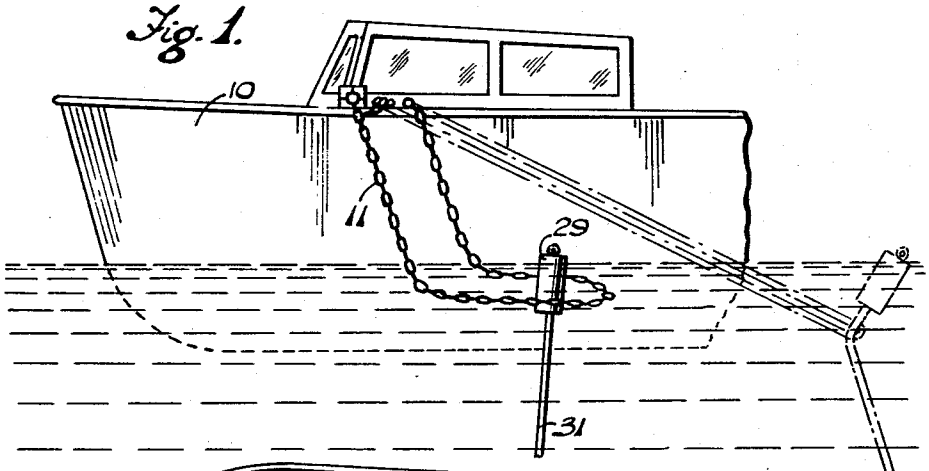
Nov. 17, 1959 F. A. JENSEN 2,912,954

DEVICE FOR MOORING BOATS

Filed May 5, 1958 3 Sheets-Sheet 1

Fig. 1.



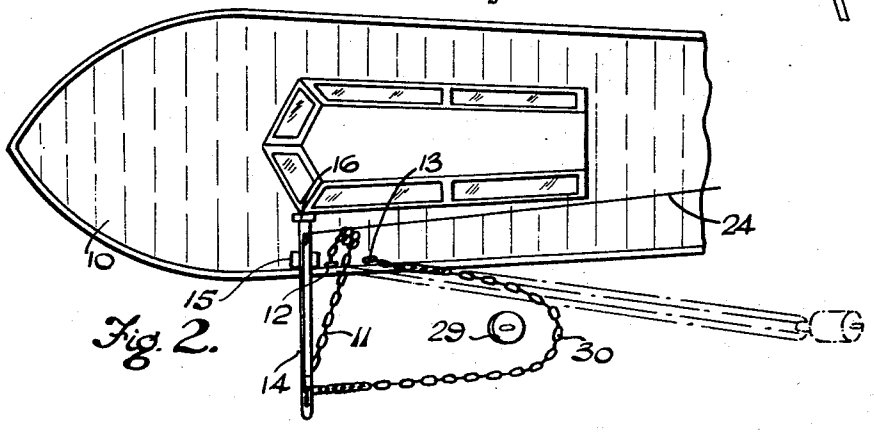


Fig. 2.

Fig. 3.

