Nov. 22, 1966 R. CARETTA 3,286,680

BOAT FENDER

Filed July 20, 1965

FIG. 2

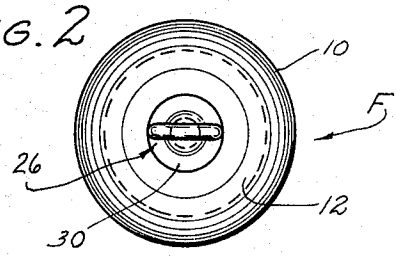



FIG. 4

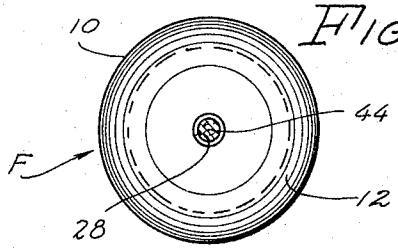



FIG. 1

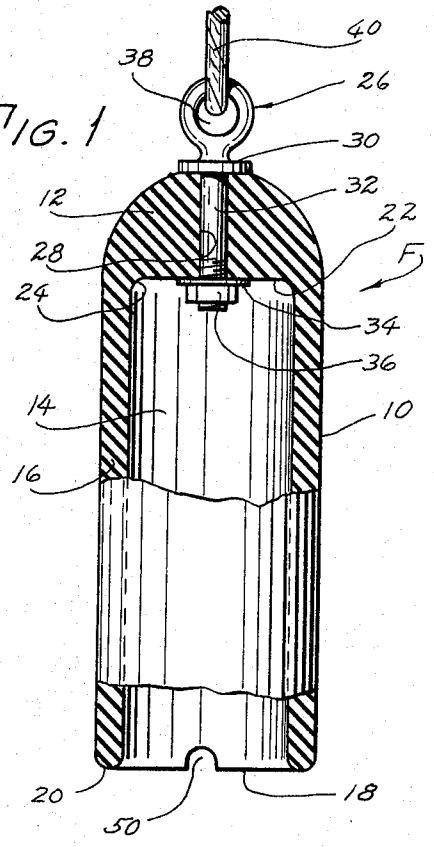
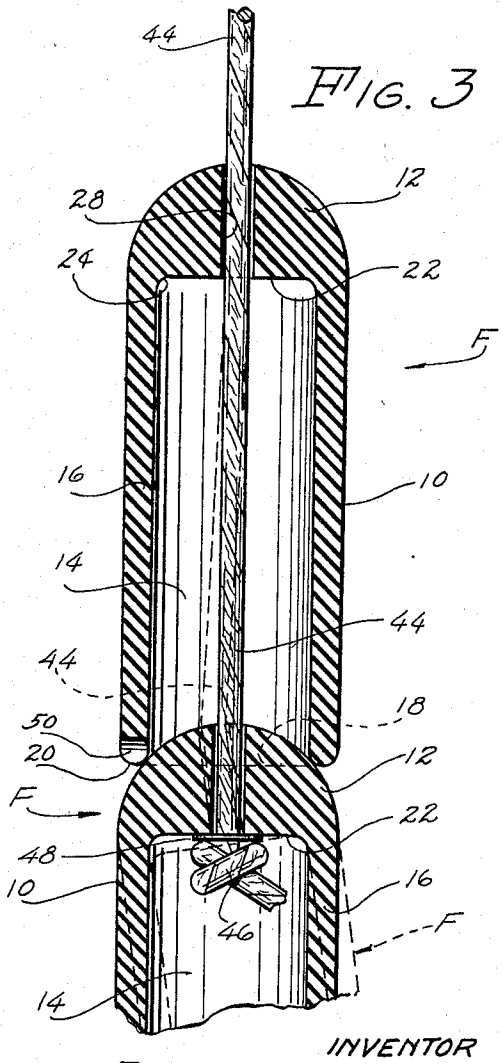



FIG. 3



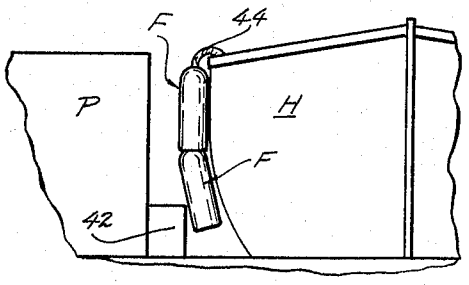




FIG. 5

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# BOAT FENDER

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1 Claim. (Cl. 114—219)

This invention relates to a fender which is used to cushion a boat against shocks and prevent damage to the hull when the boat is moored at a pier.

