N. NELSON.

APPARATUS FOR RAISING SUNKEN VESSELS.

APPLICATION FILED AUG. 9, 1909.

963,168. Patented July 5, 1910.

2 SHEETS—SHEET 1.

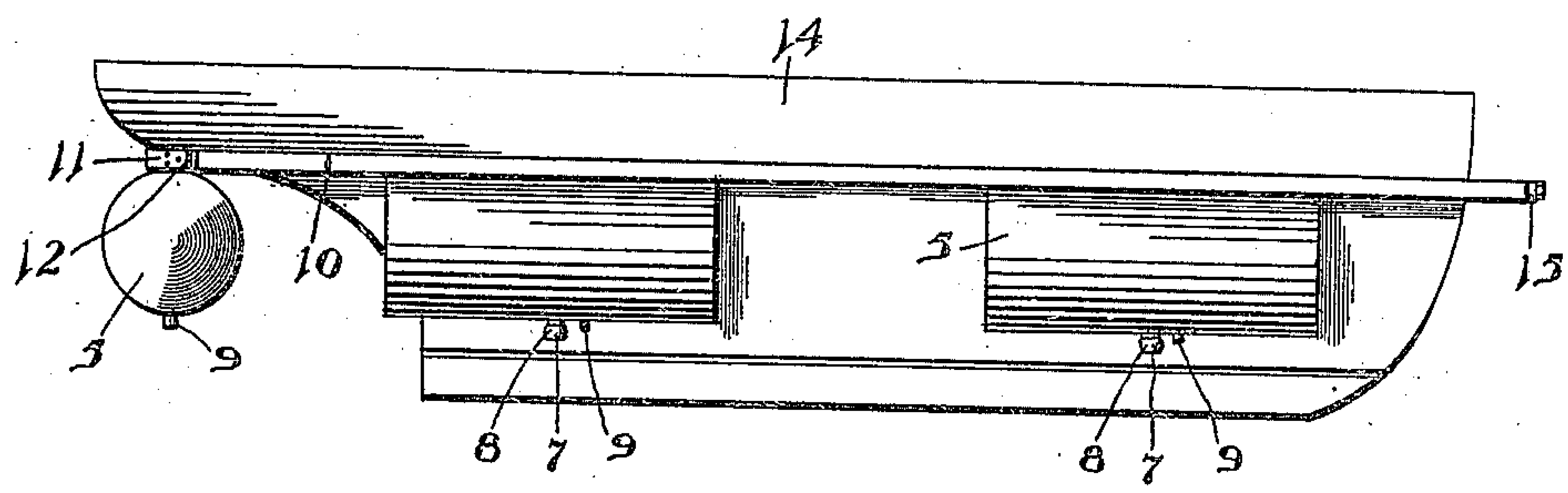

Fig. 1.

