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F. J. HOBBS

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BOAT FENDER

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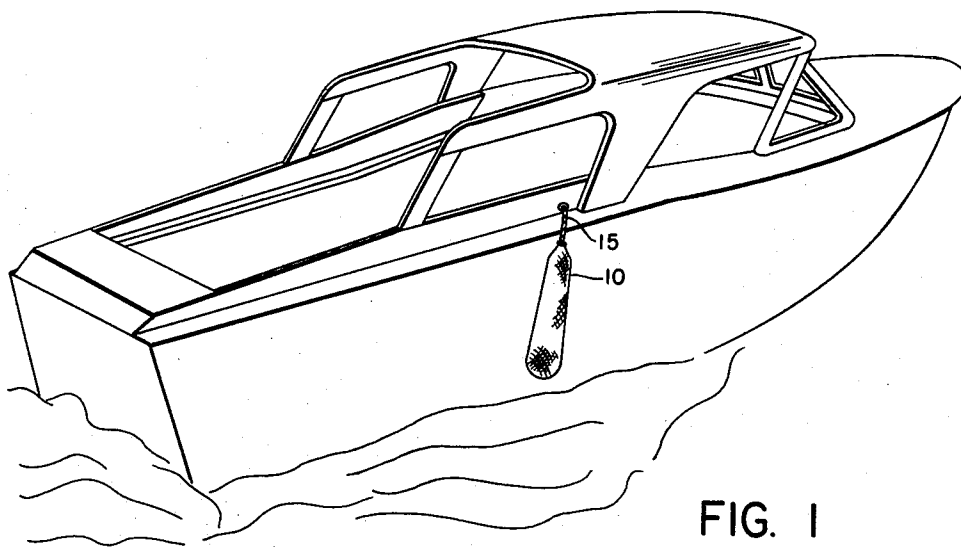


FIG. 1

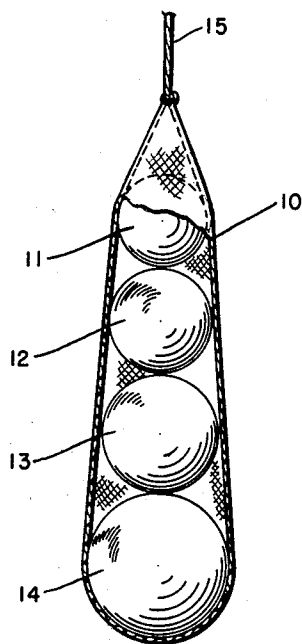


FIG. 2

INVENTOR.
FRED J. HOBBS

BY *Ely, Carner + Gordon*
ATTORNEYS

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BOAT FENDER

Fred J. Hobbs, Sandusky, Ohio, assignor to The Barr Rubber Products Company, Sandusky, Ohio, a corporation of Ohio

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5 Claims. (Cl. 114—219)

This invention relates to a boat fender adapted to yielding fend a boat from docks, adjacent vessels and the like.

The invention involves the concept of constraining a plurality of resilient balls in entrained relationship within a bag or container whereby they may be hung over the side of a boat to resiliently fend the boat from adjacent vessels or docks while at the same time having the ability to roll or track to accommodate pitching, yawing or rolling motion and drifting of the boat without excessive snubbing or rubbing of any of the parts. This is accomplished by a simple device which lends itself to mass production at low cost.

These and other objects and advantages of the invention will become more apparent from the following exemplary disclosure.

One particular embodiment of the invention is shown in the drawings and is described below by way of example.

In the drawings:

Figure 1 is a view of an example of a fender contemplated by the invention hung over the side of a boat.

Figure 2 is a view on an enlarged scale showing the fender of Figure 1, with part of the fender structure broken away to more clearly illustrate some of the details of this particular example of the invention.

The fender will be seen to comprise an elongated bag in the form of a tube, with a train of resilient balls 11—14 contained within the bag. Each of the illustrated balls 11—14 is hollow and is filled with air or other gas, preferably under pressure. These balls may be undecorated but may be otherwise identical with the kind of balls marketed as toys for young children and known in the toy industry as "gas balls." The pressurized gas may be supplemented or replaced in function by a natural or synthetic foam within the ball wall or the resilient balls may be made entirely from porous elastomeric material to comprise what are known in the toy industry as "sponge balls."

The bag 10 is formed of a suitable fabric. In the embodiment contemplated, it consists of an open mesh net of rope or the like. The tubular shape of the bag 10 constrains the balls 11—14 in their entrained relationship. The diameter of the balls progressively increases from one end of the train to the other so that when the fender is in position over the side of the boat, the incline of the side of the boat is accommodated partly or completely. The diameter of the tubular bag also preferably correspondingly decreases and the balls fit fairly snugly in the bag. The tube formed by the bag 10 has a rounded bottom adapted to be filled out by the endmost ball 14

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to provide a fender of neat and trim appearance. The fender is suspended by a line 15 tied or otherwise fastened to the top or closed mouth of the bag 10.

When the boat on which the fender is hung drifts forward or aft while being fended, the one or more of the balls 11—14 that is accomplishing the fending at the moment (together with the enveloping bag) rolls or tracks on the side of the boat and also on the dock or vessel being fended, much as a low pressure pneumatic tire mounted to rotate around a vertical axis would do. Chafing of the bag 10 is minimized by this tracking action. When the boat on which the fender is hung moves vertically while being fended, the ball or balls which are doing the fending at the moment roll around a horizontal axis to again minimize chafing. Pitching, yawing, rolling and the like are similarly accommodated by combinations of the above motions.

The above disclosure may inspire many alternatives in details which will accomplish substantially the same results in substantially the same way. Accordingly, the invention is not limited to all the specific details of the above disclosure.

What is claimed is:

1. A boat fender comprising an elongated bag and a train of resilient balls contained within the bag, the balls being constrained in their entrained relationship by the bag along the longitudinal axis of the bag.
2. A boat fender comprising an elongated bag and a train of resilient balls contained within the bag, the balls being constrained in their entrained relationship by the bag along the longitudinal axis of the bag, the diameter of the balls progressively increasing from one end of the train to the other.
3. A boat fender comprising an elongated bag and a train of resilient balls contained within the bag, the balls being constrained in their entrained relationship by the bag along the longitudinal axis of the bag, the diameter of the balls progressively increasing from one end of the train to the other, said bag having a closed end comprising a rounded bottom adapted to be filled out by an endmost ball in said train.
4. A boat fender comprising an elongated bag and a train of resilient balls contained within the bag, the balls being constrained in their entrained relationship by the bag along the longitudinal axis of the bag, the diameter of the balls progressively increasing from one end of the train to the other, said bag having a closed end comprising a rounded bottom adapted to be filled out by an endmost ball in said train, said endmost ball being the largest ball in said train.
5. A boat fender comprising an elongated bag and a train of resilient balls contained within the bag, the balls being constrained in their entrained relationship by the bag along the longitudinal axis of the bag, the diameter of the balls progressively increasing from one end of the train to the other, said bag having a closed end comprising a rounded bottom adapted to be filled out by an endmost ball in said train, said endmost ball being the largest ball in said train, said bag comprising an open mesh net.

References Cited in the file of this patent

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