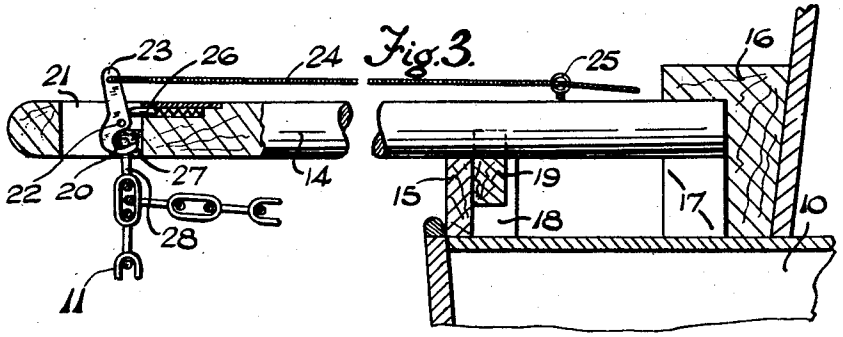
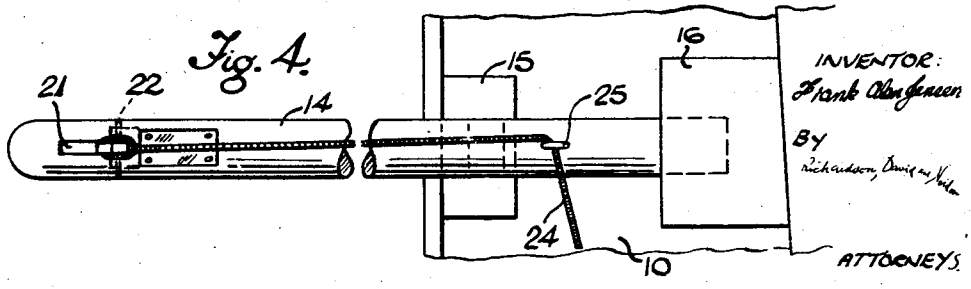


Fig. 4.



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DEVICE FOR MOORING BOATS

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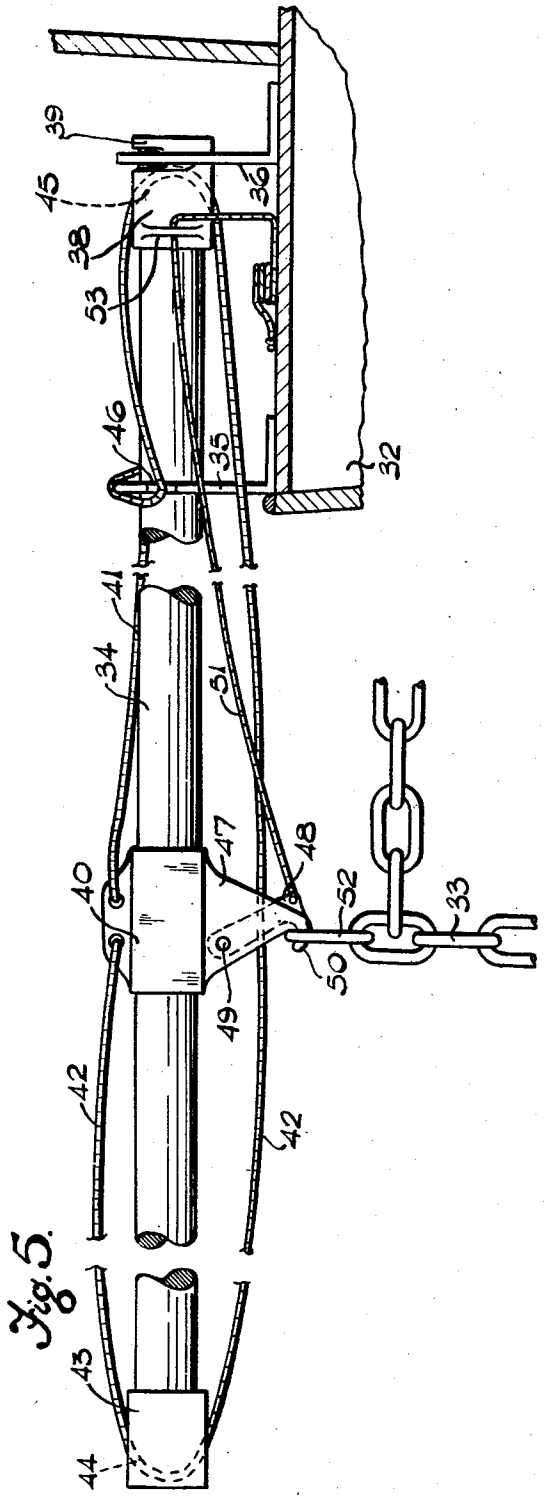


Fig. 5.