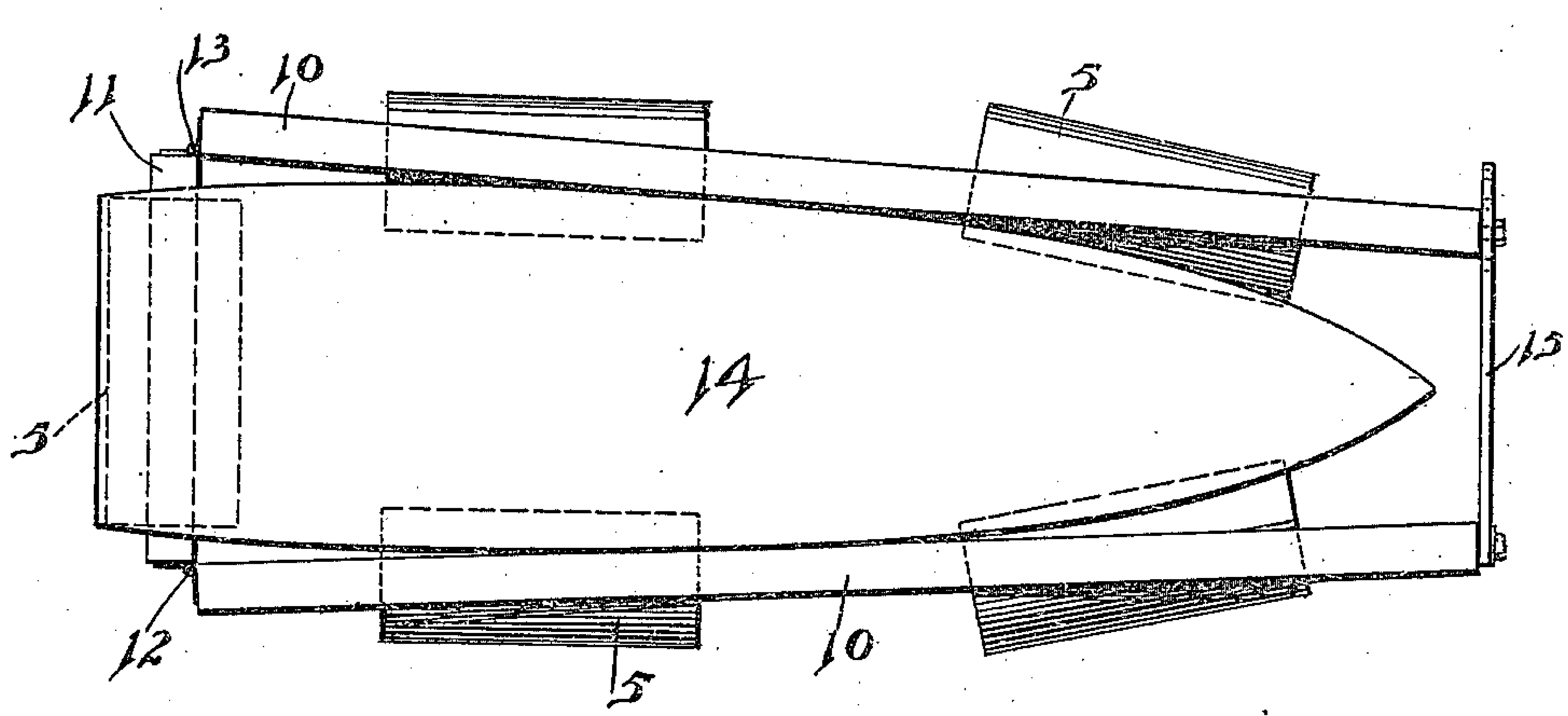

Fig. 2.

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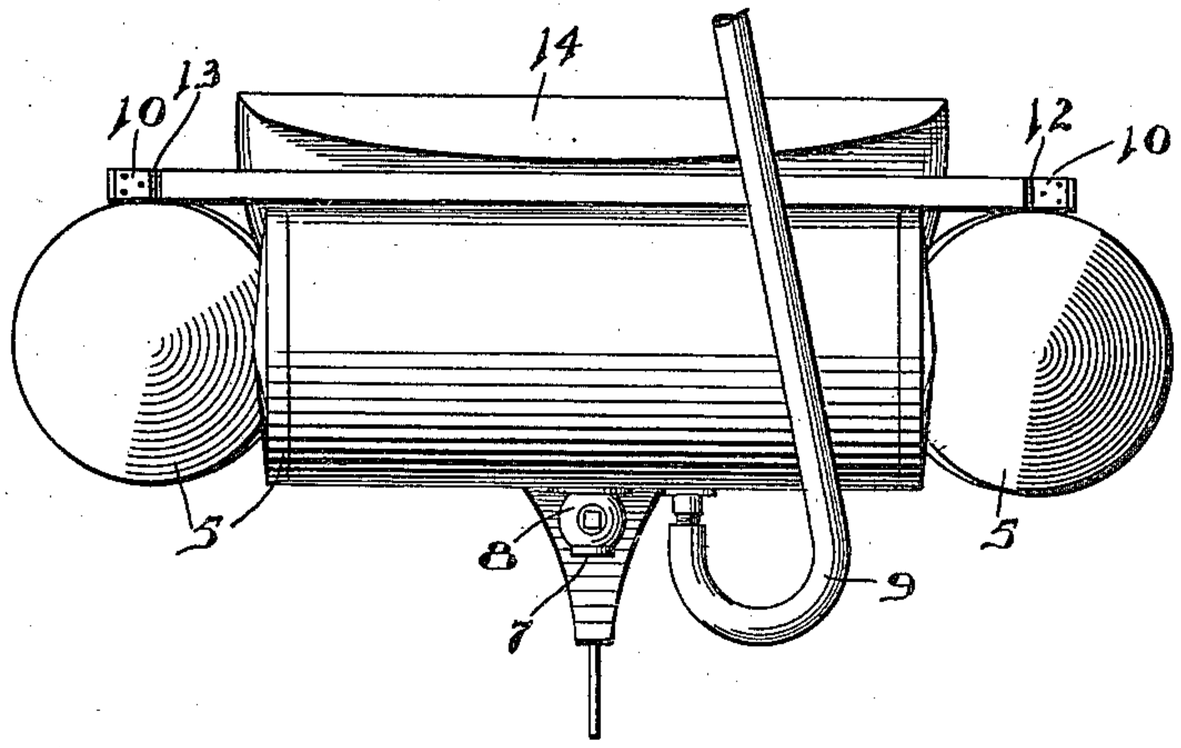

