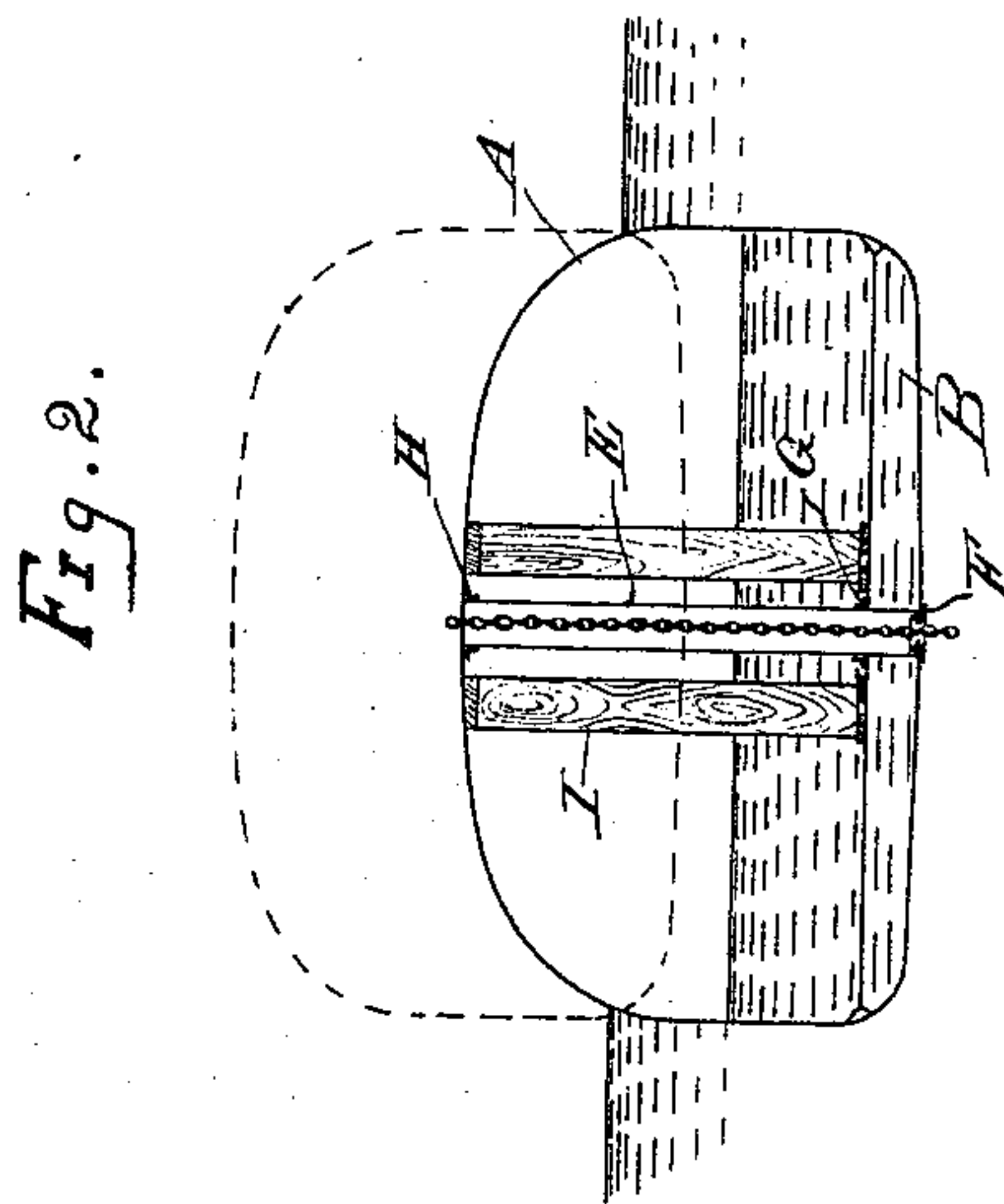
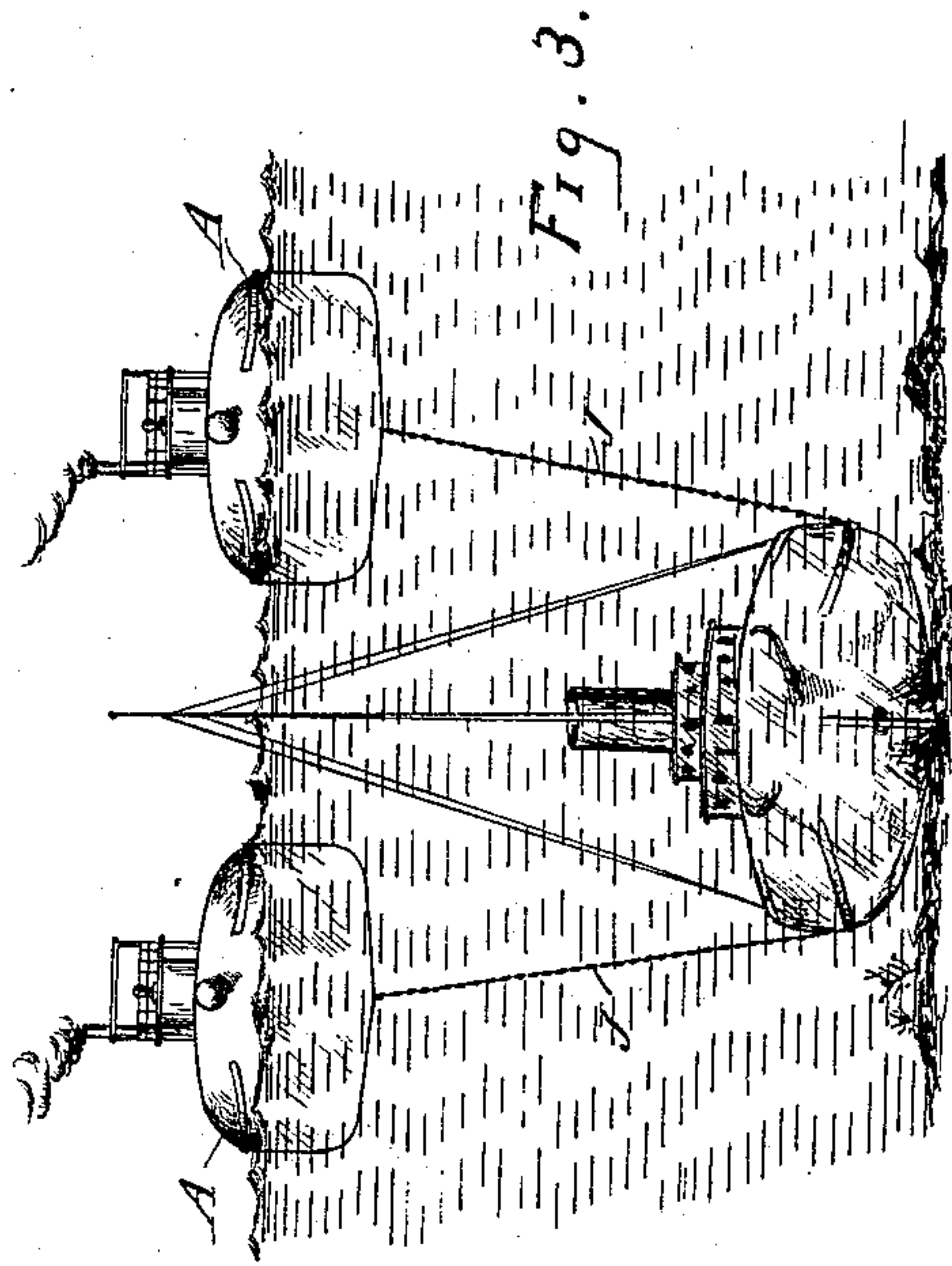