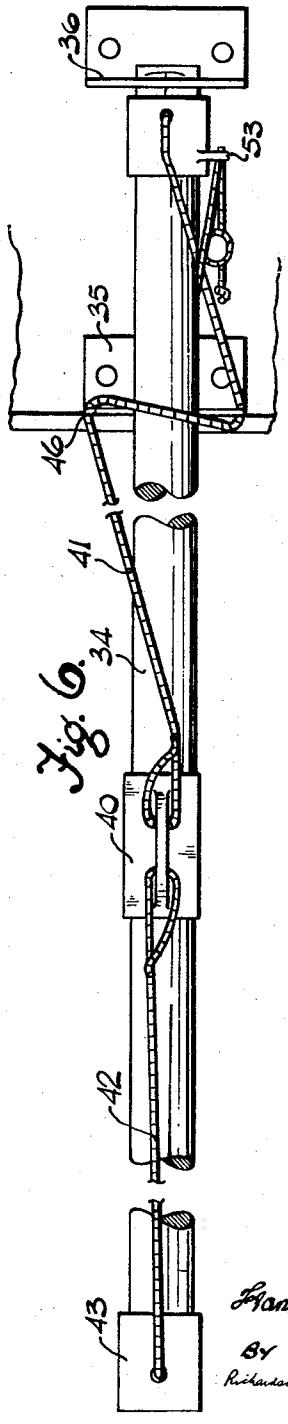


Fig. 6.

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DEVICE FOR MOORING BOATS

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Fig. 7.

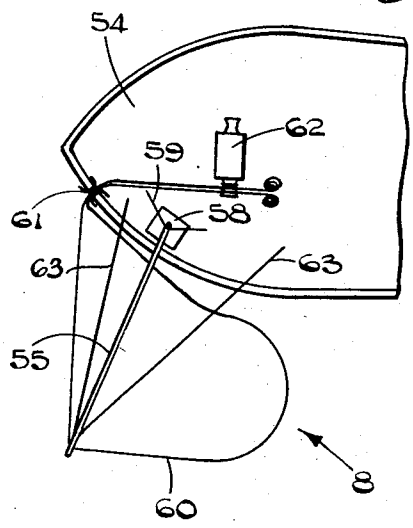
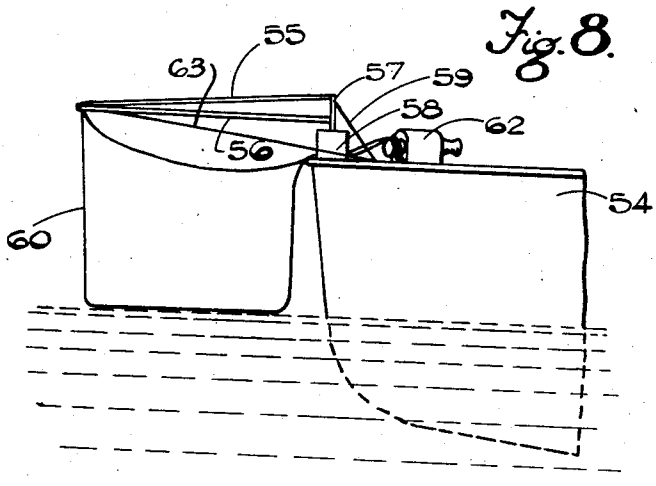


Fig. 8.



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2,912,954

DEVICE FOR MOORING BOATS

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Application May 5, 1958, Serial No. 732,925

11 Claims. (Cl. 114—230)

The present invention relates to a new or improved device for use in mooring boats.

At present a normal type of mooring for a boat comprises an anchor engaging in the sea bottom, an anchor chain secured at one end to the anchor and at the other to an anchor line attached at its upper end to a buoy. The usual procedure in making fast a boat to a mooring of this type is to attemp to engage the anchor line beneath the buoy with a boat hook, this operation being performed by one of the boat's crew stationed in the forward part of the boat, and to haul the anchor chain aboard by means of the anchor line subsequently securing the boat to the anchor chain.