Fig. 3.

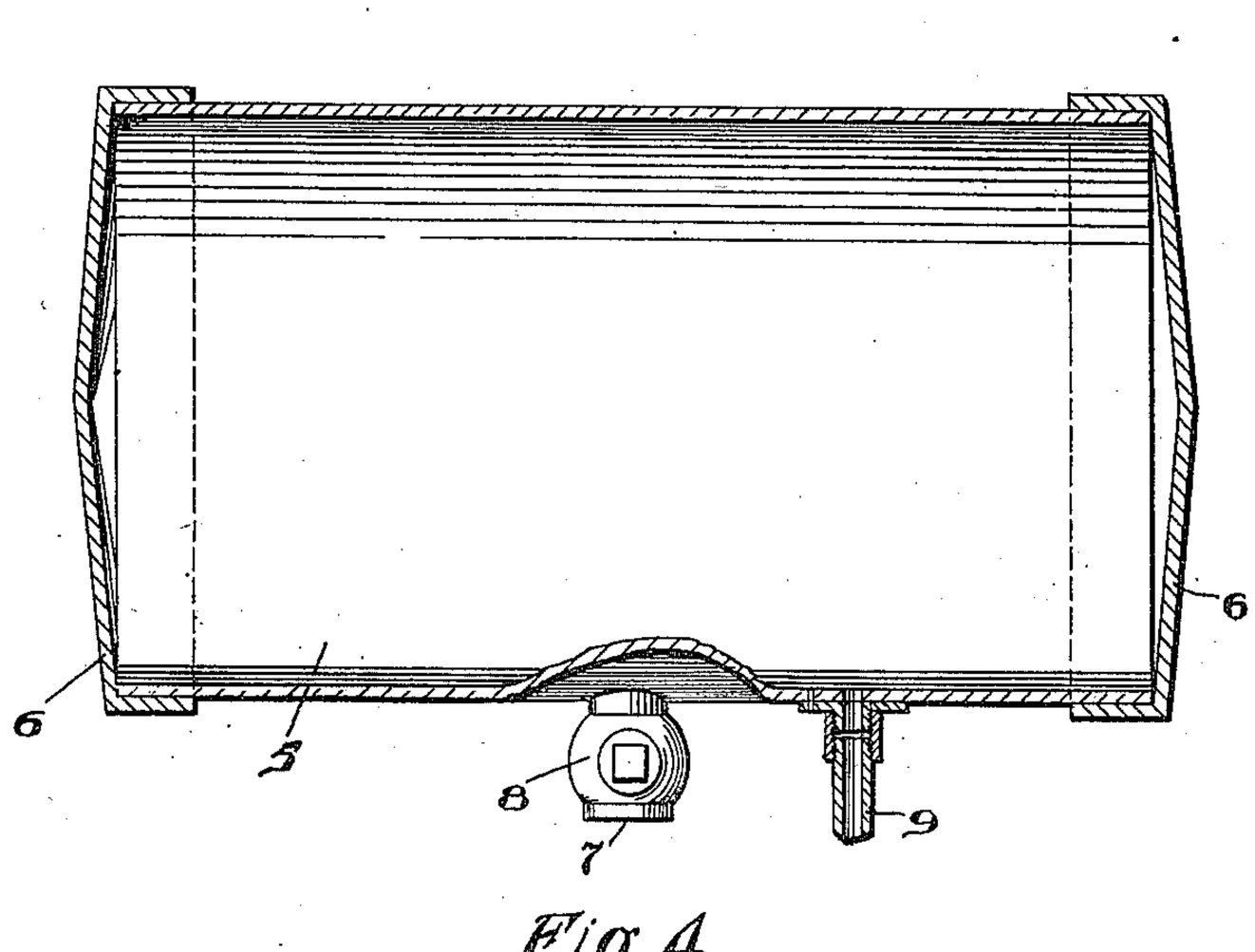

Fig. 4.

