J. S. NEUMANN.

DEVICE FOR RAISING SUNKEN VESSELS.

APPLICATION FILED MAR. 25, 1913.

1,116,835. Patented Nov. 10, 1914.

Fig. 1.

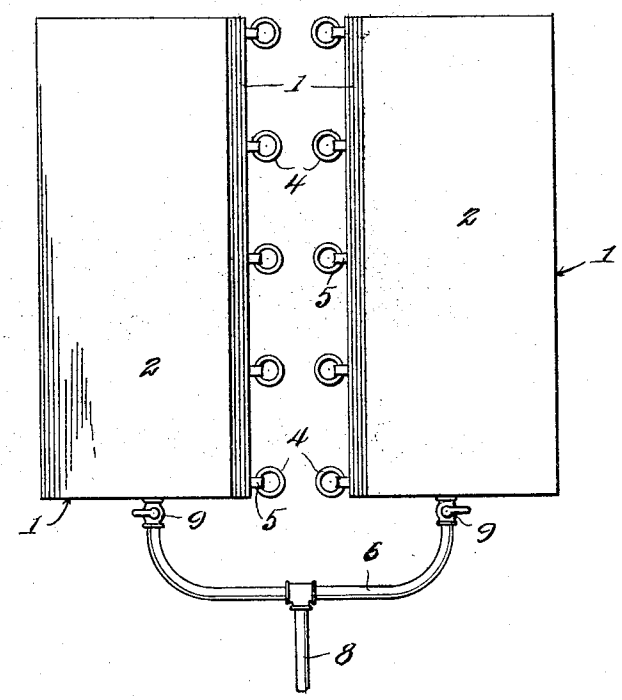
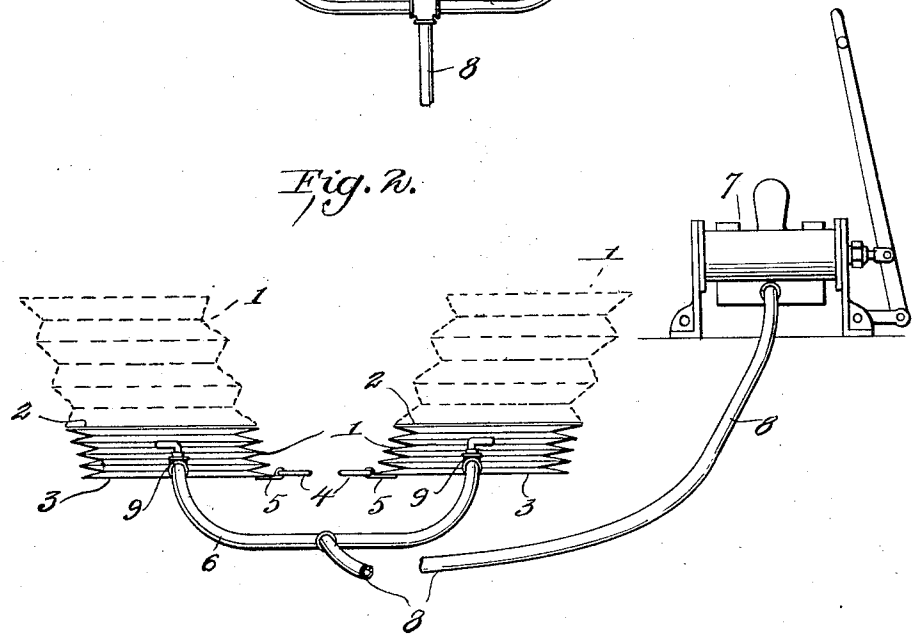


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAKOB S. NEUMANN, OF GREAT FALLS, MONTANA.

DEVICE FOR RAISING SUNKEN VESSELS.

1,116,835. Specification of Letters Patent. Patented Nov. 10, 1914.

Application filed March 25, 1913. Serial No. 756,764.

