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BOAT PROTECTIVE DEVICE

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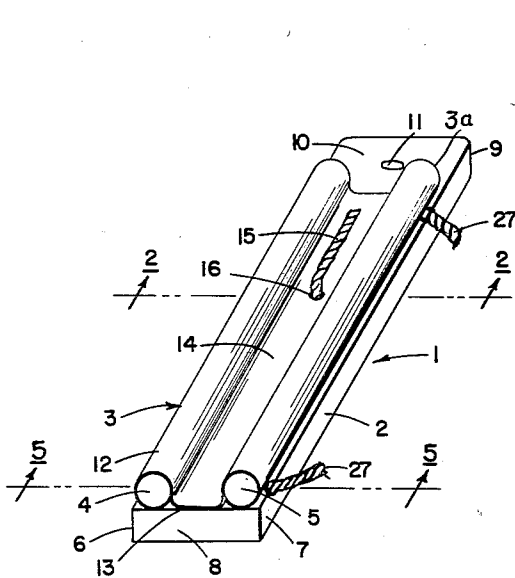


FIG. 1

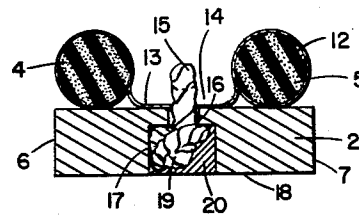


FIG. 2

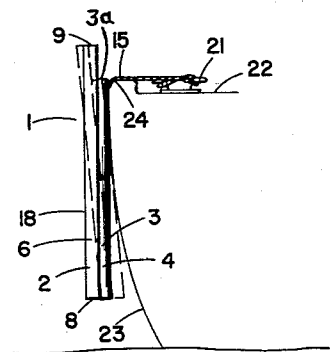


FIG. 3

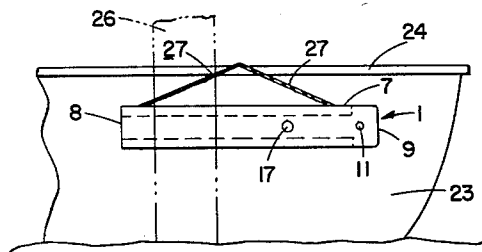


FIG. 4

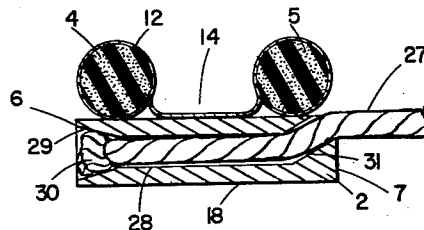


FIG. 5

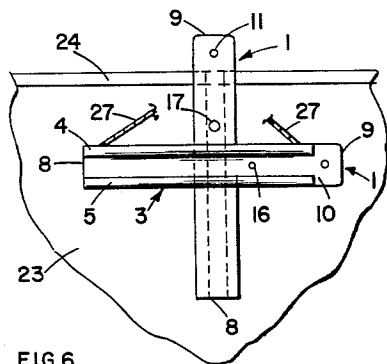


FIG. 6

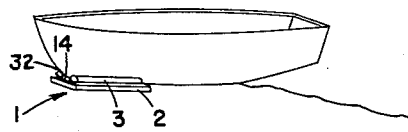


FIG. 7

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BOAT PROTECTIVE DEVICE

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This invention pertains to a boat protective device and more particularly to a device usable both as a bumper and as a support for a boat that has been beached.

Boat bumpers which have been available in the past have had several shortcomings which have resulted in damage to boats with which they have been used. One big problem has been that such bumpers do not protect the entire vertical span of the hull from the water line to the rail at the deck. Also, many boat bumpers do not properly distribute impact forces imposed thereon so that damage can occur to the boat despite the presence of the bumper. In addition, many bumpers tend to scrape along the hull of the boat which may leave disfiguring marks on the paint. Further, there has been no simple means for supporting a boat after it has been beached, and certainly the conventional bumper is useless for assisting as a rest for a beached boat.

Therefore, it is an object of this invention to provide a device usable as a bumper and as a rest for a boat that has been beached.

Another object of this invention is to provide a bumper which will protect the vertical span of the hull above the water line.

A further object of this invention is to provide a boat bumper which will tend to remain fixed with respect to the hull and will not mark or disfigure the hull.

Yet another object of this invention is to provide a boat bumper which can be used in either a vertical or a horizontal position.

A still further object of this invention is to provide a boat bumper which can be suspended in a vertical position without damage to or danger of breaking the rope so holding the bumper.