The engagement of the anchor line often requires considerable skill and may be extremely difficult under adverse conditions such as in bad weather or when the crew consists only of a single individual who has also to act as helmsman, in which latter case it is necessary for this individual temporarily to leave the tiller in order to perform this operation whilst relying upon the boat staying on course.

The principal object of the present invention is to provide a means whereby the anchor line may be more readily engaged and taken aboard, with reduced risk of the member of the crew concerned falling overboard so that it becomes a comparatively simple matter to make the boat fast to a mooring even under bad weather conditions and in a case where the crew consists of a single individual.

Other objects of the invention will become apparent as the description proceeds.

According to the invention I provide in a boat, a mooring device comprising a boom, mountable so as to project laterally of the boat above water level, a mooring line, a releasable hook device mounted on the boom for releasably engaging the mooring line at a position spaced from the boat and permitting the formation of a buoy receiving loop of line between the hook device and the boat partially in the water, and hook device control means for enabling the release of the mooring line from the hook device to be effected as desired, the loop then narrowing.

The invention will now be more particularly described with reference to the accompanying drawings wherein:

Figure 1 represents a side view of the forward part of a boat of moderate size at one stage in the making fast of the boat, the drawing including a part in chain lines indicating the position of the device and the boat at a later stage,

Figure 2 represents a plan view corresponding to Figure 1,

Figure 3 represents an elevation of part of the device to a larger scale and partly broken away,

Figure 4 represents a plan view corresponding to Figure 3,

Figure 5 represents an elevation of part of an alternative form of device in a manner similar to the device shown in Figure 3,

Figure 6 represents a plan view corresponding to Figure 5,

Figure 7 is a plan view showing a further device in accordance with my invention mounted on the fore part of a boat, and

Figure 8 is a view in the direction of the arrow 8 in Figure 7.

Referring first to that form of my invention illustrated in Figures 1 to 4 the mooring device is illustrated as being mounted on a boat **10** of moderate size, for example a yacht or cabin cruiser and the device includes a mooring line **11** which is in the form of a length of light chain which may, for example, be approximately 24 feet in length, the chain being composed of links made from rod wire 3/16 inch in diameter.

One end of the mooring line **11** is secured at **12** to the boat and the other end of the mooring line is secured at **13** to the boat a short distance to the rear. The ends of the mooring line **11** may be secured at any suitable positions adjacent to the edge of the boat but are preferably secured towards the forward end thereof and conveniently at or near that point where the deck is broadest as illustrated. If desired, the line may extend from the points **12** and **13**, where it is secured, around a fairlead somewhat forward of the boom, this arrangement enabling the hauling in of the line to be more readily effected.

The mooring device further includes a boom **14** in the form of a cylindrical wooden rod. If desired the boom may be formed from other material but is preferably of light weight so that it can be easily handled. The boom **14** may, for example, be about 6 feet long and its inner end is so adapted as to enable the boom to be mounted so as to project laterally of the boat above water level as illustrated. The boom mounting device is shown in Figures 3 and 4 and comprises a pair of blocks **15** and **16** secured to the deck of the boat at laterally spaced positions. The block **15** forms a rest carrying the weight of the device and engaging a part of the boom **14** spaced from the inner end. The other block **16** forms a thrust member overlying a part of the boom **14** nearer the inner end thereof. The block **16** is provided with a slot **17** assisting in the mounting of the boom and the block **15** is provided with a recess **18** fixing the block **16** and adapted to receive a projecting block **19** secured to the underside of the boom, these co-acting formations on the boom and mounting device preventing inadvertent removal of the boom from the mounting device. It will be appreciated that when it is desired to remove the boom from the mounting device the outer part thereof may be raised thus removing the projecting block **19** from the recess **18** and enabling the boom to be moved outwardly at the same time removing the inner end of the boom from the slot **17**.

