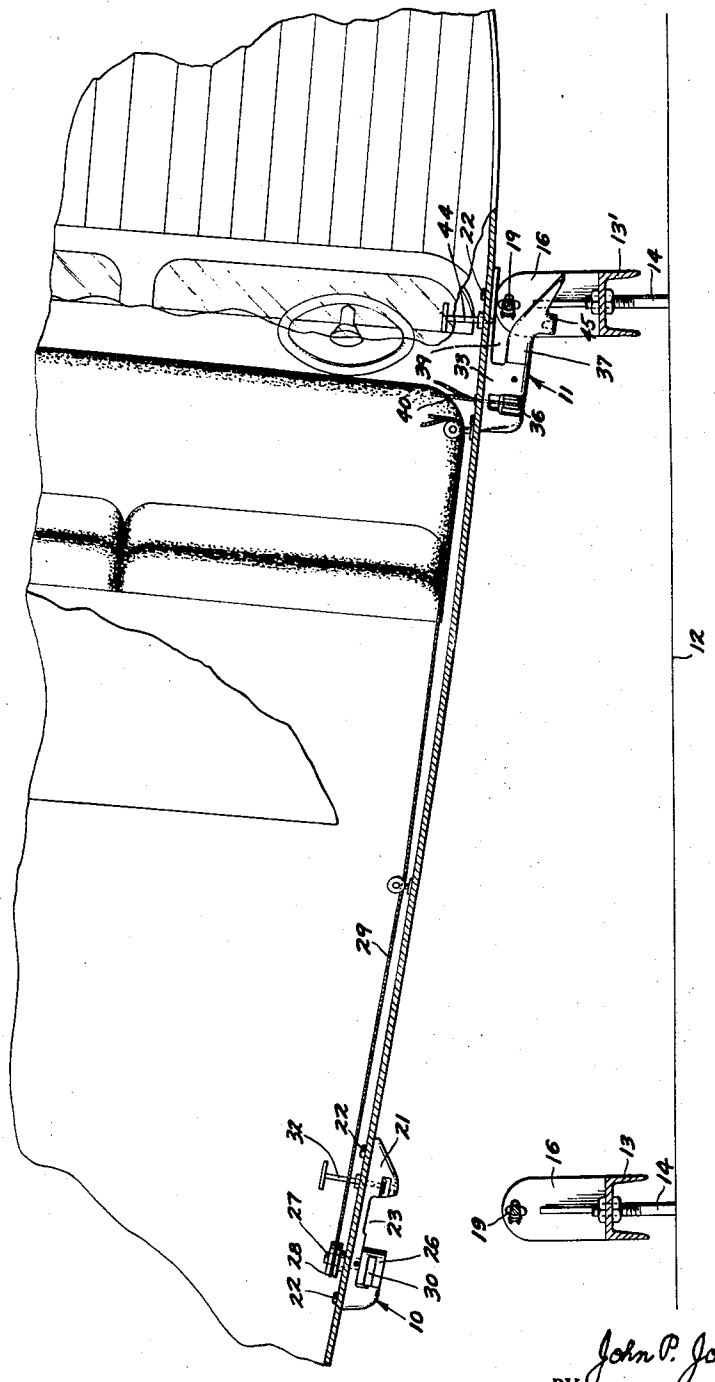
Aug. 5, 1958 J. P. JORGENSON 2,845,892

BOAT MOORING ASSEMBLY

Filed Dec. 17, 1954 2 Sheets-Sheet 1

FIG. 1.



INVENTOR.
BY John P. Jorgenson,
Morsell & Morsell
ATTORNEYS

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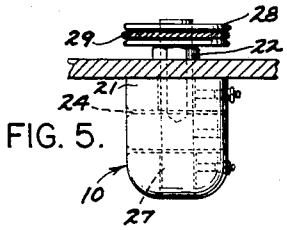


FIG. 5.

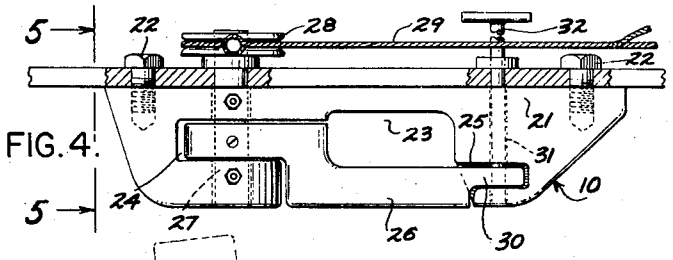


FIG. 4.

