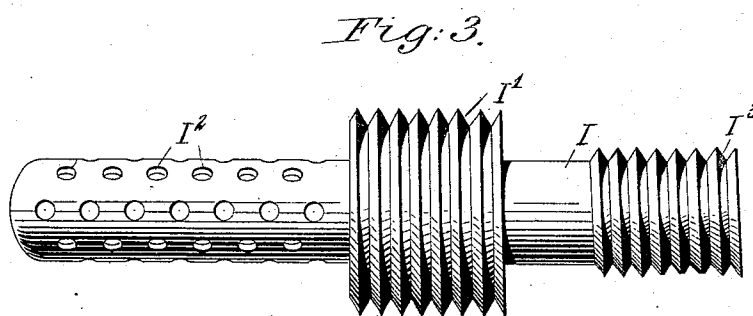
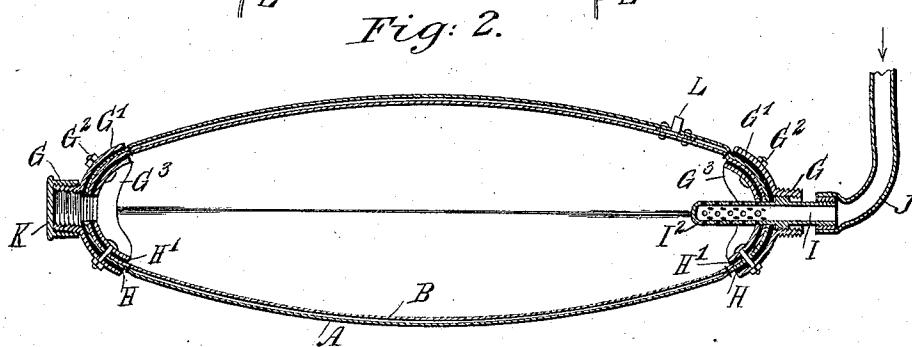
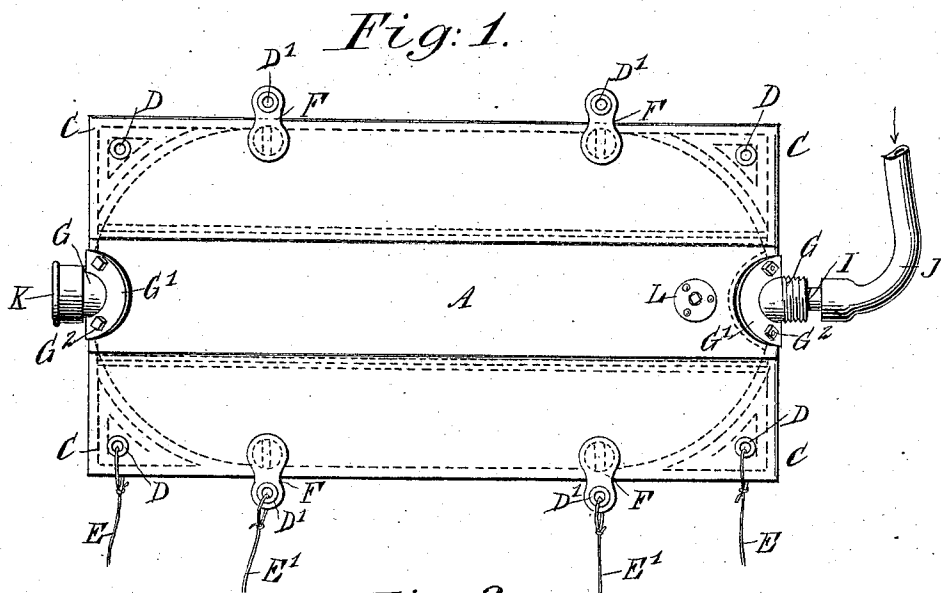


(No Model.)

J. R. GRANT.
RAISING SUNKEN VESSELS.

No. 576,052.

Patented Jan. 26, 1897.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN RODNEY GRANT, OF NEW YORK, N. Y.

RAISING SUNKEN VESSELS.

SPECIFICATION forming part of Letters Patent No. 576,052, dated January 26, 1897.

Application filed July 30, 1895. Serial No. 557,591. (No model.)

To all whom it may concern:

Be it known that I, JOHN RODNEY GRANT, of New York city, in the county and State of New York, have invented certain new and useful Improvements in Raising Sunken Vessels, of which the following is a full, clear, and exact description.

The invention relates to raising sunken vessels by means of inflated bags in the hold of the vessel.

The object of the invention is to provide certain new and useful improvements in such bags and the parts attached thereto, to permit of inflating the bags to any desired degree, without leakage of air or danger of bursting the bags or closing the air-inlets of the bags by the folds of the latter.