The mooring device further comprises a releasable hook device on the boom adjacent to the outer end thereof. This device comprises a pivoted hook **20** mounted in a vertical slot or sheath **21**, the mouth of the hook being presented towards the side of the boat as seen in Figure 3. The hook is pivoted at **22** and provided with an upwardly extending shank **23**. Hook device control means are provided in the form of a hook control cord **24** secured at one end to the shank **23** and extending longitudinally of the boom **14** on the upper side thereof, the cord **24** passing through an eyelet **25** attached near the inner end of the boom, the cord then extending rearwardly of the boat as seen in Figure 2. The hook **20** is normally held in the position shown by means of a spring actuated plunger **26** mounted in a covered recess in the boom and acting on the shank **23** of the hook.

The terminal part of the hook **20** normally projects into a recess **27** formed in the underside of the boom,

the recess being somewhat broader than the slot or sheath 21 with which it is in communication, this slot or sheath being only slightly broader than the hook 20. In Figure 3 the device is shown in its assembled position with the hook 20 engaging a link 28 of the mooring line 11, the link projecting into the recess 27. When the cord 24 is pulled the hook pivots against the action of the spring actuated plunger 26 and the link engaging part thereof is withdrawn from the recess 27 into the slot or sheath 21. The link 28 is unable to follow this part of the hook into the slot or sheath and is thus positively released from the hook device.

To facilitate operation of the hook device the cord 24 extends rearwardly of the boom and may terminate at a position adjacent to the tiller or wheelhouse (not shown) where it can conveniently be operated by the helmsman whilst at this post.

In use the link 28 of the mooring line 11 is first engaged with the hook member before the boom is mounted in position. The boom is then mounted as shown, the forward part of the line 11 extending towards the outer end of the boom from its position of attachment 12 and the remainder of the line terminating at 13 is loosely stowed on the deck adjacent to the boom.

On approaching the mooring buoy 29 this latter part of the line is cast overboard and drops into the water forming a buoy receiving loop 30 which, on passage of the boat through the water approximates to the shape illustrated. When the boom has passed over the top of the buoy and the relative positions of the buoy and the mooring device are substantially as shown in Figures 1 and 2 the hook control cord 24 is pulled and the link 28 of the line is thus released so that the line is then free apart from its being secured to the boat at the positions 12 and 13. Owing to the weight of the line and the movement of the boat the loop 30 narrows and eventually the two sides of the loop come closely adjacent to one another, the end of the loop becoming retentively engaged about the anchor line 31 beneath the buoy 29. This engagement takes place when the boat has moved somewhat further forward and the relative positions of the boat, the buoy and line 11 are shown in Figures 1 and 2 by the chain lines. In cases where the line passes round a fairlead forward of the boom the action is similar, the line then acting as if it were secured to the boat at the fairlead.

I have observed that in practice when the line is engaged by the hook device as illustrated in the full lines in Figures 1 and 2 that part of the loop 30 tends to lie close to the surface, but that upon release of the line from the hook device the line immediately begins to sink, the sides of the loop moving together and the anchor line finally being engaged some little distance below the buoy.

A particular advantage of the invention as applied to cabin cruisers or other boats provided with engines, is that as soon as the mooring buoy is observed to be within the buoy receiving loop 30 the forward movement of the boat may be checked by setting the engine to the astern position and thereafter the engine may be switched off, thus allowing ample time for the helmsman to move to a position where he can haul in the trailing loop after its engagement with the anchor line.

The danger of the boat colliding with other boats moored in the vicinity is thereby appreciably reduced as is also the danger which initially occurs when procedure through the helmsman having to leave his post whilst the engine is switched on.

After securing the line to the boom initially the whole operation can, if necessary, be performed by the helmsman without leaving his post so that he can continue to keep the boat accurately on course in coming alongside the buoy.