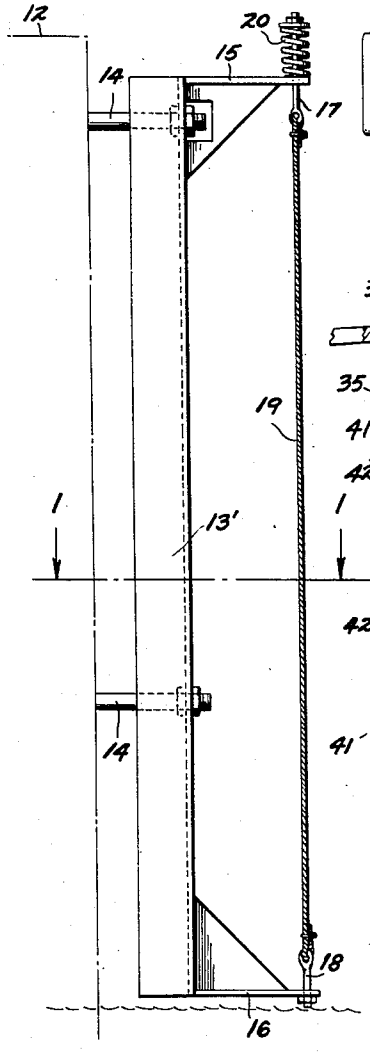


FIG. 2.

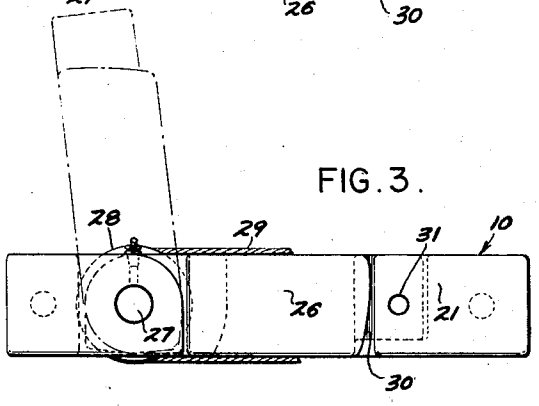


FIG. 3.

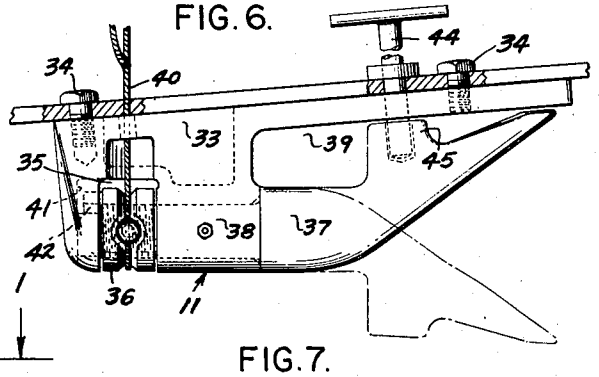


FIG. 6.

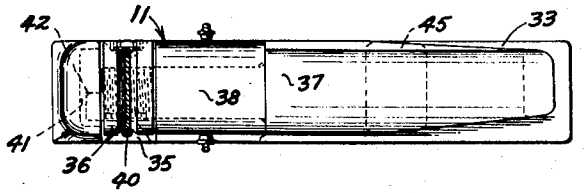


FIG. 7.

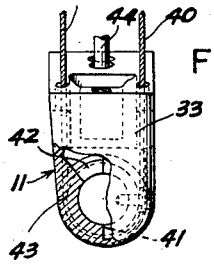


FIG. 8.

INVENTOR.
John P. Jorgenson,
BY Morsell & Morsell
ATTORNEYS

United States Patent Office

2,845,892

Patented Aug. 5, 1958

2,845,892

BOAT MOORING ASSEMBLY

John P. Jorgenson, Fort Lauderdale, Fla.

Application December 17, 1954, Serial No. 475,990

10 Claims. (Cl. 114—230)

This invention relates to improvements in boat mooring assemblages, and more particularly to an automatic boat mooring assemblage.

A primary object of the invention is to provide a boat mooring assemblage which will simplify the operation of navigating a boat into or away from a wharf or dock and of such character as to preclude the danger of the boat sinking while docked and stabilizing the boat against the possibility of being damaged by wave action while it is moored.

