Oct. 30, 1962 G. H. NOLF 3,060,885

DOCKING BAR FOR BOATS

Filed April 2, 1962

FIG. 1.

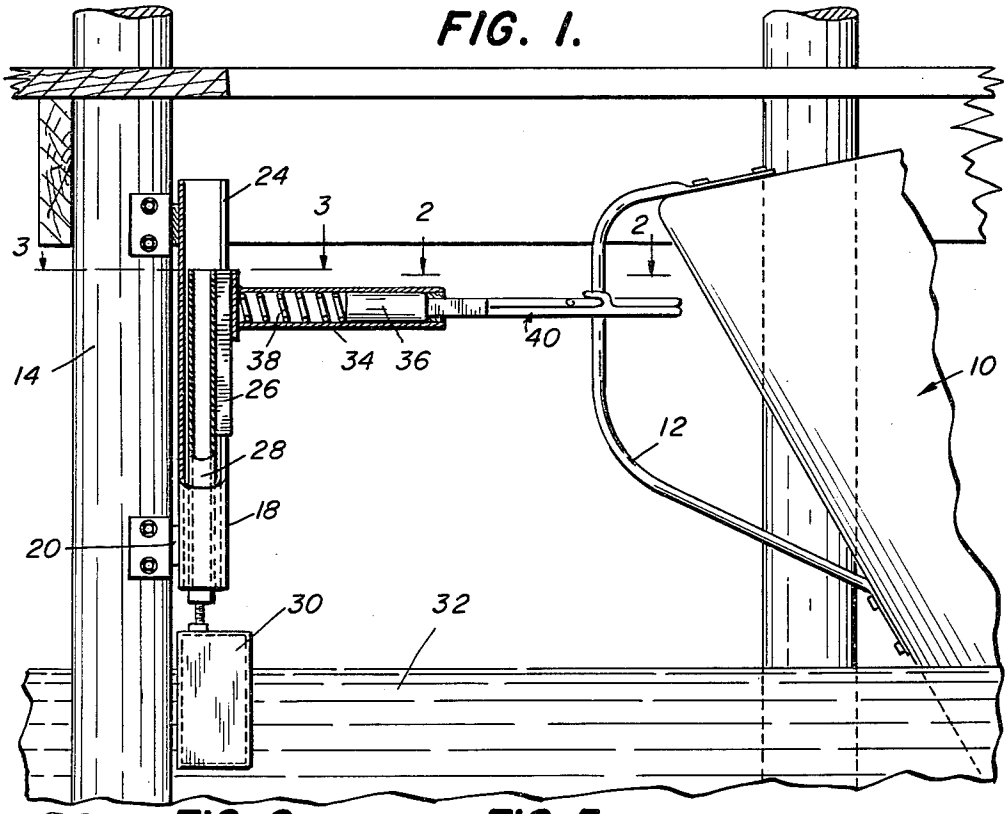


FIG. 6.

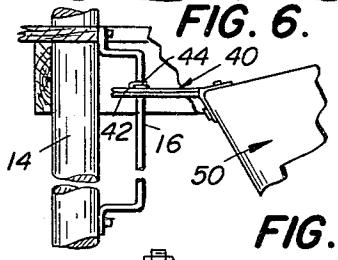


FIG. 5.

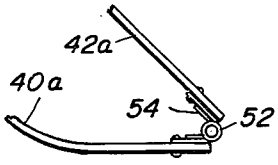


FIG. 2.

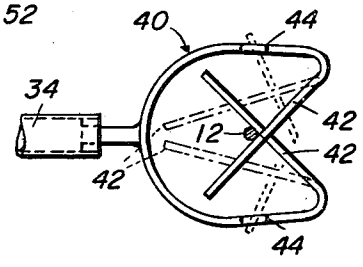


FIG. 3.

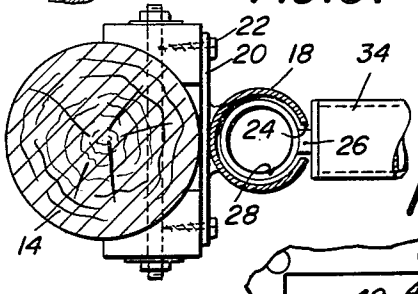
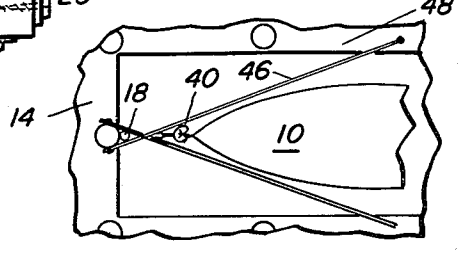


FIG. 4.



