

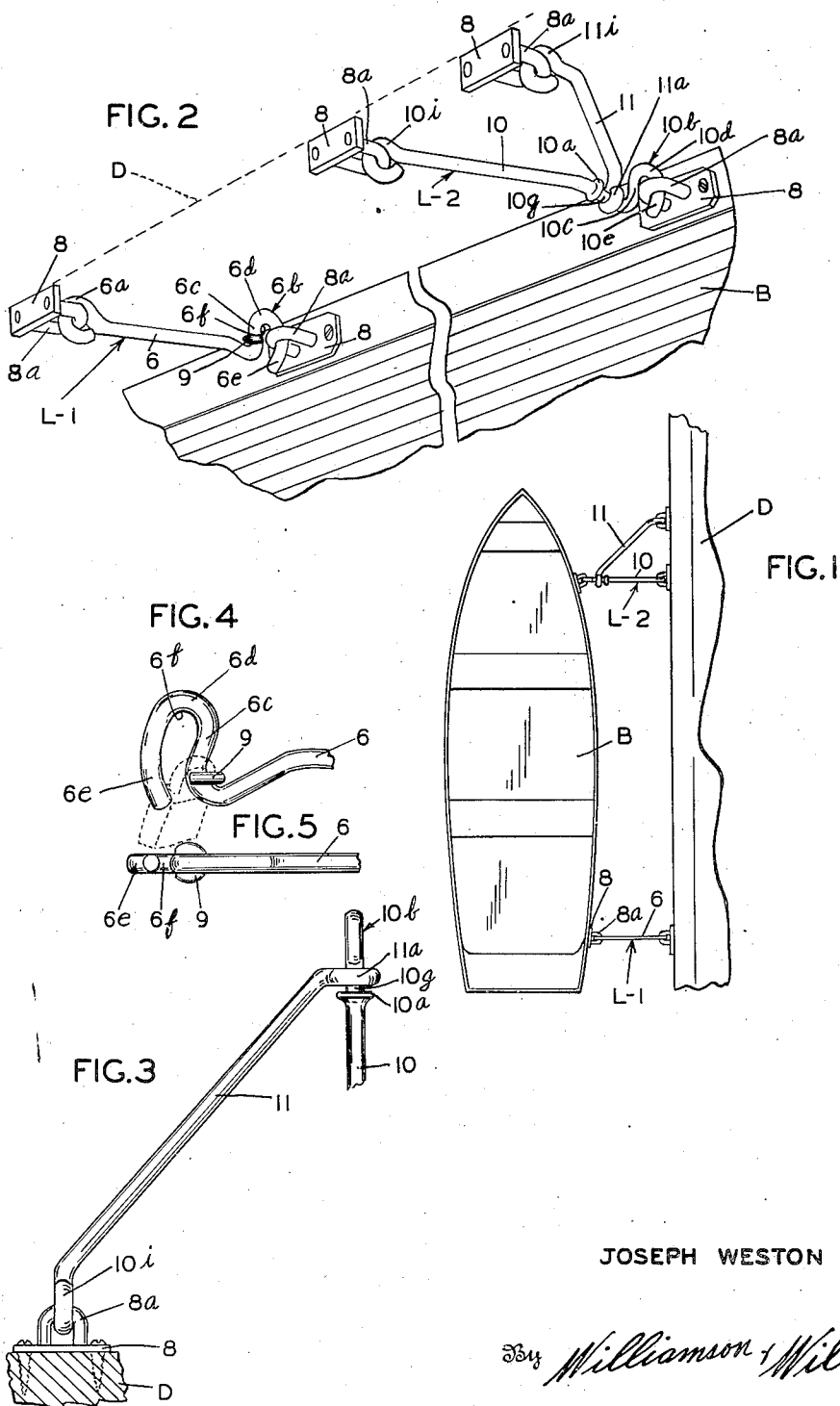
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BOAT MOORING DEVICE

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BOAT MOORING DEVICE

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This invention relates to readily connectible mooring devices for boats and is particularly adapted for use on rowboats, small power boats and other light craft.

