

(No Model.)

3 Sheets—Sheet 1.

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No. 513,524.

Patented Jan. 30, 1894.

Fig. 1.



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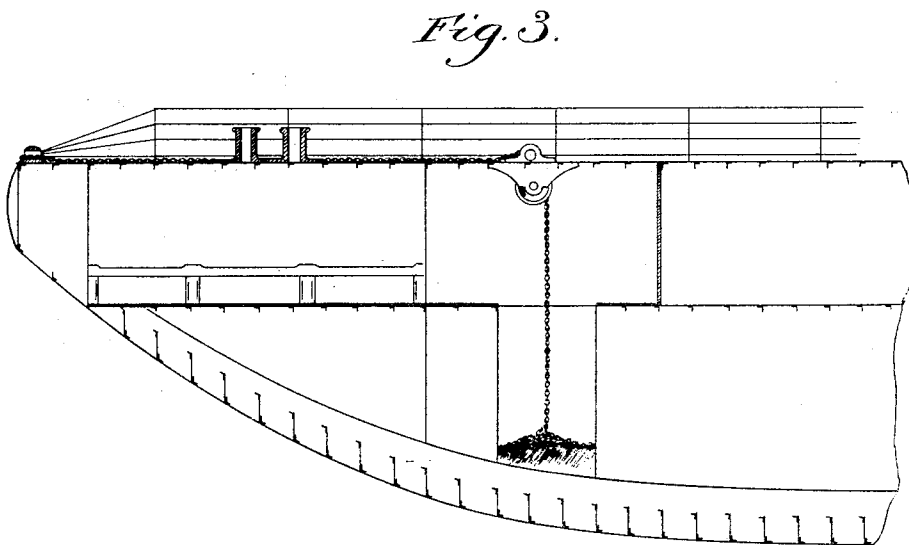
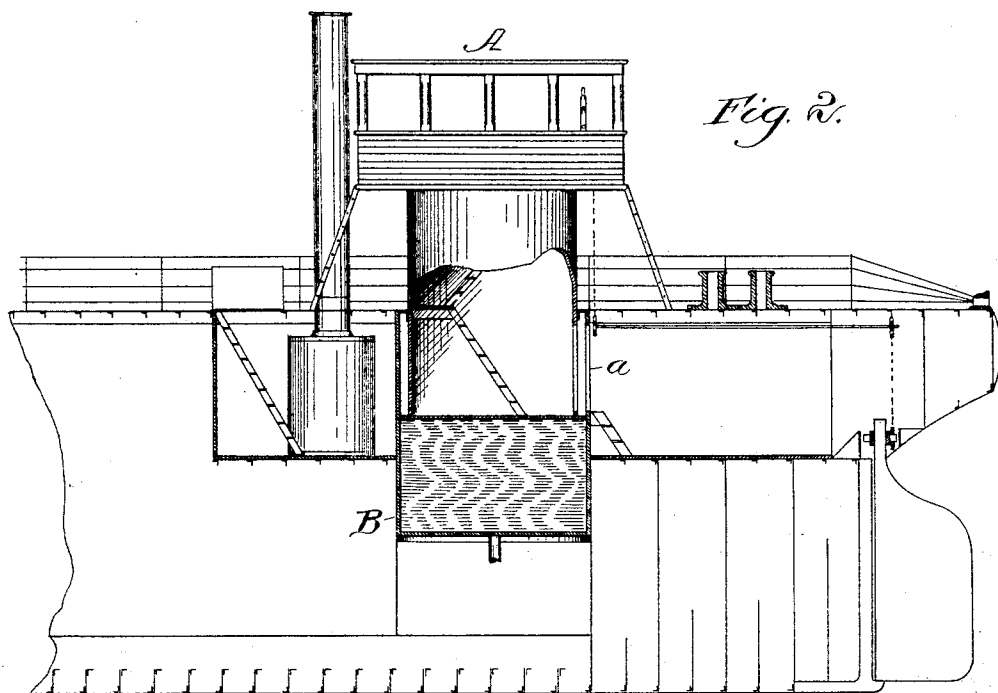
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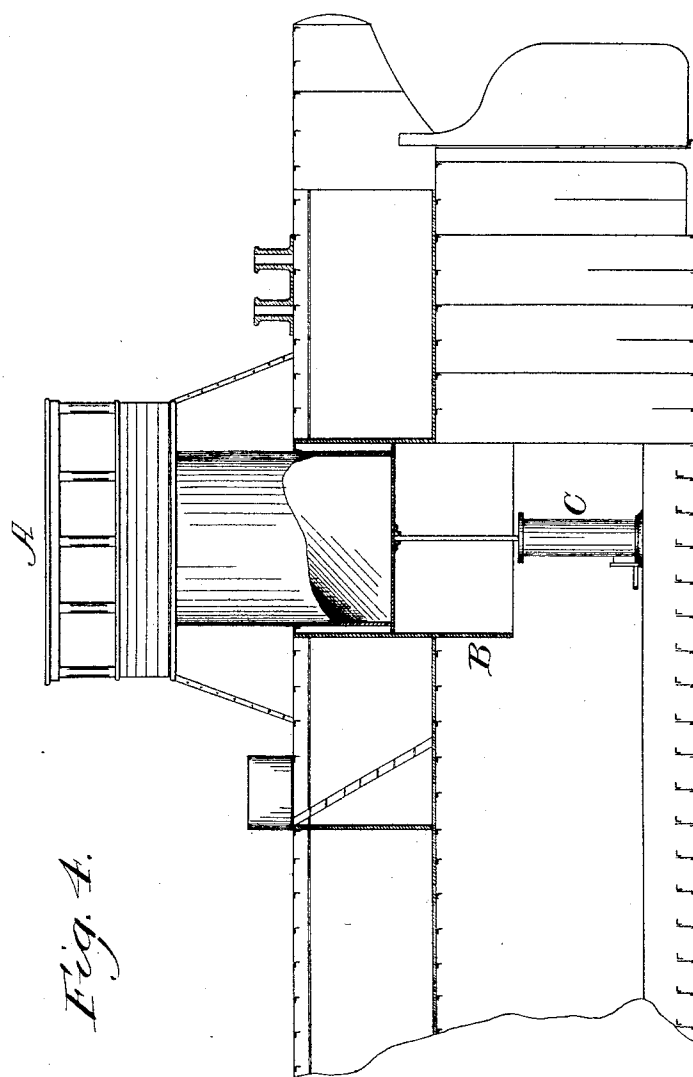