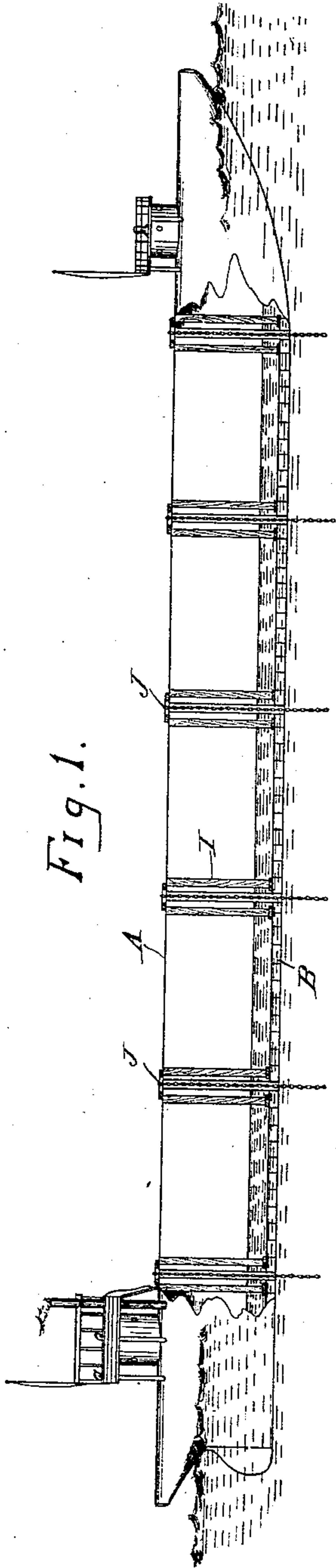