It is an object of my invention to provide a simple, economical boat mooring device which may be readily applied to the sides of docks and other boat landings and may be quickly connected with elements attached to the longitudinal side of a boat and when in operation, will maintain the boat in spaced relation to the dock or landing with freedom to ride waves or withstand varying currents.

A further object is the provision of boat mooring apparatus adapted to be shipped in very compact form and ingeniously constructed for ready attachment to a dock or other boat landing and to be normally maintained in depending, non-obstructing position and further, adapted to be quickly interconnected with cooperating coupling elements carried in widely spaced relation by the side of a boat for mooring the boat in spaced relation to the side of a boat landing, with provision for freely riding the waves.

It is another object to provide a mooring device of the class described, wherein a pair of mooring link structures are utilized, preferably attached at their inner ends to the sides of a boat landing and having at their outer ends, readily connectible coupling elements for interconnecting with cooperating elements on the side of a boat and further, provided with a triangulated or brace construction for maintaining the links during mooring of a boat in outwardly extending position laterally of the dock or boat landing.

With my improved construction, a boat may be readily connected for mooring by the quick coupling of two elements only and maintained in spaced relation to a dock or boat landing to prevent striking of the boat against the landing during even windy weather, but nevertheless, held in such relation to the landing that passengers or cargo may be loaded or unloaded.

The foregoing and other objects and advantages of my invention will be more apparent from the following description made in connection with the accompanying drawings, wherein like reference characters refer to similar parts throughout the several views and in which:

Fig. 1 is a top plan view showing an embodiment of my mooring device in operation;

Fig. 2 is a fragmentary perspective view looking upwardly from a position below the top of the dock;

Fig. 3 is a fragmentary top plan view showing

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the forward or triangulated link structure in extended mooring position;

Fig. 4 is a side elevation showing the coupling hook for the rear mooring link, indicating by dotted lines, the manner in which the boat may be locked to the mooring apparatus by the use of an ordinary padlock; and

Fig. 5 is a bottom plan view of the same.

In the embodiment of the invention illustrated, a rowboat B of conventional structure is moored from the side of a dock or boat landing D. My mooring device, as shown, comprises a pair of mooring link structures, indicated as entireties by the reference characters L—1 and L—2, both of which are pivotally secured at their inner ends to the side wall of a dock or boat landing, D. The link structures L—1 and L—2 are disposed in vertical, depending relation to the dock when not in use. The rear link L—1 as shown, is constructed of rigid rod material comprising a straight shank 6 having an attachment eye 6a turned from its inner end and surrounding the eye or staple 8a of an attachment bracket 8, which has a base flange adapted to be bolted or otherwise secured to the boat landing. At its outer end, the link L—1 is shaped to form a quickly operated coupling element as shown, constituting a specially constructed hook 6b positioned for engagement and interlocking by downward swinging movement of the shank 6 with a cooperating coupling member such as the heavy eye or staple 8a of an attachment bracket 8 which is bolted or otherwise secured to the rear portion at one of the sides of the boat B.

The specific construction of the coupling hook 6b is of importance in its cooperative relationship with the pivoted link and buoyantly supported attachment bracket 8. As shown, said hook is first bent upwardly from shank 6 along a curved and generally arcuate line forming an inner retaining leg 6c and thereafter, bent to form an arcuate medial loop portion 6d and thereafter, extended downwardly in the general curve of a greater arc to form an outer retaining leg 6e disposed almost concentrically of the leg 6c but converging slightly at its lower and outer end with reference to the lower portion of leg 6c. With a coupling hook of this structure, the coupling staple 8a mounted on the boat is adapted to be interconnected and seated during riding movement of the boat on the water and swinging movement of the link at the extreme top end of the slotted portion of the hook, to wit, against the underside of the loop portion 6b which forms a seat, indicated by the numeral 6f. The hook 6a

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preferably is provided with a semi collar 9 which embraces and partially surrounds the lower portion of the hook leg 6c extending transversely thereof to provide an abutment shoulder whereby the hasp of an ordinary padlock may be passed around the leg 6c just above shoulder 9 to lock the boat when moored to the boat landing. (See Fig. 4.)