A further object of the invention is to provide an automatic boat mooring assemblage, elements of which can be installed on both sides of a boat adjacent the bow and stern portions thereof, and which enhances the appearance of the boat, the mooring elements being operable by a single person.

A further object of the invention is to provide an automatic boat mooring assemblage in which the boat carried mooring elements engage dock supported vertical cables in a manner so that the moored boat adapts itself to the water level.

A further object of the invention is to provide an automatic boat mooring assemblage including cooperating elements with which a boat and dock may be readily equipped; which is susceptible of easy operation by one person seated in the navigator's station in the boat; which, when engaged, maintains the boat in a safe position relative to a dock or pier; which is relatively inexpensive, and which is well adapted for the purposes described.

With the above and other objects in view, the invention consists of the improved automatic boat mooring assemblage and its parts and combinations as set forth in the claims, and all equivalents thereof.

In the accompanying drawings in which the same reference characters indicate the same parts in all of the views:

Fig. 1 is a fragmentary plan view of a motor boat approaching a wharf, the boat and wharf being equipped with the improved boat mooring assemblage, parts being in section to show structural details, the sectional showing of the wharf or dock mounted elements of the mooring assemblage being taken approximately on the line 1—1 of Fig. 2;

Fig. 2 is an end view of a vertical mooring element carried by a dock or pier;

Fig. 3 is a side view of the boat carried rear engaging latch of the mooring assemblage, there being a broken line showing of the same in its open position;

Fig. 4 is a plan view of the rear engaging latch;

Fig. 5 is an end view thereof taken approximately on the line 5—5 of Fig. 4;

Fig. 6 is a plan view of the front engaging latch of the boat mooring assemblage with a broken line showing of the same in open position;

Fig. 7 is a side view thereof; and

Fig. 8 is an end view of the front engaging latch, with part broken away.

The relationship of the component parts of the improved boat mooring assemblage is best shown in Fig. 1 and comprises one or more pairs of boat-carried engaging latches and a pair of spaced apart vertically disposed mooring cables and supporting elements therefor.

The improved boat mooring assemblage finds its greatest utility in connection with a motorboat of the pleasure craft type which is brought into and away from a mooring position at a dock or wharf under its own power which is usually a problem for the unskilled navigator, particularly if there is a current, wind, or turbulent water.

As will appear from Fig. 1 there is secured to a side portion of the boat toward the stern thereof a rear mooring cable engaging latch indicated generally by the numeral 10. There is also secured to the same side of the boat toward the bow a front mooring cable engaging latch indicated generally by the numeral 11. The same pair of latches 10 and 11 may be duplicated on the other side of the boat.

A wharf, dock or the like is indicated generally by the numeral 12 and on the side of the same facing the water or slip in which the motorboat to be moored is directed, are a pair of holders, as for example, vertical metallic U-beams 13 and 13' anchored to a vertical portion of the pier or wharf 12 by means of bolts 14. The U-beams 13 and 13' or the like carried by the wharf 12 are spaced apart a distance corresponding to the spacing between the cable receiving latch openings in the boat-carried latch elements 10 and 11. The upper and lower extremities of each U-beam 13 and 13' carry integral horizontal outwardly directed plates 15 and 16 which have passed through apertures therein securing means such as eyed bolts 17 and 18 engaged by the opposite ends of vertical mooring cables 19. The uppermost eyed bolts 17 may have portions of their shanks surrounded by confined coiled springs 20 whereby a pull on the cables 19 will permit the same to yield by compression of the springs 20, but said springs may be eliminated, if desired.

As was heretofore mentioned, each side of the boat may have secured thereto, toward the stern portion, a rear mooring cable engaging latch 10 which is adapted, for boat mooring purposes, to engage the vertical cable 19 supported outwardly of such portion of the wharf or dock 12 laterally of the stern portion of the boat when the boat is in its moored position. Said rear mooring cable engaging latch 10 is shown in detail in Figs. 3, 4 and 5 and will be seen to include an eccentrically shaped fixed plate 21 secured to a rear side portion of the boat by bolts 22. Toward the outer side of said fixed plate 21 is a cable receiving recess 23 at opposite ends of which and laterally offset from each other are latch end receiving recesses 24 and 25. The tail end of a Z-shaped latch plate 26 is mounted within the fixed latch plate recess 24 fast on a transverse shaft 27 which is journalled through the adjacent portions of the fixed plate 21 and the side portion of the boat, the inner end portion of said shaft having fast thereon a pulley 28 engaged by a rear latch operating cable 29. The cable is intermediately secured to the pulley 28 in a manner so that a pull on one outward extent of the cable will turn the pulley and shaft 27 in one direction, whereas a pull on the other outward extent of the cable will turn the pulley and shaft in the other direction to raise or lower the latch plate 26 from the closed position of Fig. 4 to the raised position of Fig. 1, also shown in broken lines in Fig. 3. When the latch plate 26 is in its closed position shown in Fig. 4, the front reduced and offset extremity 30 thereof lodges within the fixed plate recess 25 and closes the latch recess 23.