I have found that a mooring line in the form of a length of chain having the dimensions previously referred to is particularly advantageous in that it is heavy enough to form the required buoy receiving loop at or just below the surface of the water when engaged by the hook device and is sufficiently flexible when released from the boom to close tightly about the anchor line 31, the links of the chain gripping the anchor line in a particularly effective manner.

An alternative form of mooring device in accordance with my invention is shown in Figures 5 and 6. The device is shown as mounted on a boat 32 and includes a mooring line 33 similar to the mooring line 11 previously described. The device also includes a boom 34 similar to the boom 14, the boom 34 being mounted on a mounting device comprising a rest 35 in the form of a bracket secured to the deck of the boat and provided with a recess at its upper edge, and a thrust member comprising a bracket 36 provided with a vertical slot closed at its upper end. The boom is provided with an inner end cap 38 having a slot 39 engaging with the bracket 36 and preventing inadvertent removal of the boom from the mounting device.

The mooring device also comprises a releasable hook device mounted on a carriage 40 movable longitudinally of the boom 34 between a position adjacent to the boat and a position spaced from the boat, the carriage being shown in an intermediate position. The carriage comprises a sleeve having a cylindrical bore slightly larger than the diameter of the boom so as to allow its free movement longitudinally of the boom. Carriage moving means are provided in the form of a first line 41 extending directly from the carriage to the boat and a second line 42 extending from the carriage 40 to the outer end of the boom and around a return member which is in the form of an outer end cap 43 provided with a hole 44 of smoothly curved path, the second line then extending back to the boat, both lines being accessible from the boat. The first and second carriage moving lines 41 and 42 are integrally connected at their inner ends and pass through a hole 45 in the inner end cap 38 this hole being of similar shape to the hole 44 in the outer end cap 43. It will be appreciated from this description that with the aid of these lines the carriage 40 can be moved to any desired position along the boom 34.

Carriage securing means are provided for frictionally engaging at least one of the carriage moving lines, these carriage securing means comprising formations 46 on the rest 35 around which the line concerned or both lines may be twisted in the manner illustrated in Figures 5 and 6.

The releasable hook device on the carriage 40 comprises a sheath 47 in the form of two triangular plates parallel with one another, and a hook 48 pivoted with the aid of pivot pin 49 to the sheath 47. The hook 48 has a terminal portion 50 which normally projects from the sheath 47 but is capable of being withdrawn into the sheath 47 when the hook 48 is pivoted anti-clockwise as viewed in Figure 5 as by means of the hook control cord 51 secured to the hook. The terminal portion of the hook may engage the link 52 of the mooring line 33 as illustrated, the line being released when the cord 51 is pulled. The inner end of the cord 51 passes through a hole in a lug 53 formed integrally with the inner end cap 38.

In use the boom is first mounted on the boat in the manner described and illustrated and the carriage 40 is moved to a position accessible from the boat whereupon the link 52 is hooked on to the terminal portion 50 of the hook 48. The carriage is then moved to its outer position in abutment with the outer end cap 43 and is secured at this position by the engagement between the first or second carriage moving lines or both of these lines with the formations 46. The line 33 is in all respects similar to the line 11, being secured to the side of the boat 32 in the same manner as the line 11 is secured to the boat 10.

The subsequent operation of the device is similar to

that of the device previously described with reference to Figures 1 to 4, the line being permitted to form a buoy receiving loop which is later allowed to narrow on release of the link **52** from the hook device, this release being effected by pulling the cord **51** at the desired moment.

Whilst the device may be formed from any suitable materials I prefer to form the boom **34** of wood and the rest **35**, bracket **36**, inner end cap **38**, carriage **40**, outer end cap **43**, sheath **47**, hook **48** and pivot pin **49** from resin bonded fibre glass, this latter substance being particularly resistant to corrosion such as might otherwise occur in the presence of water, particularly sea water.