(No Model.)

A. McDOUGALL.
WRECKING BOAT.

No. 488,574.

Patented Dec. 27, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

ALEXANDER McDOUGALL, OF DULUTH, MINNESOTA.

WRECKING-BOAT.

SPECIFICATION forming part of Letters Patent No. 488,574, dated December 27, 1892.

Application filed September 17, 1891. Serial No. 406,011. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER McDOUGALL, a citizen of the United States, residing in Duluth, county of St. Louis, State of Minnesota, have invented certain new and useful Improvements in Wrecking-Boats; and I do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to
10 which it appertains to make and use the same.

My invention relates to various new and useful improvements in wrecking vessels, that is to say, a vessel adapted to be used in raising sunken wrecks, removing rocks, snags,
15 &c. I propose to take one of the improved tow boats or steam tow boats, invented by me and described and claimed in various Letters Patent and applications for Letters Patent, and place a number of heavy metal pipes,
20 arranged vertically therein, in line with each other and extended from the extreme bottom to the extreme top of the boat. These pipes will not interfere in any way with the carrying capacity of the boat so that it may
25 be used for carrying freight and for towing other boats when not engaged in wrecking. When the vessel is to be used in raising sunken wrecks I will first place a suitable wooden or metallic scaffold within the hull
30 adjacent to each vertical pipe, and resting on the false bottom so as to firmly support the top or deck and bring all the strain upon the bottom of the boat which is the strongest part of the boat. Two of these vessels will
35 now be moved to the scene of the wreck and will be placed on each side of the sunken boat, and parallel therewith. A very heavy chain will then be passed down through each vertical pipe and is to be firmly secured at
40 its upper end, preferably by means of a heavy steel bar pressing through one of the links of the chain and resting upon the deck. These chains are now passed under the sunken vessel by divers or by other means, and the chains
45 from one wrecking boat are secured to the chains of the other wrecking boat. Water is now pumped into the water bottom and tanks of each wrecking vessel, or into the hull of each vessel so as to submerge each boat to
50 the proper level which will slack up the chains. This slack is now taken up so as to make the

chains taut and the water is pumped out of each wrecking vessel by means of the steam pumps which are carried on each boat. Each boat being now lightened will rise and the
55 sunken boat will be carried clear of the bottom so as to swing on the supporting chains. The two vessels are now moved in toward shoaler water until the wreck grounds. The wrecking vessels are now again submerged,
60 by pumping water into them, and the slack of the chains is again taken up. Once more the wrecking vessels are relieved of the water therein by the steam pumps and the sunken boat will be again raised and moved in to-
65 ward shoaler water and again grounded. These operations are continued until the wreck has been raised sufficiently to be relieved of its cargo and pumped out. As is well known the operation of raising sub-
70 merged wrecks can be greatly facilitated by working with the tide, so as to pump the water into the wrecking vessel on a low tide or when the tide is going out, and pumping the water out of each wrecking vessel on a high tide or
75 when the tide is coming in. In this way the rise of the tide will be utilized in lifting the wreck. The principal object of my present invention is the production of an improved wrecking vessel which can also be used for
80 carrying freight or for towing other vessels when provided with propelling mechanism, and which will be of the highest efficiency in both capacities.

Another object of the invention is to pro-
85 duce a wrecking vessel wherein all the strain will be brought on the bottom thereof and not on the deck as is now the case, and wherein the weight of the wreck will be impended from the central part of the boat so that there
90 can be no danger of the wrecking vessel being thrown out of her equilibrium.