An object of this invention is to provide a fender of rubber or other resilient or pliable material which will absorb shocks.

Another object is to provide a fender for suspension adjacent a boat hull that will not abrade or otherwise damage the finish of a hull, but will roll thereon.

Another object is to provide a fender unit that will permit the stringing together of several of them, end-to-end axially, thus providing a long fender.

Further objects and advantages of the invention will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawing, wherein an embodiment of the invention is shown. However, it is to be understood that the invention is not limited to the details disclosed, but includes all such variations and modifications as fall within the spirit of the invention.

Referring to the drawing:

FIG. 1 is a partial axial cross section of the fender having means by which it can be hung singly at the side of a boat hull.

FIG. 2 is a top view of the fender of FIG. 1.

FIG. 3 is an axial cross section of a plurality of fender units from which the eyebolt has been omitted, and they have been strung on a rope.

FIG. 4 is a top end view of the fender of FIG. 3, and FIG. 5 is a view of the fenders of FIG. 3 as hung along the hull of a boat.

Referring again to the drawing: The fender F comprises an elongated body **10** of rubber or yieldable plastic, of a cylindrical shape and having a spherical top **12**. Body **10** has a cylindrical bore or cavity **14** surrounded by a skirt or shell **16**, terminating in a lower end **18** defining an annulus having a rounded contour or chamfer **20**. The bore or cavity **14** terminates upwardly in a bottom **22** having a fillet **24**.

One method of suspending or hanging the fender F singly is shown in FIG. 1. An eyebolt **26** is mounted in a hole or aperture **28** which is co-axial with cylindrical body **10**, and has a collar **30** and a shank **32**. A washer **34** and nut **36** secure the bolt **26** in hole **28**. Bolt **26** has an eye **38** to receive a rope **40** whereby the fender F is secured to the boat.

As shown in FIG. 5, it may be that a single fender as shown in FIG. 1 may not protect the hull H from a protruding portion of a pier P or wharf. In this instance several fenders F, from which the eyebolts **26** have been omitted, may be strung on a rope **44** as shown in FIG. 3. A knot **46** in this instance, is made on rope **44** to axially support the lowest fender F. The rope is then inserted in holes **28** of the desired number of fenders F. As shown in FIG. 5, two fenders were found to be ample to protect the hull H. A washer **48** provides a thrust bearing between the bottom **22** of the

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fender and knot **46**, and also permits the fenders to swivel easily relative to each other because of the relationship of the spherical top **12** with the chamfer **20** of the lower edge **18** of the upper fender. It will thus be seen that several fenders assembled as in FIGS. 3 and 5 will conform to the contour of the hull H. Any required number of fenders can be suspended end-to-end so as to protect the full height of the hull.

Another feature of this invention is that the fender F will roll about its axis when the hull H moves parallel to the pier or wharf, and thus there will be no danger of scratching or otherwise damaging the surface of the hull H.

A notch or passageway **50** is provided in the edge **18** as shown in FIGS. 1 and 3 to permit water to enter the bore **14** and displace the air therein and prevent the fender from floating when assembled as shown in FIG. 3: Hole or aperture **28** being of a size to permit air in bore **14** to escape about rope **44**.

In instances where a single fender, such as in FIG. 1 is hung free of the water, the problem of floating will not occur.

The above being a complete description of an illustrative embodiment of the invention, what is claimed as new and desired to be secured by Letters Patent of the United States is:

A fender to be suspended adjacent to the hull of a boat, comprising a plurality of elongated cylindrical bodies of resilient material positioned axially and end-to-end, each of said bodies having an upper spherical end, and a lower end, and being provided with an axial cylindrical bore defining a shell terminating at said lower end in an annulus, said annulus being provided with a downwardly-open notch extending radially thereacross, said bore terminating upwardly in a bottom at a point spaced below said upper end, said body provided with an axial aperture extending from said spherical end to said bottom, a suspension member passing freely through said apertures, said bodies positioned on said suspension member with said spherical end positioned upwardly and with said annulus of each fender resting upon the said spherical end of the adjoining fender, and means to fix the lowermost fender against downward axial displacement relative to said suspension member.

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