A further device in accordance with my invention is illustrated diagrammatically in Figures 7 and 8, the device being shown as mounted on the fore part **54** of a boat. The device includes a boom which comprises an upper member **55** and lower member **56** connected together at one end and connected to an upright **57** at the other end. The boom may conveniently be formed from wooden rods or from light metal tubes.

The boom is permanently mounted by means of a mounting device on the boat, this mounting device comprising a bearing block **58** housing the lower end of the upright **57** and acting as a thrust bearing, the device also including support lines **59** pivotally connected to the upright adjacent to the upper member **55** of the boom.

The mooring device also includes a mooring line **60** forming a buoy receiving loop and passing by way of fairlead **61** to the power operated winch **62**. The mooring line **60** is releasably secured to the free end of the boom by either of the devices described with reference to Figures 1 to 6. The operating means are not shown in Figures 7 and 8 and it is to be understood that if the hook device is mounted on a carriage similar to that numbered **40** the carriage would be adapted to run longitudinally of the lower member **56** of the boom.

In use the boom is swung into a position parallel with the side of the boat and the mooring line is secured to the hook device. The boom is then swung outwardly to its operating position as illustrated, this being effected either by operation of the winch **62** or by suitable manoeuvring of the guide lines **63** which are secured adjacent to the free end of the boom to the boat. The buoy receiving loop is formed as before and the mooring line released from the end of the boom at the desired moment. The winch **62** is then put into operation and the loop of the mooring line is reduced in size so as to bring the anchor line into an accessible position, the boom being swung back to its stowed position parallel with the side of the boat by means of the guide lines **63**. The power operated winch **62** may be replaced by a hand operated winch.

What I then claim is:

1. In a boat, a mooring device comprising a boom, mountable so as to project laterally of the boat above water level, a mooring line, a releasable hook device mounted on the boom for releasably engaging the mooring line at a position spaced from the boat and permitting the formation of a buoy receiving loop of line between the hook device and the boat partially in the water, and hook device control means for enabling the release of the mooring line from the hook device to be effected as desired, the loop then narrowing.

2. In a boat, a mooring device comprising a boom, a boom mounting device on the boat comprising a rest engageable with a part of the boom spaced from the inner end thereof, and a thrust member for overlying a part of the boom nearer to the inner end thereof than that part engageable with the rest, co-acting formations on the boom and mounting device preventing inadvertent removal of the boom from the mounting device, the boom when mounted projecting laterally of the boat above water level, a mooring line, a releasable hook device mounted on the boom for releasably engaging the mooring line at a position spaced from the boat and permitting the formation of a buoy receiving loop of line between the hook device and the boat partially in the water, and hook device control means for enabling the release of the mooring line from the hook device to be effected as desired, the loop then narrowing.

3. In a boat, a mooring device comprising a boom, mountable so as to project laterally of the boat above the water level, a mooring line, a pivoted hook on the boom for releasably engaging the mooring line at a position spaced from the boat and permitting the formation of a buoy receiving loop of line between the hook and the boat partially in the water, and a hook control cord extending from the hook longitudinally of the boom to a position accessible from the boat for enabling the release of the mooring line from the hook to be effected as desired from the boat, the loop then narrowing.

4. In a boat, a mooring device comprising a boom, mountable so as to project laterally of the boat above water level, a mooring line, a releasable hook device mounted on the boom for releasably engaging the mooring line at a position spaced from the boat and permitting the formation of a buoy receiving loop of line between the hook device and the boat partially in the water, the hook device comprising a hook with a terminal line engaging part, and a hook receiving sheath, the mooring device including hook device control means for causing relative movement between the hook and sheath for enabling positive release of the mooring line to be effected as desired, the loop then narrowing.