The link structure L—2 for connection with the opposite (usually the bow end of the boat) is of triangulated form comprising as shown, a pair of rigid rod links 10 and 11 respectively. Link 10 may be of substantially identical structure to the rear link L—1 with the one exception, to wit, that the padlock abutment collar 9 of the rear link is not utilized since the hook of link 10 must slip through and be interlocked with the forward end of link 11. Link 10 where the link structure L—2 is used for the bow of the boat, is somewhat longer than rear link L—1 and is provided, as shown, with a full abutment collar 10a disposed at the outer end of its shank just rearwardly of the entire hook section to form an abutment for engaging the inner face of the eye 11a formed in the outer end of the brace link 11. The eye 11a of link 11 is adapted to be slipped over the depending extremity 10e of the hook 10b and thence around the loop section 10d of the hook and downwardly over the inner leg section 10c to the slightly angled section 10g interconnecting the forward end of the shank with the hook proper. In this position, as clearly shown in Fig 2, the eye 11a of the brace link may be readily attached and interlocked with the outward portion of the link, disposed between the collar 10a and the rear of the inner leg 10c of the hook, leaving the hook proper free for engagement with the eye or staple 8a of the forward attachment bracket 8 secured to one of the sides of the boat adjacent the bow. Links 10 and 11 at their inner ends are formed into eyes 10i and 11i respectively, which embrace and are pivotally connected with the staples or eyes 8a of attachment brackets 8 identical with the attachment bracket for the inner ends of the rear link L—1.

When links 10 and 11 are interconnected, a triangulated link unit is formed having at its outer end the readily attachable coupling element in the form of the hook 10b whereby the front portion of the boat may be readily moored and connected at one point only. The inner ends of the links 10 and 11 are pivotally connected or horizontal axes with the side of the dock or boat landing through the agency of the brackets 8 and the brace link 11 is disposed diagonally of the longitudinal edge of the boat landing and of the center line of the boat to be moored, the said triangulated relationship serving to maintain the links 10 and L—1 in substantially perpendicular relationship with the edge of the dock or boat landing and to maintain the boat in fairly close spaced relationship to the landing.

With my structure, a boat is guided to a position substantially parallel and adjacent the edge of the dock or landing and first one of the link structures L—1 or L—2 is swung upwardly from its depending position at the dock and the cooperating coupling elements united. Thereafter, the second link structure is raised and coupled at its outer end to the second cooperating coupling member secured to the side of the boat. Because of the pivotal connections at both ends of the link structures, the boat may rise or fall with waves or current without in any way damaging the mooring links or causing damage to boat or

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dock. This improved construction further makes provision for variances in the water level within a considerable range without requiring adjustment of the anchor brackets secured to the dock or boat landing.

The moored side of the boat is sufficiently close to the dock to enable a person to step in or out of the boat.

With my structure when weight is shifted to the dock side of the boat in landing, the boat will rock somewhat, the connection of the link structures however, with the resistance of the water serving to stabilize this rocking movement and to prevent tipping of the boat. During rocking of the boat when weight is shifted to the dock side, the mooring links cause the boat to then be drawn closer to the dock and make the loading and unloading of passengers easier than when the boat is disposed in the normally moored position, as shown in Fig. 1.

The triangulated relationship of the link elements 11 and 10 of the forward link structure L—2 stabilizes the entire mooring structure and maintains the boat when moored in substantially parallel relationship with the boat landing.

It will, of course, be understood that it is substantially immaterial whether the swinging link structure L—2 is positioned forwardly or aft and it is likewise to be understood that for larger boats in rough waters, the link structure L—2 may be utilized for both fore and aft mooring connections with the boat.