For a better comprehension of my present invention attention is directed to the accompanying drawings forming a part of this speci-
95 fication, and in which—

Figure 1—is a longitudinal view partly in section of one of my improved tow boats when used as a wrecking vessel: Fig. 2—a
100 cross sectional view of the same, and Fig. 3—an end elevation illustrating the manner of putting the improved wrecking vessel in use.

In all of the above views corresponding parts are designated by identical letters of reference.

A—is one of my improved tow boats converted into a wrecking vessel.

The particular form of boat illustrated in the drawings is similar in most respects to that patented by me in this country on June 3, 1890, and numbered 429,468, being provided with an arched top; a curved bottom; straight parallel sides; a spoon shaped bow and a skeaged stern.

B—is the water bottom, beneath the false bottom, upon which the cargo rests, and C and D are water tanks which are placed in the bow and stern of the vessel, beneath the floors of the forecastle and after cabin respectively. The water bottom B and tanks C and D are to be filled with and relieved of water by means of steam pumps which are carried on each vessel and which may be placed either in the bow or stern or both. If desired there may be suitable connections from the said steam pump or pumps by which water may be pumped into and out of the hull proper of the vessel.

E—E—are a number of heavy metallic pipes which are arranged one in front of the other in the hull of the vessel and extending from the extreme bottom to the extreme top thereof.

F—is a heavy angle iron collar at the bottom part of each pipe E. The vertical flange of each collar F is riveted to the inside of the lower part of each pipe. By means of this collar F the lower part of each pipe is secured very firmly and there is no danger of leaking. By extending the vertical flange of the collar F up into the interior of its respective pipe E it prevents any chafing or wearing by the chain which passes down through the pipe.

G—is an angle iron collar secured to the outside of each pipe E and to the top of the false bottom and serves to strengthen the pipe at this point. This collar also gives a bearing for the false bottom on the pipes E—E—and prevents water from leaking into the hold of the vessel from the water bottom.

H—is another angle iron collar which is riveted to the inside of each pipe E and to the bottom side of the top or deck of the vessel. When the improved vessel is to be used for the purpose of raising submerged wrecks I make use of a suitable scaffold I, which is built up in any suitable way between the false bottom and the top or deck of the vessel, as shown in Figs. 1 and 2. By means of this scaffolding the strain which is imposed on the deck is taken up by the false bottom and from thence by the intermediate frame work to the bottom of the vessel which is best calculated

to stand this strain as it rests upon the water. It will be understood that this scaffolding is only temporary and is to be used only when the vessel is to be used as a wrecking boat.

J—J—are chains which pass down through the pipes E—E—and are provided with some suitable device, such as a heavy steel bar passing through one of the links by which the chains may be supported by the deck of the vessel in such a manner that any slack may be quickly and easily taken up. At the lower end of each chain is a suitable form of tackle or hook by which the chains from one wrecking vessel may be securely fastened to the chains of the other wrecking vessel.

In Fig. 3—is very clearly shown the manner of putting my improved wrecking vessels into use in wrecking a submerged steam boat. Two wrecking vessels are moved to the scene of the wreck and are placed one on each side and parallel therewith. The chains J of the two boats are now passed down by means of divers or by other means, and are secured together beneath the wreck. The steam pumps on each wrecking vessel are now set in operation and a sufficient quantity of water is now pumped into the water bottom and tanks of each vessel to submerge her to a proper position. The slack is now taken up in the chains J—J—and the water pumped out of each wrecking boat. This will cause the two boats to rise and the wreck will be raised clear of the bottom and will hang suspended by the chains J—J—. The wrecking vessels are now towed into shoaler water until the wreck is grounded and the above operations are repeated until the wreck has been raised sufficiently to be pumped out and relieved of the cargo. By making use of the rise and fall of the tide, as has before been described, the raising of wrecks will be greatly facilitated.

In case the water which will be contained in the water bottom and tanks is insufficient to properly submerge the vessels, water may be pumped directly into the hold of the vessel. Having now described my present invention what I claim as new therein and desire to secure by Letters Patent, is as follows:—

An improved wrecking vessel, consisting of a hull, having a curved top, straight parallel sides,—spoon-shaped bow and skeaged stern, and water-tanks within said hull; vertical pipes E, E, extending through said hull from top to bottom; and chains J, J, passing down through said pipes, substantially as set forth.

ALEXANDER McDOUGALL.

In presence of—
FRANK L. DYER,
ARTHUR A. EOB.