

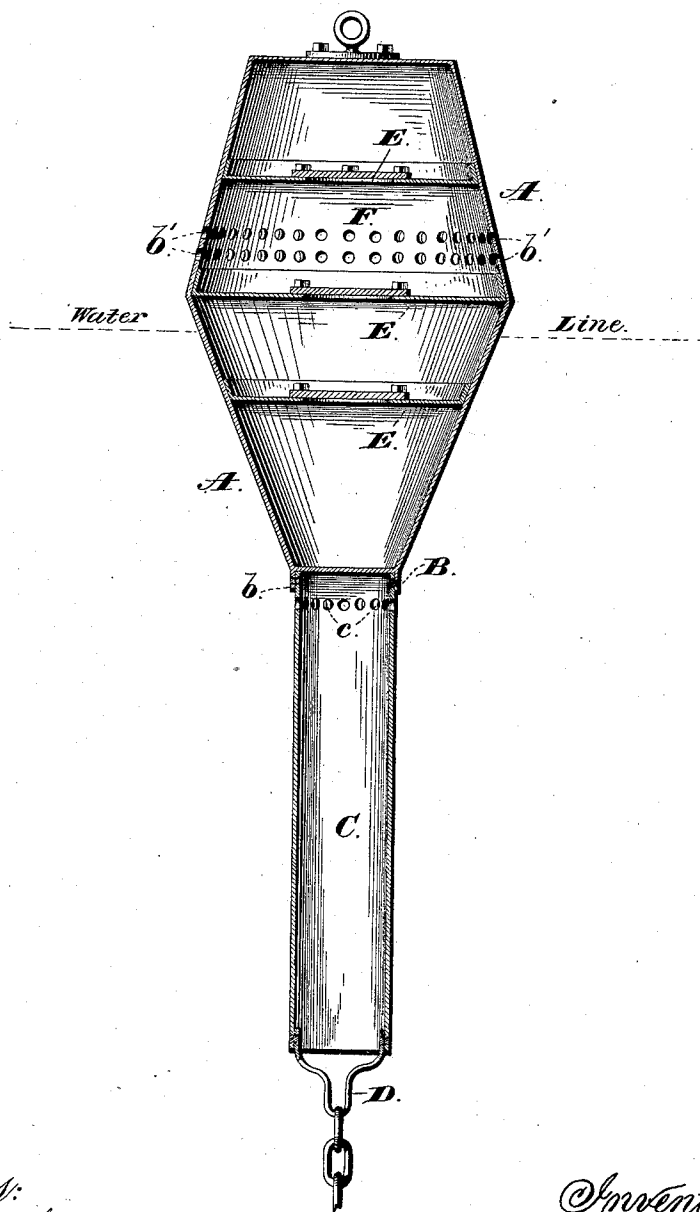
(No Model.)

P. DELANY.

BUOY.

No. 366,077.

Patented July 5, 1887.



Witnesses:
Jas. C. Hutchinson.
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UNITED STATES PATENT OFFICE.

PATRICK DELANY, OF NEWBURG, NEW YORK.

BUOY.

SPECIFICATION forming part of Letters Patent No. 366,077, dated July 5, 1887.

Application filed May 27, 1886. Serial No. 203,436. (No model.)

To all whom it may concern:

Be it known that I, PATRICK DELANY, of Newburg, in the county of Orange, and in the State of New York, have invented certain new and useful Improvements in Buoys; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, in which is shown a vertical sectional view of my improved buoy.

The object of my invention is to provide an improved buoy of such construction that it will not be carried away by ice or floating objects coming in contact with it; and to this end my invention consists in the buoy constructed and arranged as hereinafter specified.

In the drawing, A designates the main part or body of the buoy, which I preferably make of the shape shown—that is, of greatest diameter at or near the water-line and tapering both ways from such point. I prefer to make the buoy-body round, but do not limit myself to such shape. Instead of having the shape of two frusta of cones placed base to base, it can have that of two frusta of pyramids of any desired form. With the body made tapering both ways from near the water-line, I have found that the buoy is least liable to be carried away by ice or contact with floating objects. Any ice or object striking it simply tends to bear it down and submerge it, so that it can remain in place and rise again after the ice or object has passed.