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DOCKING BAR FOR BOATS

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3 Claims. (Cl. 114—230)

This invention relates to an improved docking bar for boats, and has for one of its principal objects the provision of a device of the class described which will enable a single operator to conveniently and positively dock or fasten a boat or similar craft in an anchored relationship with respect to a wharf or other mooring place.

One of the important objects of this invention is to provide a one-man docking bar for marine craft which shall be simple in operation, economical of construction and easily operated under all conditions of tide, wind and weather.

Still another important object of the invention is to provide a docking arrangement for water craft of small or medium size, which can be readily applied to a wharf and a boat, or vice versa, in a converse arrangement so that part of the equipment is always on one or the other end without any change in the method of operation.

Still another and further important object of the invention is to provide a docking arrangement for boats which, when the principal portion of the mechanism is installed on the boat, can be retracted so as to be out of the way and practically invisible when not in operation.

Other and further important objects of the invention will be apparent from the disclosures in the accompanying drawing and following specification.

The invention, in a preferred form, is illustrated in the drawing and hereinafter more fully described.

In the drawing:

FIG. 1 is a side elevation, partly in section and parts broken away, of the improved one-man docking bar of this invention, illustrating certain details;

FIG. 2 is a horizontal plan view, taken on the plane of the line 2—2 of FIG. 1, looking in the direction indicated by the arrows;

FIG. 3 is an enlarged section on the line 3—3 of FIG. 1, looking downwardly;

FIG. 4 is a somewhat diagrammatic view, showing the operation of the improved docking bar of this invention and illustrating certain adjuncts;

FIG. 5 is a view, somewhat similar to FIG. 2, showing one portion of the structure and illustrating a slight modification of the invention; and

FIG. 6 is a detail view, showing the essentials of the structure depicted in FIG. 1, but in a reversed arrangement.

As shown in the drawing:

The reference numeral 10 indicates generally a boat or marine craft of practically any normal or general construction, and it is pointed out that the device of this invention can be conveniently used in connection with boats, such as those generally designated as small craft. However, there is actually no real limitation as to size.

In its essentials, the invention comprises a rod or bar 12, which can be mounted on the bow of the boat, as shown in FIG. 1, or which can be fixed onto some part of a wharf 14, as illustrated at 16 in FIG. 6.

Referring now to the embodiment of the invention, as illustrated in some detail in FIG. 1, it will be noted that attached to the wharf 14 is a tubular element 18 fastened in any suitable manner to the piling of the wharf by plates 20 and bolts or screws 22 in any suitable or obvious manner. The tube 18 is provided with a longitudinal slot 24 in its forward face and a key 26 rides in this slot, the key itself being mounted upon or fixed to an internal tube or rod 28, which slidably fits in the outer tube 18.

A float 30 is fastened to the lower end of the tube or rod 28, and the float 30 is so constructed and of such dimensions that it will always ride in the water 32, whereby the tube 28 will be at the proper level above the water regardless of tidal or other conditions.

Fixed upon the key 26 by welding or otherwise is a tube or pipe 34, extending horizontally parallel to the water line and provided with a piston 36 movable therein, said piston or rod being backed by a helical spring 38 inside the pipe or tube 34. The spring 38 provides a cushioning means against any shocks which might occur when the boat 10 is being docked.

As best shown in FIG. 2, a somewhat semi-circular bracket or locking element 40 is fixed on the end of the piston 36, comprising a U-shaped strip of spring steel or the like, which has its outer extremities 42 bent inwardly and crossed to form interlocking arms.

As best shown in the dotted lines 42 in FIG. 2, the boat 10 is securely fastened in position by merely allowing the projecting rod 12 to ride in between the crossed spring arms 42 to such an extent that it passes the adjacent ends thereof, as indicated in the dotted lines, after which the arms will spring back to their normal position in the full lines in FIG. 2.