The invention consists principally in a bag having an outer shell of a heavy fabric and an interior lining of a closely-woven fabric.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement. Fig. 2 is a sectional side elevation of the same inflated, and Fig. 3 is an enlarged side elevation of the air-distributor.

The bag employed is provided with an outer shell A, made of heavy cotton or linen duck, and of an interior lining B, made of a closely-woven fabric, such as feather-ticking, linen or cotton dressed drilling, or like material, the lining B and shell A being securely fastened together by lapped seams, reinforced and triple stitched, with the seams placed alternately either lengthwise or crosswise of the material. Each end seam is flat, lapped and stitched the same as the side seams, and each corner C of the bag is stitched solid with many rows of stitching running through the four thicknesses of the lining B and shell A, the inner row of stitching being segmental, so that when the bag is inflated it assumes an oval shape, as indicated in Fig. 2.

In each corner C is clenched or otherwise fastened a brass gromet D for holding a string, rope, or like device E and for securely

fastening the bag in place on staples or other parts of the ship to hold the bag in proper position. On the sides of the bag are secured by rivets or staples lugs F, made of cloth, leather, or like material, and each containing a gromet D', similar to the gromet D and likewise adapted to receive a string or rope E' for fastening the bag to a part of the ship to hold the bag in place.

On each end of the bag is arranged an inlet G, provided with a curved flange G', fitting on the outside of the shell and connected by bolts G² with a similar flange G³, fitted against the inside of the lining B opposite the flange G'. A rubber gasket H is placed between the shell A and the flange G', and a similar gasket H' is placed between the flange G³ and the lining B, and the bolts G² pass through the thicknesses of the material, as well as the gaskets, to securely unite the flanges to the bag and to render the flange air and water tight. The inlet G is formed with an exterior screw-thread and an interior screw-thread, as plainly indicated in Fig. 2, the inner screw-thread being engaged by threads I', formed on an air-distributing pipe I, extending with its inner perforated end I² beyond the flange G³ into the interior of the bag, while the outer end of the said pipe I is adapted to receive on its screw-threads I³ a coupling of a tube J for conducting the air for inflating the bag to the pipe I. If only one of the air-distributing pipes I is used, then the other one is closed by a cap K, as indicated at the left in Figs. 1 and 2. Now it will be seen that by the arrangement described the air-distributing pipe I is not liable to be closed by folds of the bag and prevent the proper entrance of air to the interior of the bag, owing to the perforations in the inner end of the said pipe. Thus should the end of the pipe be closed the air can readily pass through the perforations to the interior of the bag to fill and inflate the latter.

A spit-cock L is arranged on the bag and extends through the shell A to the lining B, to permit any water that may pass between the shell A and lining B to pass out of the same whenever the bag is inflated.

It is understood that it is of very great importance in raising sunken vessels that a bag placed in position on the vessel should be

quickly inflated. Otherwise the vessel is liable to list, and consequently cannot be raised and properly floated. Hence the air-distributor or pipe I by being arranged in the manner described will always permit of readily inflating the bag, so that all the bags on the vessel are uniformly inflated, and consequently a proper raising and floating of the vessel takes place.

By constructing the bag with an inner lining of a closely-woven fabric any chafing is prevented by the outside shell, and at the same time a bag is produced of such durability and strength that it will readily withstand the rough usage to which it is put and the heavy pressure of air passing into it. Bursting of the bag is by this construction entirely prevented, and consequently a proper raising of a vessel is insured.

It is understood that when the bags are placed in position in the hold of the vessel and are inflated they displace the water from the inside of the vessel and restore to the latter its original buoyancy and cause it to rise to the surface of the water.

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

1. A bag for raising sunken vessels, said bag having an inlet-orifice internally threaded and an inlet-tube, the same having its inner

end perforated and having near its outer end an enlarged and externally-threaded portion fitting within the inlet-orifice whereby the tube is secured in place, substantially as described.

2. A bag for raising sunken vessels, the bag having an inlet-orifice, and a reinforce-plate secured over said orifice, the reinforce-plate having a nipple alining with the inlet-orifice in the bag, said nipple being internally and externally threaded, said external threads adapted to receive a cap, substantially as described.

3. A bag for raising sunken vessels, the bag being composed of an inner and outer shell of fabric and the bag having an orifice, two reinforce-plates respectively secured to the inner and outer sides of the bag and having orifices matching with the orifice in the bag, a rubber gasket for each reinforce-plate, the gaskets being respectively interposed between the plates and the adjacent shells, means for pressing the reinforce-plates toward each other, and a boss formed on the outer reinforce-plate and surrounding the opening therein, substantially as described.

JOHN RODNEY GRANT.

Witnesses:

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