The specific structure of my coupling hooks for swivel connection with a rowboat including the more or less arcuately curved inner and outer leg sections, not only provide a very efficient and positive coupling permissive of the various riding movements of the boat, but because of the depending, inwardly curved extremity of the legs 6e and 10e of the two hooks, no jamming or gouging of the bracket or gunwale of the boat is possible during mooring, landing or loading of the boat.

As shown in Fig. 4, a boat moored with my structure may be very readily locked to the dock or landing to prevent theft.

In this connection, an ordinary padlock P is applied with the hasp or loop thereof surrounding the inner leg 6c of the mooring link L—1 and positioned just above the abutment 9. In this position, it will be noted that the space in the throat of the hook is obstructed so that the depending coupling hook cannot be detached from the bracket 8 secured to the rowboat until the padlock is removed.

From the foregoing description, it will be seen that I have provided a simple, inexpensive, rugged and highly efficient boat mooring device, adapted to wide general use. The links 10 and 11 of the swinging link unit L—2 may be readily disconnected at their outer ends by slipping the eye 11a of diagonally disposed link 11 around the reversely curved connection of the hook 10b with its shank and thereafter, downwardly over the free retaining leg 10e. Thereafter, the links may be very compactly disposed in side by side relation for storage or shipment.

It will of course, be understood that various changes may be made in the form, details, arrangement and proportions of the parts without departing from the scope of my invention.

What I claim is:

1. In a boat mooring device, a vertically swingable link structure comprising a pair of rigid rods interconnected adjacent their outer ends and

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having pivotally connected attachment means at their inner ends for securing said rods to a boat landing in widely spaced relation with freedom for swinging of said link structure on a horizontal axis, one of said rods at its outer end having a depending coupling hook for quick connection with an eye affixed to the side of a boat, said hook having a curved connection with the shank of its rod and having an enlarged abutment element disposed inwardly of said curved connection, the other of said rods at its outer end having an eye adapted to be slipped over the end of said hook and passed over said curved connection and positioned substantially against said abutment to releasably interconnect the outer ends of said rods in triangulated relation.

2. A boat mooring device comprising a link, a hook formed integrally with one end thereof and means on the other end thereof to pivotally attach said link to a fixed structure, said hook being of inverted U-shaped configuration, said U being so spaced between the legs thereof as to loosely engage an eye and of a size to be embraced by the hasp of a padlock between the sides of the U to thereby retain said eye and U in locked inter-engagement, and an abutment formed adjacent the juncture of the link and hook to hold the lock in eye-retaining position.

3. In a device of the class described, a device comprising a hook element adapted to be pivotally secured to a relatively stationary object on a horizontal axis, a loop adapted to be secured to the side of a boat in a position to receive said hook, and a brace leg loosely embracing at one end thereof the intermediate portion of the hook member to permit rotary and limited axial movement therebetween and having its other end adapted to be pivotally secured to said stationary object in spaced relation to said hook but on a common axis therewith.

4. A boat mooring device comprising a pair of rigid links, attachment brackets pivotally con-

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nected with the inner ends of said links and adapted to be secured in widely spaced relation to the side of a boat landing, said links at their outer ends terminating in depending eye-engaging hooks adapted to interlock with horizontally disposed eyes widely spaced at one of the longitudinal sides of the boat, means associated with at least one of said links for maintaining said links in outwardly extending lateral relation to a boat landing when a boat is moored thereby, said eye-engaging hooks, each comprising an inner retaining leg extending generally in an arc approximately centered on the shank of its respective link and comprising a short arcuate upper loop portion constituting at its underside, a seat for the eye and comprising an outer retaining and eye-entering leg extending approximately in concentric relation to said first mentioned inner retaining leg whereby a moored boat may ride the waves producing the swinging of said links without disconnection of said hooks with the attachment eyes fixed to said boat, at least one of said links having a circumferentially extending abutment collar near the base of the inner retaining leg for abutment against the loop or hasp of a conventional padlock encircling said inner leg above said collar to lock said boat to the boat landing.

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