5. In a boat, a mooring device comprising a boom, mountable so as to project laterally of the boat above water level, a mooring line, a pivoted hook on the boom for releasably engaging the mooring line at a position spaced from the boat and permitting the formation of a buoy receiving loop of line between the hook and the boat partially in the water, the hook having a terminal line engaging part, a hook sheath being provided for receiving said part on pivotal movement of the hook, and a hook control cord extending from the hook longitudinally of the boom to a position accessible from the boat for enabling said pivotal movement of the hook and consequent release of the mooring line from the hook to be effected as desired from the boat, the loop then narrowing.

6. In a boat, a mooring device comprising a boom, mountable so as to project laterally of the boat above water level, a mooring line, a carriage movable longitudinally of the boom between a position adjacent to the boat and a position spaced from the boat, carriage moving means and carriage securing means both operable from the boat, a releasable hook device mounted on the carriage for releasably engaging the mooring line and accessible from the boat when the carriage is adjacent to the boat, and when at a position spaced from the boat permitting the formation of a buoy receiving loop of line between the hook device and the boat partially in the water, and hook device control means for enabling the release of the mooring line from the hook device to be effected as desired when the carriage is spaced from the boat, the loop then narrowing.

7. In a boat, a mooring device comprising a boom, mountable so as to project laterally of the boat above water level, a mooring line, a carriage movable longitudinally of the boom between a position adjacment to the boat and a position spaced from the boat, a first carriage moving line extending directly from the carriage to the boat and a second carriage moving line, a return member on the boom spaced from the boat, the second carriage moving line extending from the carriage around the return member to the boat, both carriage moving lines being accessible from the boat, carriage securing means accessible from the boat for frictionally engaging at least one of the carriage moving lines, a releasable hook device mounted on the boom for releasably engaging the

mooring line and accessible from the boat when the carriage is adjacent to the boat, and when at a position spaced from the boat permitting the formation of a buoy receiving loop of line between the hook device and the boat partially in the water, and hook device control means for enabling the release of the mooring line from the hook device to be effected as desired when the carriage is spaced from the boat, the loop then narrowing.

8. In a boat, a mooring device comprising a boom, a boom mounting device enabling the boom to be mounted so as to project laterally of the boat above water level, a mooring line, secured at each end to the boat adjacent to the boom mounting device, a releasable hook device mounted on the boom for releasably engaging the mooring line at a position spaced from the boat and permitting the formation of a buoy receiving loop of line between the hook device and the boat partially in the water, and hook device control means for enabling the release of the mooring line from the hook device to be effected as desired, the loop then narrowing.

9. In a boat, a mooring device comprising a boom, a boom mounting device on the boat, the boom and device being pivotally connected enabling the boom to be swung from a stowed position such that it projects laterally of the boat above water level, a mooring line, a releasable hook device mounted on the boom for releasably engaging the mooring line at a position spaced from the boat and permitting the formation of a buoy receiving loop of line between the hook device and the boat partially in the water when the boom is in its operating position, and hook device control means for enabling the release of the mooring line from the hook device to be effected as desired, the loop then narrowing.

10. A mooring device for a boat, comprising a boom, a mooring line, a releasable hook device mounted on the boom for releasably engaging the mooring line and permitting the formation of a buoy receiving loop of line from the boom, and hook device control means for enabling the release of the mooring line from the hook device to be effected as desired, the loop then narrowing.

11. A mooring device for a boat, comprising a boom, a boom mounting device comprising a rest engageable with a part of the boom spaced from the inner end thereof, and a thrust member for overlying a part of the boom nearer to the inner end thereof than that part engageable with the rest, co-acting formations on the boom and mounting device preventing inadvertent removal of the boom from the mounting device, a mooring line, a releasable hook device mounted on the boom for releasably engaging the mooring line at a position spaced from the mounting device and permitting the formation of a buoy receiving loop of line from the hook device, and hook device control means for enabling the release of the mooring line from the hook device to be effected as desired, the loop then narrowing.

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