It will be understood that when the stern of the boat is being swung toward the rear mooring cable on the wharf (after the front of the boat has been moored) the rear latch will be opened as in Fig. 1 and when the cable **19** engages in the latch recess **23** the cable **29** will be pulled to swing the latch plate **26** in a vertical plane to close the latch and thus confine the cable **19** in the rear latch closed recess **23**, thereby securing the stern portion of the boat to the rear mooring cable **19**. The forward projection **30** on the latch plate **26** has a transverse opening therein registering with transverse openings **31** in the fixed plate **21** and side portion of the boat through which a headed locking pin **32** may be inserted to retain the latch plate **26** in its closed position.

The front mooring cable engaging latch, indicated generally by the numeral **11**, is shown in detail in Figs. 6, 7 and 8 and it likewise comprises an eccentrically shaped fixed plate **33** secured to a side portion of the boat, toward the bow thereof, by bolts **34**. Within the rear side portion of the fixed plate **33** there is a recess **35** which accommodates a pulley **36** mounted fast on the barrel portion of a revoluble latch dog **37** which is journalled in a bearing boss portion **38** formed therefor in a side portion of the fixed plate **33** adjacent the pulley recess **35**. Beyond the bearing boss portion **38** the fixed plate **33** is stepped inwardly to provide a cable receiving recess **39**. The portion of the latch dog **37** beyond the bearing boss **38** is shouldered, angled and reduced so that when it is revolved on its horizontal axis longitudinally of the plate **33**, it can be moved from the recess closing full line position of Fig. 6 to the open broken line position of Fig. 6, turning through an angle of approximately 180°. In the open position of the latch dog **37** it, in cooperation with the face of the fixed plate **33** forwardly of the opening **39**, forms a funnel-shaped entrance so that as the boat is brought toward the front mooring cable **19**, said cable will be thereby guided into the recess **39**. The latch dog **37** is operated by a front latch operating cable **40** which is secured about the pulley **36** so that a pull on one outward extent of the cable **40** will rotate the latch dog to open position while a reverse pull on the cable will rotate the latch dog **37** to its closed position wherein the engaged mooring cable **19** will be confined within the latch recess **39**.

As is best shown in Fig. 8, the inner end of the stem of the latch dog **37** operates within a recess **41** within the end of the fixed latch plate **33** and carries a rotatable stop segment **42** which is contactable with either end of a longer fixed stop segment **43**, which arrangement limits the rotation of the rotatable latch dog **37** in either its open or closed position. In the closed position of the latch dog **37** it may be held to the adjacent portion of the fixed plate **33** by a frictional locking pin **44** inserted through registering openings in the wall plate **33** and latch dog protuberance **45**.

The manner in which the improved boat mooring assemblage operates is, no doubt, clear from the preceding descriptive matter. However, from Fig 1 it will be observed that for docking and mooring purposes the motorboat is slowly propelled into position adjacent a side of the wharf or pier at a slight angle. Preparatory to mooring the boat the navigator, while in his normal position, may manually pull proper portions of the cables **29** and **40** to cause the latch dog **37** and the latch plate **26** to be turned to their open, recess exposing positions, as in Fig. 1. Then, the boat is so manipulated as to cause the front vertical mooring cable **19** to enter the recess **39** of the front engaging latch **11**, following which the cable **40** is easily manipulated to swing the latch dog **37** to its closed position, whereupon the front side portion of the boat is securely engaged with the front mooring cable **19**. Thereafter, the boat is so manipulated as to cause its stern to swing sidewise toward the rear mooring cable **19** to enter the latter into the rear engaging latch recess **23**, following which the cable **29** is manipulated to cause the rear latch plate **30** to swing to its closed position of Fig. 4, with the result that the boat is then, through an easy operation, securely held by the mooring cables **19**. Due to the fact that the cables extend vertically through the front and rear engaging latches, the moored boat can adapt itself to the water level and cannot sink while docked, and it is also held snugly but slightly yieldingly against the side of the dock. Not only may the boat be quickly and easily moored without the necessity of help from persons on the wharf, but it is moored in a manner so that the boat is securely and compensatingly held in respect to wave or wind action. In the procedure of navigating the boat away from the dock the reverse operation will be performed. That is to say, the rear side portion of the boat may first be released from the rear mooring cable **19** followed by an opening of the front engaging latch **11** whereupon the boat may be easily backed away from the dock and outwardly. The motorboat operator is always stationed in his normal operating position within the boat and may easily operate from this position the latch operating cables **29** and **40** which are extended to a convenient position adjacent the operator's station.