These and other objects will become apparent from the following detailed description taken in connection with the accompanying drawing in which:

Fig. 1 is a perspective view of the boat protective device of this invention,

Fig. 2 is a transverse sectional view taken along line 2—2 of Fig. 1 illustrating the rope attachment for vertical suspension of the boat protective device,

Fig. 3 is a side elevational view showing the boat protective device suspended vertically along a boat hull,

Fig. 4 is a front elevational view of the boat protective device suspended horizontally,

Fig. 5 is a transverse sectional view taken along line 5—5 of Fig. 1 illustrating the rope attachment for horizontal suspension of the boat protective device,

Fig. 6 is an elevational view showing the cooperation of two boat protective devices used on adjacent boats, and

Fig. 7 is an elevational view illustrating the use of the device of this invention as a boat rest.

Bumper 1 of this invention includes a rigid base sheet 2 constructed of suitable material such as one-inch hardwood. This member may be rectangular in form and is considerably elongated as illustrated. Attached to one flat surface of sheet 2 is a shock absorbing means 3.

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This is made up of two cylindrical resilient members 4 and 5 extending longitudinally of the base along edges 6 and 7 thereof. It is usually preferred to locate members 4 and 5 so that they are flush with end 8 of base 2 but slightly spaced from opposite end 9 thereof. This leaves a small area 10 of base 2 between end 9 thereof and the ends of members 4 and 5 to facilitate handling of the boat bumper. In this area an aperture 11 may be drilled through base to facilitate gripping the bumper when it is to be positioned and used.

Resilient members 4 and 5 preferably are of sponge rubber material, and neoprene has been found to have excellent qualities of resilience, wear and resistance to weather. These resilient members are protected and covered by a rubber-impregnated canvas coating 12. Again, neoprene is desirable as the material for impregnating the canvas. This covering may be constructed in one piece being wrapped around both member 4 and member 5, and including portion 13 adjacent the surface of base member 2. This provides an assembly for the resilient members which are thereby maintained spaced apart and parallel, defining a groove 14 therebetween. Covering 12 is secured to base 2 within groove 14 by suitable means such as brass nails.

For normal vertical suspension of bumper 1 a single rope 15 is attached thereto. This rope is secured to sheet 2 within groove 14 between spaced resilient members 4 and 5. This may be accomplished simply by providing an opening 16 at the longitudinal axis of member 2 which receives the end of rope 15 (see Fig. 2). An enlarged recess 17 extends inwardly from side 18 of sheet 2. The end of rope 15 is provided with a knot 19, the knot being received within recess 17 beneath the surface of side 18 of sheet 2. In obtaining a secure, flush, weather resistant attachment it is preferred to fill recess 17 with a suitable cement 20 around the knotted end of the rope.

It should be observed that the location for opening 16 in which rope 15 is secured is selected so that the rope engages sheet 2 at a position spaced inwardly from edge 3a of resilient means 3. At the same time, this attachment also is spaced outwardly of the center of sheet 2. In a typical example, where member 2 is four inches in width, opening 16 will be spaced three inches from end 3a of the resilient means. The bumper will hang vertically from the rope because the center of gravity of the bumper is located below the point of attachment of rope 15. At the same time, by being relatively close to the end of the resilient portion, the point of attachment will not allow the bumper to rotate about its horizontal axis.

For normal installations the bumper is hung from the side of a boat in the manner illustrated in Fig. 3. Here it may be seen that the upper end of rope 15 is fastened to cleat 21 located on deck 22 of a boat. The bumper then hangs downwardly along hull 23 of the boat, with the shock absorbing means 3 adjacent the hull, and end 3a near the top of the rail 24 of the boat. The rope extends upwardly from its attaching point through groove 14 between the resilient members. This type of attachment not only positions the bumper vertically, but also assures that the rope will not become damaged or broken, and that the bumper will not rotate. In the first place, the rope is protected by the resilient members so that it will not be subjected to abrasion between the bumper and the hull of the boat. Secondly, the attachment of the rope at a point spaced from upper end 3a of resilient means 3 allows the bumper to swing inwardly alongside the hull when an obstruction is encountered. Such movement of the bumper is illustrated in phantom in Fig. 3. In other words, if a force is imposed near the bottom of the bumper, it will cause the bumper to swing to the position shown in phantom. This allows the bumper to

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effectively absorb loads throughout the length thereof without breaking the rope 15 which suspends the bumper. If the rope were attached to upper end 9, for example, a force of any magnitude at the bottom of the bumper would instantly break the rope. Thus, without the attaching arrangement as described herein, the bumper would not be usable for such vertical suspension.

It may be seen that the bumper of this invention provides considerable protection to the boat when it is suspended alongside the boat. Resilient members 4 and 5 act as shock absorbers to dissipate forces imposed on the bumper. Rigid sheet 2 assures that these forces are distributed so that there are no localized stresses imposed in the boat hull from impact with an adjacent object. The smooth outer surface 18 of sheet member 2 means that the bumper will slide on an adjacent object contacted, while the synthetic rubber-impregnated covering for members 4 and 5 provides a high coefficient of friction on the opposite side. Therefore, the bumper tends to remain fixed alongside the hull of the boat, rather than scraping along the hull to leave an unsightly mark. The fact that members 4 and 5 are spaced means that the bumper will not rotate about its longitudinal axis, but will remain stable alongside the hull of the boat.