To the lower portion, B, of the buoy-body I attach, as shown, the upper end of the pipe or tube C. Any desired means of fastening can be used for this purpose; but I prefer to rivet the end of the pipe to a flange, *b*, on the lower end of portion B. The lower end of flue or pipe C is left open so as to admit the water, and to it is fastened loop D, to which the anchor chain or cable is to be attached. Such loop is preferably of wrought-iron, and riveted, as shown, to opposite sides of the tube end.

The buoy-body is divided into several compartments by interior horizontal partitions, E E, which can be of any desired number.

To facilitate the temporary submergence of the buoy when ice or any floating object strikes against it, I make a number of holes or open-

ings, *b b*, through the walls of the buoy into the interior chamber, F, which is just above the water-line. With this construction ordinarily, as the buoy floats upright, no water will flow into chamber F; but if ice should strike against the buoy and bear it down the water will rush into and fill the chamber, so as to assist in submerging the buoy. A buoy so made is more easily borne down and submerged by the ice than those heretofore made having all their compartments water-tight. There will then be less strain upon the anchor chain or cable; and consequently less danger of carrying away where my buoy is used than with the buoys heretofore made. As soon as the pressure upon the submerged buoy is removed by the passing of the ice or object engaging it, it will rise and right itself again, so that the water in chamber F will flow out and be discharged through the openings *b b*. The tube attached to and extending down from the body of the buoy serves to give more leverage when the buoy is struck by ice or any floating object, causing it to submerge more easily than without the tube. As the lower end of the tube is open to admit the water, it does not cause the buoy to float too high, as would be the case if the lower end of the tube were closed. To allow for the escape of air from the upper end of the tube, so that the water can rise and fill the entire tube as soon as the buoy is placed in the water, I provide a series of holes, *cc*, in the tube at or near its upper end.

I do not herein claim, or intend to cover by my claims, anything shown or described in my United States Patent No. 325,162. The buoy constructed as described, shown, and claimed in this present application is intended as an improvement on my said patented buoy.

Having thus described my invention, what I claim is—

1. In combination with the main part or body of a buoy, a tube attached to and projecting down from the lower end thereof, having its lower end open to the water, and means for attaching an anchor chain or cable to the lower end of the tube, so as to leave the same open, substantially as and for the purpose specified.

2. In combination with the main part or body of the buoy, a tube attached to and ex-

- tending down from the lower end thereof, and open to the water at its upper and lower ends, and means for attaching the anchor chain or cable situated at the lower end of the tube, so as to be as far as possible below the point at which a floating object would strike the buoy-body, in order to secure easy submergence of the buoy when it is struck, substantially as and for the purpose shown.
3. In combination with the buoy-body, the tube attached to and extending down from such body and leaving its lower end open; and at its upper end one or more openings through its sides, communicating with the water outside of the tube, and means for attaching the anchor chain or cable to the tube, substantially as and for the purpose set forth.
4. In combination with the body or main part of the buoy made tapering both ways from near its water-line, a tube attached to the lower end thereof, having its lower end open to the water, and the loop for attaching the anchor-chain fixed to the lower end of the tube so as not to close the same, substantially as and for the purpose described.
5. The buoy having its interior divided into compartments, and having open perforations or passages through its walls into one of such compartments, substantially as and for the purpose specified.

6. The buoy having its interior divided into several compartments by suitable diaphragms, and having open perforations or passages through its sides into one of the compartments, substantially as and for the purpose shown.

7. The buoy having within several separate compartments, and having open perforations or passages *b' b'* through its sides, communicating with one of the compartments which is normally above the water-line of the buoy, substantially as and for the purpose set forth.

8. The buoy having the portion of its body which is below the water-line in the form of a plane inverted frustum of a cone, and a cylindrical tube of the diameter of the lower end of such frustum extending downward therefrom, and provided with means for attaching the anchor chain or cable to the lower end of the tube, substantially as and for the purpose shown.

In testimony that I claim the foregoing I have hereunto set my hand this 28th day of April, 1886.

PATRICK DELANY.

Witnesses:

ALBERT N. CHAMBERS,
L. W. Y. McCROSKERY.