The improved boat mooring assemblage is simple and susceptible of easy operation, the component elements thereof are easily installed on a boat and dock, and the assemblage is well adapted for the purposes described.

What is claimed as the invention is:

1. In combination, a boat docking structure; a pair of spaced-apart vertical supports anchored thereto, a vertical cable-like mooring element yieldingly mounted on each support; a motorboat having a forward operator's station; a stern mooring latch carried by a side portion of the boat adjacent the stern and including a fixed plate formed with shoulders to form a laterally opening recess, a latch dog pivotally carried on a horizontal axis by a rear portion of the fixed plate and movable in a vertical plane to open and close the lateral entrance to the fixed plate recess; a forward latch including a fixed plate anchored to a side portion of the boat adjacent the bow and shouldered to form a rear bearing and a forwardly opening recess, a latch dog mounted in the rear bearing of the last mentioned fixed plate for rotation about a horizontal axis and having an offset tapered front extension closing the entrance to said fixed plate recess in one position of the latch dog, the tapered front portion of the latch dog providing a funnel-like guide opening to said fixed plate recess by projecting forwardly and outwardly of the fixed plate when said latch dog is in another position of rotation; and elongated connections extending from the latch dogs of the stern and forward mooring latches to the operator's station in the boat for manual operation of the latch dogs, the distance between the recesses in said stern and forward mooring latches corresponding to the distance between the spaced apart cable-like mooring elements, the latter, when engaged in said latch recesses, holding the boat adjacent the supports but permitting relative vertical movement between the latches and the cable-like mooring elements.

2. In combination, a boat docking structure; a pair of spaced, elongated vertical mooring members; means on said docking structure for maintaining said mooring members in horizontally spaced relationship outwardly of said docking structure with part of each mooring member below the water and part above; a boat having a forward operator's station; a stern mooring latch carried by a side of the boat adjacent the stern and including a fixed plate having a cable-receiving recess provided with a side which is open in a laterally outward direction; a shiftable latch element for selectively closing said recess to control lateral entrance thereto; a forward latch including a fixed plate anchored to the same side portion of the boat adjacent the bow and having a forwardly opening recess; a shiftable latch element for selectively controlling entrance to said recess, and means

including elongated connections extending from both of said shiftable latching elements to the operator's station in the boat for operating said shiftable latching elements, the horizontal distance between the recesses in the stern and forward mooring latches corresponding to the horizontal distance between the spaced-apart elongated mooring members, the latter when engaged in said latch recesses being close to the boat and holding the boat in moored position while permitting relative vertical movement between the latches and the elongated vertical mooring members.

3. Apparatus for mooring a boat in a body of water comprising a dock, a pair of horizontally spaced cables, means mounted on said dock for supporting said cables tautly in outwardly spaced relationship to said dock and in positions extending transversely of the surface of said body of water, a pair of spaced cable coupling members mounted on a side of said boat in a spaced relationship corresponding with the spaced relationship of said cables, each of said cable coupling members including a fixed body portion having a cable receiving recess provided with an open side, and a shiftable latch element for selectively closing said open side of said recess, the open side of said recess of the body portion of one of said cable coupling members being directed forwardly of said boat and adapted to receive one of said cables during movement of said boat in a direction having a forward component of movement.

4. Apparatus for mooring a boat in a body of water comprising a dock, a pair of horizontally spaced cables, means mounted on and extending outwardly from said dock for supporting said cables in outwardly spaced relationship to said dock and in positions extending transversely of the surface of said body of water, a pair of spaced cable coupling members mounted on a side of said boat in a spaced relationship corresponding with the spaced relationship of said cables, each of said cable coupling members including a fixed body portion having a cable receiving recess provided with an open side and a shiftable latch element for selectively closing said open side of said recess, the open side of said recess of the body portion of one of said cable coupling members being directed forwardly of said boat and adapted to receive one of said cables during movement of said boat in a direction having a forward component of movement, and the open side of said recess of the body portion of the other cable coupling member being directed laterally of said boat and adapted to receive the other of said cables during movement of said boat in a direction having a sidewise component of movement.