To all whom it may concern:

Be it known that I, JAKOB S. NEUMANN, citizen of the United States, residing at Great Falls, in the county of Cascade and State of Montana, have invented certain new and useful Improvements in Devices for Raising Sunken Vessels, of which the following is a specification.

This invention relates to a device or means for raising sunken ships or vessels, and more specifically to pneumatically operated means whereby sufficient lifting power may be properly placed beneath a sunken ship to raise it again to the surface of the water.

A further object of the invention contemplates the provision of means including one or more lifting members, adapted to be arranged beneath a sunken vessel in such a novel and peculiar manner as to again float or raise the vessel to the surface of the water.

A still further object of the invention resides in the provision of means whereby a sufficient supply of compressed air may be pumped into the lifting members for effecting the lifting power created thereby.

The above and additional objects are accomplished by such means as are illustrated in their preferred embodiment in the accompanying drawings, described in the following specification and then more particularly pointed out in the claim which is appended hereto and forms a part of this application.

In describing my invention in detail reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a top plan view of a device constructed in accordance with my invention; and Fig. 2 is an elevation, the hose connection being partly broken away.

Proceeding now to the description of the drawings the numeral 1 designates a pair of lifting members constructed in the form of an expansible bag or bellows, reinforced at the top by means of a plate 2 and at the bottom by means of a base 3, the sides and ends being composed of any suitable flexible material capable of expansion during the operation or application of the invention. To the inner edges of the base plates 3 a plurality of uniformly spaced apart rings 4 are connected by means of a like number of connecting links 5, the said rings adapted to be joined by any suitable fastening element such as metallic bands or chains (not shown).

At one end of the lifting members 1 a common intake pipe 6 is connected, the said pipe 6 having connection with a pneumatic pump 7 by means of a flexible hose 8 of any suitable length. By this arrangement it will be seen that by the operation of the air pump 7, sufficient air is forced through the hose 8 and the pipe 6 to expand the lifting members 1, thereby causing the same to rise to the surface of the water. Valves, such as are shown at 9 may be employed in connection with the invention and disposed at the point of connection between the common intake pipe 6 and the said lifting members, the said valves adapted to control the flow of compressed air from the pump 7 to the said members.

In reducing the invention to practice, the entire device including the lifting members and the pump are conveyed by a boat to a point directly over the spot or location of the sunken vessel to be raised. All air is first forced from within the lifting members 1 so as to allow the said members to sink to the bottom of the water body within which the vessel to be raised, is sunk. After sinking the members, one of the said members is arranged upon each side of the vessel to be raised, and if necessary the rings 4 are connected as above described to prevent spreading of the said members. The pump 7 which is secured to the deck of the floating vessel is then operated for forcing compressed air into the lifting members through the hose 8 and pipe 6. The said pump 7 is operated until the members 1 are expanded sufficiently to raise or lift the sunken vessel, beneath which they are placed, to the surface of the water, where they are retained until the damaged vessel is repaired sufficiently to float unassisted.

It will be seen from the above taken in connection with the accompanying drawings that the operation of the device or apparatus is extremely simple; that the valves 9 may be closed for retaining the compressed air within the lifting members after the pump 7 is inactive; and that vessels of any size may be cheaply and quickly raised or floated between a device of this character constructed as above.

It will be understood that the above description and accompanying drawings com-

prehend only the general and preferred embodiment of my invention and that various minor changes in the details of construction, proportion and arrangement of parts may be made within the scope of the subjoined claim, without sacrificing any of the advantages of my invention.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

A device for raising sunken vessels including a pair of inflatable accordion-like ballast members, said members being adapted to be disposed with their adjacent sides extending into diverging relation to engage and to conform at all times approximately to the configuration of the hull of the vessel acted upon, means connecting the respective members at their base, and means connected to each member at its base to provide for gradual inflation, the said members during inflation, extending upwardly upon the sides of the vessel from the keel thereof until sufficiently inflated to elevate the vessel acted upon, as and for the purpose set forth.

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

JAKOB S. NEUMANN.

Witnesses:

A. H. GRAY,

B. M. BJORKLUND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."