

UNITED STATES PATENT OFFICE

2,662,501

SMALL BOAT RESTRAINER

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Application January 11, 1951, Serial No. 205,566

7 Claims. (Cl. 114-230)

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My invention relates to a device for keeping a small boat which is tied to a dock or vessel, in a fixed position notwithstanding the pressure of wind, wave or current tending to deflect it.

My device comprises a pair of arms under spring tension, pivotally mounted upon a support secured to a structure to which a small boat is tied, said arms straddling the bow of the small boat and engaging both outer forward sides thereof, the spring tension of each arm serving to resist its displacement by a lateral movement or swing of such boat under the deflecting pressure of wind, wave or current.

The term "small boat" as employed herein comprises yacht tenders, dinghies, row boats, in-board and outboard power boats, usually not exceeding sixteen feet in overall length and more commonly of a lesser overall length. I am not however restricting the invention to application to these sizes of boats, as it may be applied to boats of greater length.

The term "structure" as employed herein and in the appended claims comprises landing and boat floats, sail and power boats, floating craft of any kind, and non-floating docks, bulkheads or other small boat landings.

In the case of yacht clubs not furnishing launch service, the yachts of the club members are usually moored offshore, thus requiring a tender or small boat whereby the owner and his crew may reach the yacht from the shore and may return to the shore. In these instances the yacht club provides so-called dinghy floats to which the tenders are secured when not in use, generally in an orderly manner which leaves clearance between the small boats, to facilitate reaching and leaving the float, as well as to prevent the small boats from chafing each other. Many shore stations provide like service, not only to yacht tenders, but to small boats used for fishing, rowing or sailing, with the same sort of floats to accommodate them when not in use.

In many instances, however, the structure to which the small boats are secured, is located in a position exposed to strong winds or currents, or waves produced by passing craft, which deflect the small boats from their proper, orderly positions and cause them to collide with and chafe against each other to their mutual damage, and in addition such deflection of the small boats closes the initial clearance gaps between them, making access to the structure or egress therefrom, difficult.

A similar situation exists where the boat to which the small boat is a tender, is moored off-

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shore by both bow and stern, as is the case in crowded harbors, where when the tender reaches the moored boat, which is unable to swing to wind or current, it is difficult to secure it at any position on the moored boat whereby repeated impacts of the small boat against the moored boat will not occur, given the condition of wind or current direction at an angle to the keel of the moored boat.

Even in the case where the boat is moored only by the bow, where the condition exists of a strong current running in an angular direction relative to the keel of the small boat and a lighter wind blowing in another direction, the same difficulty exists of avoiding collision between the moored boat and its tender tied to it, as the moored boat, due to its displacement, will lie with the current, and its tender, of light displacement, will lie with the wind.

It is an object of my invention to provide a device which will be secured to the structure to which the small boat is tied which will prevent the deflection of the small boat by reason of pressure of wind, current, wave or otherwise.

It is a further object of my invention to provide such a device which, when not in use may be removed and stowed away.

It is a further object of my invention to provide such a device which when in position will not materially obstruct the deck of the vessel upon which it is mounted.

Fig. 1 is a perspective view of the device mounted on the deck of a structure, showing in broken lines, the forward portion of a small boat to which the device is applied.

Fig. 2 is a partial side elevation of the device in operating position.

Fig. 3 is a partial plan view of the device in operating position.

Referring to the drawings:

A is a fragment of the deck of a structure, in this case, a boat float, B being a side and C the deck thereof. D is the support upon which spring arms E and E' are mounted.

In the embodiment of my invention shown, the support D consists of two upright posts 1 and 2, secured to a base 3, which in turn is secured to deck C. The spring arms E and E', in the device shown, consist of a continuous spring steel rod 4, having a straight section 10 sufficient to span the upright posts 1 and 2, coils 5 and 6 being formed in rod 4 respectively outside of posts 1 and 2. Opposed arms E and E' emerge from coils 5 and 6 in a diverging direction, as best seen in Fig. 3, and then converge, to cross each other

at 7, whence they diverge so as to contact each side of the small boat F indicated in dotted lines in Fig. 1. Said last named divergence of arms E and E' is of a nature which will generally conform to the convergence of the forward sides of boat F, whereby the latter will be gripped by arms E and E' when said boat F is secured to float A.