5. Apparatus for mooring a boat in a body of water comprising a dock, a pair of horizontally spaced cables, means mounted on and extending outwardly from said dock for supporting said cables in outwardly spaced relationship to said dock and in positions extending transversely of the surface of said body of water, said cable mounting means including mechanism for retaining said cables under tension between their opposite end portions while permitting a certain amount of give, a pair of spaced cable coupling members mounted on a side of said boat in a spaced relationship corresponding with the spaced relationship of said cables, each of said cable coupling members including a fixed body portion having a cable receiving recess provided with an open side and a shiftable latch element for selectively closing said open side of said recess, the open side of said recess of the body portion of one of said cable coupling members being directed forwardly of said boat and adapted to receive one of said cables during movement of said boat in a direction having a forward component of movement.

6. Apparatus for mooring a boat in a body of water comprising a dock, a pair of horizontally spaced cables, means mounted on and extending outwardly from said

dock for supporting said cables in outwardly spaced relationship to said dock and in positions extending transversely of the surface of said body of water, said cable mounting means including mechanism for yieldably retaining said cables tensioned between locations above and adjacent the surface of said body of water, a pair of spaced cable coupling members mounted on a side of said boat in a spaced relationship corresponding with the spaced relationship of said cables, each of said cable coupling members including a fixed body portion having a cable receiving recess provided with an open side and a shiftable latch element for selectively closing said open side of said recess, the open side of said recess of the body portion of one of said cable coupling members being directed forwardly of said boat and adapted to receive one of said cables during movement of said boat in a direction having a forward component of movement.

7. Apparatus for mooring a boat in a body of water comprising a dock, a pair of horizontally spaced cables, means mounted on and extending outwardly from said dock for supporting said cables in outwardly spaced relationship to said dock and in positions extending transversely of the surface of said body of water, a pair of spaced cable coupling members mounted on a side of said boat in a spaced relationship corresponding with the spaced relationship of said cables, each of said cable coupling members including a fixed body portion and extending lengthwise of said boat and having an elongated cable receiving recess and provided with an open side and including a shiftable latch element for closing said open side of said recess, the open side of said recess of one of said cable coupling members being directed forwardly of said boat and adapted to receive one of said cables during movement of said boat in a direction having a forward component of movement, said elongated recesses accommodating free up and down and limited fore and aft movement of said boat on said cables.

8. Apparatus for mooring a boat in a body of water comprising a dock, a stationary elongated mooring member, means extending outwardly from said dock for supporting said member tautly in outwardly spaced relationship to said dock and in a position extending transversely of the surface of said body of water, a coupling unit mounted on a side of said boat, said coupling unit including a fixed body portion having a recess provided with an open side for receiving said mooring member, and a shiftable latch element for selectively closing said open side of said recess, the open side of said recess of said body portion being directed forwardly of said boat for receiving said mooring member during movement of said boat in a direction having a forward component of movement.

9. Apparatus for mooring a boat in a body of water comprising a dock, a stationary elongated mooring member, means extending outwardly from said dock for supporting said member tautly in outwardly spaced relationship to said dock and in a position extending transversely of the surface of said body of water, a coupling unit mounted on a side of said boat, said coupling unit including a fixed body portion having a recess provided with an open side for receiving said mooring member, and a shiftable latch element for selectively closing said open side of said recess, the open side of said recess of said body portion being directed laterally of said boat for receiving said mooring member during movement of said boat in a direction having a lateral component of movement.

10. Apparatus for mooring a boat in a body of water comprising a dock, a pair of horizontally spaced stationary elongated mooring members, means extending outwardly from said dock for supporting said members in outwardly spaced relationship to said dock and in

positions extending transversely of the surface of said body of water, a pair of coupling units mounted on a side of said boat, said coupling units each including a fixed body portion having a recess provided with an open side for receiving a mooring member close to the side of the boat, and a shiftable latch element for selectively closing said open side of the recess of each of said coupling units respectively, and control mechanism for said latch elements extending from each of said coupling units to a common location remote from said coupling units for selectively operating the latch element of each coupling unit respectively.

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