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR RAISING SUNKEN VESSELS.

963,168. Specification of Letters Patent. **Patented July 5, 1910.**

Application filed August 9, 1909. Serial No. 511,966.

To all whom it may concern:

Be it known that I, NELS NELSON, a citizen of the United States, residing at Havana, in the county of Sargent, State of North Dakota, have invented certain new and useful Improvements in Apparatus for Raising Sunken Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to submarine apparatus and more particularly to the class of apparatus for raising submerged vessels or preventing the sinking thereof.

The primary object of the invention is the provision of an apparatus of this character in which a plurality of buoys are so connected to permit the same to be arranged about the hull of a submerged vessel so that the latter may be raised to the surface of a body of water.

Another object of the invention is the provision of an apparatus of this character in which suitable buoy elements are provided each of which is adapted to receive water for the submerging of the same and means for expelling or exhausting the water for floating the buoyant element whereby the said element will serve to raise a submerged vessel or other object.

A further object of the invention is the provision of an apparatus of this character which is simple in construction, thoroughly reliable and efficient in operation, and inexpensive in the manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, in detail, illustrated in the accompanying drawings, which disclose the preferred form of embodiment of the invention, to enable those skilled in the art to practice the same, and as pointed out in the claims hereunto appended.

In the drawings:—Figure 1 is a side elevation of a vessel with the invention applied thereto. Fig. 2 is a plan view of the same. Fig. 3 is a rear elevation. Fig. 4 is a sectional view through one of the buoy elements.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

In the drawings, the numeral 5 designates buoy elements which may be of any desirable shape and capacity but are preferably of cylindrical form with flat ends 6 and each of which is provided with a port 7, which permits the filling of the element with water and also the exhaust or discharge of water therefrom for the purpose as will be hereinafter described. This port 7 is controlled by a valve or suitable closure means 8. Leading to each of the buoy elements 5, is an air supply pipe 9, which latter has connection with a suitable air pump or other air supply means (not shown), so that air may be introduced into the buoy element to expel water therefrom after the same has been submerged in a body of water. These buoy elements are suitably attached to a frame structure comprising side beams 10, and end beams 11, the said side beams having one end beam connected thereto by hinges 12, while the other end beam has one end connected by a hinge 13, to one side beam so that the frame structure may be opened to enable it to be closed about the hull of a vessel 14. To hold the frame structure in closed position there is provided a suitable locking device 15. It being understood of course that these buoy elements are arranged at intervals or in spaced relation to each other on the frame structure.

The operation or manner of use of the apparatus is as follows: supposing for example that the vessel 14 is submerged in a body of water and is to be raised. The frame structure is opened and the buoy elements are filled with water which causes the submerging of the said frame structure so that the same may be closed about the hull of the vessel 14 and then the water in the buoy elements 5 is exhausted by pumping air into said elements. The air in the buoy elements will develop full lifting capacity to the same to enable the raising of the vessel to the surface.

It is understood of course that changes, variations and modification in the construction and arrangement of the apparatus may be made such as come properly within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

The apparatus may be employed for the purpose of preventing a vessel from sinking as well as for raising a vessel when submerged.

From the foregoing it is thought the construction and operation of the invention will be clear without the necessity of a more extended explanation and therefore the same has been omitted.

What is claimed is:—

1. In a wrecking buoy, spaced longitudinal side beams, a cross end beam, means pivotally connecting the side beams to the said end beam, buoy elements secured to and depending at intervals from the end and side beams, and means detachably connecting the free end of the side beams to lock the latter and the end beam about the hull of a vessel.

2. In a wrecking buoy, spaced longitudinal side beams, a cross end beam, means pivotally connecting the side beams to the said end beam, buoy elements secured to and depending at intervals from the end and side beams, means detachably connecting the free end of the side beams to lock the latter and the end beam about the hull of a vessel, and means for admitting and exhausting fluid from the buoy elements.

In testimony whereof, I affix my signature, in presence of two witnesses.

NELS NELSON.

Witnesses:
R. B. WITHINGTON,
EDWIN PEDERSON.