Posts 1 and 2 are slotted vertically, the slots being designated as 11, to receive the straight section 10 of rod 4. A key pin 12 is inserted in the upper portion of slots 11, which are bored to receive it. Key pin 12 is reduced in diameter and screw-threaded at its outer end as is shown in Fig. 3. Slot 11 in post 2 is inserted the full diameter of key pin 12, while slot 11 in post 1 is bored and screw-threaded to receive screw-threaded end 13 of key pin 12. The opposite end of key pin 12 is formed into a wing 14 to facilitate hand turning. The function of key pin 12 is to keep the straight section 10 of rod 4 in place in slots 11, at the same time, permitting it to be removed on the withdrawal of key pin 12. Key pin 12 also serves as a convenient bar to which to secure the painter 15 of small boat 5.

The height of posts 1 and 2, and of the bottom of slots 11 therein, will be governed by the height of float A relative to the height of the small boats F secured thereto. Usually the deck C of float A is of greater height above the water than the forward gunwales of small boats F, so that, to embrace the forward sides of small boats F, arms E and E' should have a sufficient downward inclination. Such height of posts 1 and 2 may be reduced by mounting them flush or nearly so with the edge of deck C. A further alternative would be to bend down arms E and E' from the points where they contact the edge of deck C. It is preferable that arms E and E' after leaving the edge of deck C should be deflected downwardly and thence upwardly in a gentle curve, as shown in Figs. 1 and 2. The bows of most small boats F are considerably higher from the water than the sections aft of the bow, and the purpose of thus curving arms E and E' is to ensure that they will engage not only the portions of the sides of small boat F immediately adjacent the bow, but several feet of each side aft of the bow.

Arms E and E' are provided, in their boat contacting portions 17, with a guard 16 to avoid chafing the sides of small boat F.

Arms E and E' are pivotally mounted in slots 11. When in position in slots 11, they may fall to the edge of deck C, or they may be raised and dropped to deck C in the opposite direction. It is preferable that they should not be left protruding over the edge of deck C after the small boat F has left the float, as that might present an awkward obstruction to access to float A, and at the same time it is preferable that they should not be left lying on the deck C of float A as that might be inconvenient to those using it. The best out-of-use position of arms E and E' is a vertical one, inclined at an angle of about 45° rearwardly of the edge of float A. This is accomplished by arranging the setting of key pin 12 in slot 11 or post 1 so that when it is screwed home its wing 14 will take that angle, as shown in Fig. 2, and serve as a stop for arms E and E' when they are turned upwards and rearwardly.

Where small boat F is to be secured to a boat moored offshore, as distinct from a float at the shore, support D may be mounted upon the deck,

as shown in the drawings, or on the transom or sides of the vessel. It is preferable in these cases that support D be removably mounted, so that when not in use, it and arms E and E' could be stowed away. This could be accomplished by securing short tracks to the deck, sides or transoms, within which base 3 would slide, with conventional stoppers at the ends of the tracks, or by other means which would occur to one made acquainted with the problem by this disclosure.

Spring steel rod of approximately one-quarter inch diameter should be adequate for small boats, with inboard or outboard motors, of 16 feet in overall length, even in exposed locations.

A spring tension of arms E and E' of 100 pounds should be adequate for such small boats. A length of two feet of arms E and E', measured from posts 1 and 2, for such boats, should be adequate. I am however not in any way limiting my invention to such spring pressures or arm lengths.

On inland lakes and the Great Lakes, where there is no rise and fall of the tide, floating boat landings are not necessary, and in instances the landing consists of a platform hinged to a structure on the shore thus permitting it to be adjusted to the level of the water, which may vary from time to time due to other than tidal conditions; or the boat landing may be a permanently installed dock or bulkhead. It will be understood that the said device may be used upon such non-floating structures to keep the small boats in their proper berths at such docks or landings.