Fig. 4.

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UNITED STATES PATENT OFFICE.

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SPECIFICATION forming part of Letters Patent No. 513,524, dated January 30, 1894.

Application filed November 4, 1892. Serial No. 450,992. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER McDOUGALL, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Vessels; 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 which it appertains to make and use the same.

My present invention relates to various new and useful improvements preferable in those barges and steamboats heretofore invented by me, and described and claimed in various Letters Patent of the United States, but adapted to any boat having a rounded or a flat deck.

The improvement has particular reference to means whereby the vessel is allowed to pass under low objects, such as bridges, and certain varieties of loading apparatus, and to this end the invention consists principally in providing appropriate mechanism for use in connection with the turrets whereby the said turrets may be lowered so as to correspondingly depress the working decks and cabins which are carried thereby. In this way only a comparatively small portion of the superstructure will remain above the deck, and the vessel will be allowed to pass under much lower objects than would otherwise be the case.

In the present specification I shall also describe a modified form of vessel of my improved type whether for a barge or steamer, in which the usual fore turret is dispensed with, thereby making the boat especially adapted for use where low objects are likely to be encountered. It will be understood, however, that instead of dispensing with the said fore-turret, it may be provided with suitable mechanism by which it may be lowered and raised, whereby substantially the same effect is produced as when the said fore-turret is entirely done away with.

I shall describe my invention herein especially as applied in connection with the raising and lowering of the turrets, but it is to be understood that the invention relates broadly

to the lowering of all high superstructures, whether turrets, or other elements, and the language of all this specification is to be so construed.

For a better comprehension of my invention, attention is directed to the accompanying drawings forming a part of this specification, and in which—

Figure 1. is a side elevation of one of my improved towboats, showing the rear turret removed, and the fore turret done away with; Fig. 2. an enlarged sectional view of the stern portion of the said boat; Fig. 3. a similar view of the bow portion; Fig. 4. a view similar to Fig. 2, showing a modification in the mechanism for controlling the turret.

In Fig. 2. the rear turret "A" which carries the after working deck is made in the form of a hollow cylinder, which is adapted to be moved up and down in a suitable casing "B," formed within the frame-work and constituting a part thereof. This casing is provided with an opening "a" which coincides with a similar opening in the lower portion of the after turret, so as to form a doorway through which the after cabin may be reached from the interior of the rear turret. The raising and lowering of the rear turret, carrying the working deck therewith is effected by pumping water under the same into casing "B," or by removing the water as the case may require. This water may be forced into the casing "B" either by steam or by hand and operates precisely the same way as an ordinary hydraulic jack. By pumping water into the casing "B" beneath the rear turret the latter will be elevated; and by removing the water the rear turret will be allowed to descend, so that the rear working deck will be allowed to rest either upon the top of the hull or in close proximity to same. In order to prevent the leakage of the water around the lower end of the rear turret, it should be packed in any suitable way.

In Fig. 4. a modified mechanism for raising and lowering the rear turret is shown. This consists of cylinder "C" having a piston therein, which connects with the lower end of the turret. This piston can be operated

by water, steam, or other force, so as to move the piston up or down, thereby raising or lowering the after turret.

5 Either of the mechanisms I have just described for raising and lowering the turret may be resorted to, but I wish it understood that I do not desire to be limited in any way to any particular mechanism for doing this, since an ordinary screw or other mechanical
10 appliance may be substituted for this purpose.

The fore turret may be raised and lowered in substantially the same manner as the after turret, but in some cases with certain varieties of vessels carrying special cargoes, the
15 fore turret is unnecessary, since the fore-castle can be reached from the after end of the boat by passing under the main deck. Vessels having this fore turret dispensed with are
20 shown in Figs. 1 and 3. With a boat of this kind wherein the fore-turret is dispensed with, the fore-castle may be reached in smooth weather, or in other cases where there is no
25 a suitable manhole, which can be covered

when necessary by a watertight hatch screwed down in position in any suitable way.

Having now described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows: 30

1. The combination with a vessel, of a turret movable up and down therein and carrying a working deck of larger diameter than the turret, substantially as set forth.

2. The combination with a vessel provided with a casing therein, of a turret movable up and down within said casing, and carrying a working deck or cabin, and co-incident openings or doors in said casing and said turret, substantially as set forth. 35

3. The combination with a vessel, provided with a casing therein, of a turret movable up and down within said casing, and carrying a working deck of larger diameter than the turret, substantially as set forth. 40

ALEXANDER McDUGALL.

In presence of—

FRANK L. DYER,
J. B. MCGIRR.