In order to prevent accidental release of the boat 10 and the bar 12 from the locking element 40 of FIG. 2, integral or other hooks or protuberances 44 are formed thereupon (FIGS. 1 and 2); and if, due to exterior forces, a considerable pulling action is applied to the bar 12, the arms 42 will retract until they strike the hooks or protuberances 44 when a locking action will result and inadvertent or accidental release of the boat will be positively prevented.

In order to more positively assure proper docking and fastening of the boat when operated by a single person and when equipped with the fastening device of this invention, guide lines or shock cords 46 are provided which, however, are optional and which can be fastened to the sides and ends of the slip 48, all as best shown in FIG. 4. This makes docking by means of the apparatus of this invention practically automatic.

Referring again now to FIG. 6, it will be noted that the bar 16 can be fastened to the piling 14, and the locking arrangement of FIG. 2 can be mounted on the boat 50. This eliminates any necessity for the float 20, because the rod or bar 16 can be made of a sufficient height or dimension to accommodate tide variations or other water level changes.

Furthermore, the connecting unit 40—42—44 can be mounted on the boat in such fashion that it can be retracted into a recess in the bow of the boat when the craft is at sea, thereby rendering the same very inconspicuous and eliminating any chance of entanglement or damage by outside objects.

In FIG. 5 a modification of the invention is shown, wherein the original arm 40*a* terminates at its outer end and is, at that point, provided with a hinge 52, which is mounted thereon in combination with a spring 54 and an internal arm 42*a*, which operates in the same manner as the arms 42 and crosses an adjacent arm. This eliminates the necessity of providing a unitary spring arm construction which might not be too feasible in the case of larger constructions.

In order to disengage the moored boat from the fastening device of this invention the operator simply moves the boat forward until the bar 12 contacts the inner periphery of the semicircular bracket 40. Then the two spring arms 42 are brought into the position shown in the dot and dash lines of FIG. 2 whereupon the boat 10 with its bar 12 can be backed out of the mooring device. This is a simple manual operation comprising only a movement of the spring arms 42 by the hands of the operator and

holding the arms in that position until the bar 12 and the boat have been moved slightly rearwardly.

It will be evident that there is provided a very simple but highly effective docking device for boats which, being almost automatic in operation, can be used by a single person, even if said person is the sole occupant of the boat, and the operator does not require the assistance of other persons, either on the boat or on the wharf, for an effective and proper mooring.

I am aware that many changes may be made and numerous details of construction varied throughout a wide range without departing from the principles of this invention; and I, therefore, do not propose limiting the patent granted hereon otherwise that as necessitated by the prior art.

I claim:

1. In a docking mechanism for boats, the combination of: a docking bar having mounting means thereupon for securing said bar to a boat; automatic grasping and holding means for said bar securable to a wharf, said automatic grasping and holding means including an elongated tube on said wharf, a rod slidable in said tube and a cushioning element on said rod, said grasping and holdign means including a semi-circular spring element having inwardly and angularly directed spring arms movable away from each other to allow passage of said bar therebetween, said arms having locking means thereupon to prevent accidental release of said bar; and a float connected to said rod adapted to maintain said spring element at a desired height above the water level.

2. In a docking mechanism for a boat, the combination of: a docking bar having portions securable to a boat;

automatic grasping and holding means for said bar including a tubular mount secured to a wharf, a vertically movable rod in said mount, a shock absorber protruding from said mount and secured to said rod, a spring element on said shock absorber having overlapping crossed-arms engageable by said bar to permit said arms to be displaced by and crossed behind said bar; and a float connected to said rod adapted to maintain said spring element at a predetermined height above the surface of the water.

3. In a docking mechanism for a boat, the combination of: a docking bar having portions securable to a boat; automatic grasping and holding means for said bar including a tubular mount secured to a wharf, a vertically movable rod in said mount, a shock absorber protruding from said mount and secured to said rod, a spring element on said shock absorber having overlapping crossed arms engageable by said bar to permit said arms to be displaced by and crossed behind said bar, said arms having locking means thereupon adapted to prevent the inadvertent displacement of said arms by said bar; and a float connected to said rod adapted to maintain said spring element at a predetermined height above the surface of the water.

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