

*T. C. McKeen,
Raising Sunken Vessels.*

N^o 26,856.

Patented Jan. 17, 1860.

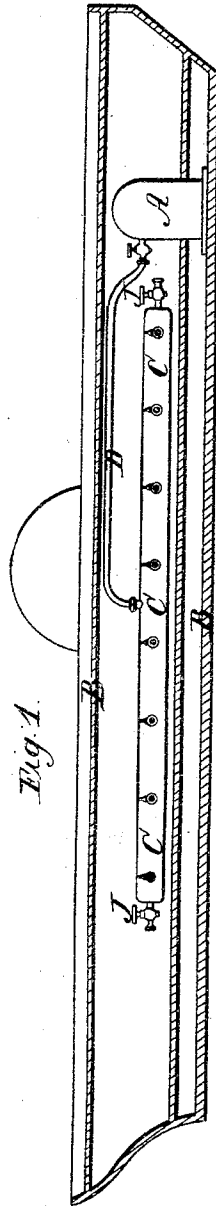


Fig. 1.

Fig. 3.

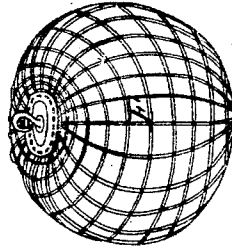
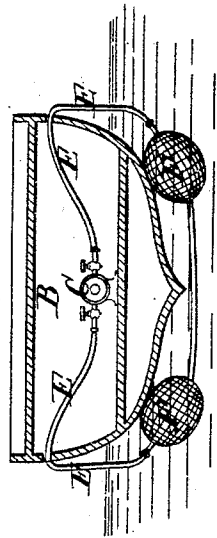


Fig. 2.



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UNITED STATES PATENT OFFICE.

T. CATO McKEEN, OF NASHVILLE, TENNESSEE.

BUOYING SHIPS.

Specification of Letters Patent No. 26,856, dated January 17, 1860.

To all whom it may concern:

Be it known that I, T. CATO McKEEN, of the city of Nashville, in the county of Davidson and State of Tennessee, have invented a new and Improved Mode of Elevating Ships or Boats; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents my apparatus applied to a boat shown in longitudinal section. Fig. 2 is a transverse section taken through the boat exhibiting the buoys arranged under the same. Fig. 3 is a view of one of the buoys.

Various means have been essayed for excavating, and washing away the sand bars which occur very frequently in the beds of rapid running rivers, such for instance as the Mississippi, the Ohio, and other rivers on our continent, and which are great hindrances to navigation besides being the cause of much loss of life and property, but such devices have been found totally inefficient in remedying the evil, for so long as the rapid currents continue these barriers will be found, and the evils attending them be in vogue.

My invention has for its object the remedying of these difficulties without disturbing sand bars, or without the employment of excavators or what are denominated "camels," which are sometimes used to carry boats over the bars, or for elevating sunken vessels, docks, &c., the construction and operation of which are understood by those conversant with the art to which my invention pertains; and it consists in furnishing the vessel of whatever description with a strong metallic vessel of a suitable capacity which will serve to contain condensed air. The air is to be forced into this vessel by suitable air pumps operated by the engine or by manual power, before the vessel starts on her voyage or any time during the voyage, so that the condensed air will be ready for use at the appropriate time. With this vessel is connected a strong pipe or main, and to this main are attached, at the required intervals along its line, branch pipes, of any flexible material found best adapted to the purpose, which communicate with bags, or buoys hereinafter described; and it further consists in connecting with these bags, cords or chains which are attached to

the sides of the vessel and arranged in such a manner that these buoys can be thrown over the stem and stern, and be brought under and near the keel while in an uninflated state, and while in this situation can be inflated simultaneously so that the vessel may be elevated horizontally, and in a few minutes, so as to decrease the draft sufficiently to permit it to float over the bar, or whatever may be the obstacle in its course, in perfect safety.

The accompanying drawings forming a part of this description will suffice to illustrate the general features of my invention but in making them, the form and proportions of the apertures, as will be adopted in practice are not preserved.

In these drawings, A represents a vessel which may be concealed in the hold of the vessel, B, or placed in a suitable situation on deck. This vessel is to contain the condensed air for inflating the buoys and this air is supplied to the vessel, A, by suitable air pumps.

C is a main which communicates with the vessel, A, by means of a pipe, D. Attached to this main pipe, C, on either side of it, and at suitable distances along its line are flexible branch pipes, E, these communicate respectively with the bags, F, which when inflated serve the purpose of buoys or floats, and when not inflated can be packed away in a very compact compass. These bags consist of cotton canvas, coated with gum elastic and of multiplied thickness until the required strength is attained to bear inflation with atmospheric air obtained from the vessel, A. In order to complete the strength of these floats, and to prevent their injury from contact with the surface of the vessel I cover them with strong cordage, which is knit around them similar to the netting on balloons, and which is wrought on rings at the bottom and top of the bags; to the bottom rings are fixed hooks provided with springs for securing the bags down to their places on the sides and close to the keel. The hose or flexible pipe is attached at the tops of the bags by strong metallic coupling. The form of buoy best adapted for the purpose may be round, square or cylindrical and of the size to meet the necessity of the case.

The modes of placing the buoys under the vessel are very various, but the plan adopted by me is to use a rope or cable, G, multiplied

between two rings to pass under the ships
bottom from one gunwale to the other.
These are so constructed and matted by
cross layers as to make the buoys press
5 singly and uniformly on the sides of the
vessel.

J, J are cocks on either end of the main,
C, for the escape of the air from the buoys
when they are to be packed away after they
10 have been inflated and used.

In describing the operation of my inven-
tion we will suppose my apparatus to be
applied to a steamboat, and it is approach-
ing a sand bar which lays in its course, and
15 it is desirable to cross this bar, upon which
the water may be only a few feet deep. The
bags are, therefore, thrown over the sides of
the boat and secured under each side and
near the keel. The air which has previously
20 been condensed, and which is contained in
the vessel, A, is suddenly let into the main
pipe, C, from whence it rushes through the
pipes connecting with the bags, and inflates
them all simultaneously, and elevates the
25 vessel sufficiently to permit its safe passage
over the bar; the air can then be let out of
the bags by opening the cocks, J J, and the
bags themselves drawn into the vessel and
packed away for further use, without ever
30 stopping the speed of the vessel, or taking it
out of its course.

My apparatus would be exceedingly use-
ful in saving a vessel from foundering in the
event of its becoming damaged by collision,
or being "stove in" from any cause, for the
35 bags may be made to possess sufficient buoy-
ancy to keep the vessel afloat until the leak
is remedied.

I am aware that in raising sunken vessels
bags and other vessels for containing air
40 have been sunk alongside of the wreck, and
the water pumped out so as to raise the
wreck; and I am aware that bags have been
sunk under water and then filled with air
by means of force pumps, for raising sunken
45 objects and therefore I disclaim these as
constituting a part of my invention; but

What I claim as new, and desire to secure
by Letters Patent, is:—

The arrangement of the longitudinal main
50 C, running fore and aft the vessel, when em-
ployed in combination with the air reservoir
A, central conducting pipe D, lateral branch
pipes E, and bags F, as shown, so that the
bags may be simultaneously inflated on both
55 sides and along the whole length of the ves-
sel as set forth.

T. CATO McKEEN.

Witnesses:

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