The operation of the device should be apparent from the foregoing description. In the drawings, the small boat is shown to be secured to float A by painter 15 fastened to key pin 12. Such painter could be secured to float A directly. As shown in the drawings, arms E and E' do not secure small boat F to float A, but serve to prevent its lateral displacement, when properly secured to float A, against the deflecting pressure of wind, current or wave. However, the outboard ends of arms E and E' could be secured to the gunwales of small boat F, which would avoid the necessity of tying it to the float by a painter. I am aware of the fact that various fenders, gunwale guards and other expedients have been used to prevent the chafing of colliding small boats at boat floats. Most of these expedients, particularly the continuous gunwale guards, are expensive, and most particularly, are not used by every boat attached to a float, with the result that the owner who provides these guards, frequently has a neighbor who does not. In addition, those expedients do not go to the heart of the problem, which is to keep the small boats in the orderly position intended, leaving clearance between them, so that those approaching or leaving the float in their tenders are not obliged to clear their way of obstructing small boats, but may enter or leave an unobstructed berth.

While I have shown arms E and E' to be provided with coils 5 and 6, such or any coils are not necessary. Rod 4 could be bent, outside of posts 1 and 2, at the proper angle, without forming any coil. Also, it is not necessary to cross arms E and E' as at 7. The crossing shown enables arms E and E' to embrace the forward sides of small boat F closer to the bow.

It would also be possible to make the boat engaging portions of arms E and E' of non-resilient material and to place them under spring pressure, as for example, by connecting them to the

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portions of rod 4 which lie between coils 5 and 6 and the turns 20.

Other changes in the embodiment shown may be made without departing from the invention. I claim:

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1. A restraining device to prevent the lateral deflection of a floating small boat moored bow end to, to a boat landing structure connected to a shore, comprising a support adapted to be mounted on said structure, a pair of opposed arms removably and pivotally mounted on said support for vertical angular motion, said arms being diverged so as to enable said arms to be adapted to straddle the bow and engage the forward opposite sides of the boat to be restrained, and spring means associated with each said arm tending to resist its lateral deflection.

2. A restraining device in accordance with claim 1 in which the said arms, in their boat contacting portions are covered by a guard to avoid chafing the sides of the boat to be restrained.

3. A restraining device to prevent the lateral deflection of a floating small boat moored, bow end to, to a boat landing structure connected to a shore, comprising a support adapted to be mounted on said structure, spring means removably and pivotally mounted on said support, for vertical angular movement, a pair of arms secured to and placed under the spring pressure of said spring means, said arms being diverged so as to enable said arms to be adapted to straddle the bow and engage the forward opposite sides of the boat to be restrained, said spring means being such as to resist the lateral deflection of said arms.

4. A restraining device in accordance with claim 3, in which the said arms, in their boat contacting portions, are covered by a guard to avoid chafing the sides of the boat to be restrained.

5. A restraining device to prevent the lateral deflection of a floating small boat moored, bow end to, to a boat landing structure connected to a shore, comprising a support adapted to be mounted on said structure, a pair of diverging opposed arms and spring means associated with each said arm forming an integral unit fashioned out of a single spring bar, removably and pivotally mounted on said support for vertical angular movement, said spring means comprising two coils formed in said bar, one coil tending to resist the lateral deflection of one of said arms, and the other coil tending to resist the lateral deflection of the other of said arms.

6. A restraining device in accordance with claim 5, in which said arms, in their boat contacting portions are covered by a guard to avoid chafing the sides of the boat to be engaged.

7. A device for restraining small floating boats moored to a boat landing structure, comprising a support adapted to be mounted on said structure, and an integral unit including a pair of arms, spring means controlling the lateral deflection of said arms, mounted removably and pivotally on said support for vertical angular movement, said arms diverging to enable them to straddle the bow of the boat to be restrained and adapting them to engage the opposite forward sides of said boat, the spring means being such as to tend to resist the lateral deflection of each said arm.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,523,715	Rachbauer	Jan. 20, 1925
2,155,043	Gorskey	Apr. 8, 1939
2,387,352	Radick	Oct. 23, 1945
2,501,310	Burke	Mar. 21, 1950