While the vertical suspension is preferred for normal use of bumper 1, when the boat is tied next to pilings the bumper should be suspended horizontally in order to afford proper protection. Pilings 26 (see Fig. 4) will tend to strike the boat only at the location of the rail at the upper part of the hull so that there is no need for the full vertical protection afforded by the other type of suspension. To permit this alternate horizontal attachment, an additional rope 27 is secured to base 2 and projects from edge 7 thereof. This suspends the bumper in the horizontal position indicated in Fig. 4 where it protects the hull regardless of movement of the boat relative to the piling.

The means for attaching rope 27 to base 2 may be effected by drilling an aperture 28 through the width of the base for receiving the rope, as seen in Fig. 5. This opening is enlarged at end 29 to accommodate knot 30 in the rope. It also inclines at the opposite end portion 31 which causes the bumper to lie close to the hull when suspended horizontally.

The horizontal suspension of the bumper has an additional usage when two boats are tied alongside each other. When this is the case, the bumper on one boat may be suspended vertically while the bumper on the other is suspended horizontally (see Fig. 6) so that the two bumpers cross each other. In this manner, each boat receives maximum protection in both the vertical and horizontal directions without possibility of damage to either boat.

The additional and important use of the bumper of this invention in a beaching operation may be seen in Fig. 7. With the bow of the boat drawn onto the beach, bumper 1 will be located underneath keel 32 at the bow. Keel 32 will be received within groove 14, while the stern is permitted to float in the water. Members 4 and 5 assure that the boat will not rotate or turn sideways, but will be held in proper alignment with the shore. Tying of the boat is unnecessary, and the bumper prevents damage from sand or stones at the beach.

It can be seen from the foregoing, therefore, that I have provided an improved boat protective device which is of universal characteristic, affording maximum protection to the boat yet which is of simple and economical construction.

The foregoing detailed description is to be clearly understood as given by way of illustration and example only, the spirit and scope of this invention being limited solely by the appended claims.

I claim:

1. A boat bumper and support comprising a rigid

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elongated rectangular sheet backing member, a pair of elongated resilient members attached to one side of said backing member adjacent opposite edges thereof, said resilient members being in spaced parallelism and extending longitudinally of said backing member, and a flexible suspension member attached to said backing member at a location between said resilient members and spaced inwardly from one end of said backing member.

2. In combination with a boat, a protective device for said boat comprising a rigid backing sheet of substantially rectangular contour, a duality of elongated resilient members attached to one side of said backing sheet, said resilient members being in spaced parallelism and adjacent opposite side edges of said sheet, a rope interconnecting said boat and said bumper, said rope being attached to said boat adjacent the hull thereof and attached to said bumper at a location between said resilient members spaced inwardly from one end of said backing sheet and above the center thereof, thereby swingably supporting said backing sheet alongside said boat hull with said resilient members in engagement with the said hull, and the longitudinal axis of said backing member in a substantially vertical position.

3. A boat protective device comprising a pair of elongated resilient members in spaced parallelism, said members being spaced sufficiently to receive a boat keel therebetween, a rigid backing sheet interconnecting said resilient members and suspension means for said backing sheet connected thereto between said resilient members and intermediate and spaced from one end and the center of gravity.

4. A boat protective device comprising a rigid elongated rectangular backing sheet, a pair of elongated cylindrical sponge rubber resilient members on one surface of said backing sheet, said members being in spaced parallelism and aligned with and on opposite sides of the longitudinal axis of said backing sheet, a rubber-impregnated canvas covering for said sponge rubber resilient members, said covering interconnecting said resilient members and being secured to said backing sheet thereby to attach said resilient members to said backing sheet, and a rope secured to said backing sheet and extending therefrom at a location between said resilient members and intermediate one end of said backing sheet and the center thereof.

5. A device as recited in claim 4 in which for securing said rope to said backing sheet, said backing sheet is provided with an aperture therethrough interconnecting said one surface and the surface opposite thereto, said aperture being enlarged at said opposite surface, said rope extending through said aperture and being knotted in said enlarged portion.

6. A device as recited in claim 4 including an additional rope projecting from one side edge of said backing sheet for providing means for supporting said sheet in a horizontal plane.

7. A boat protective device comprising an elongated, rigid sheet, a resilient member attached to one side of said sheet, said resilient member defining a groove extending longitudinally of said sheet, and a flexible suspension member attached to said sheet within said groove at a location intermediate one end of said sheet and the center of gravity thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

2,531,967	Bishop	Nov. 28, 1950
2,685,269	Manson	Aug. 3, 1954

FOREIGN PATENTS

122,628	Sweden	Aug. 31, 1948
163,326	Sweden	May 20, 1958