

(No Model.)

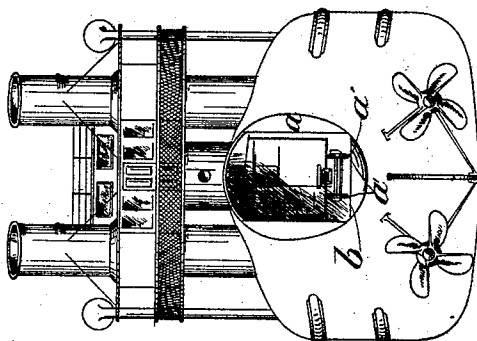
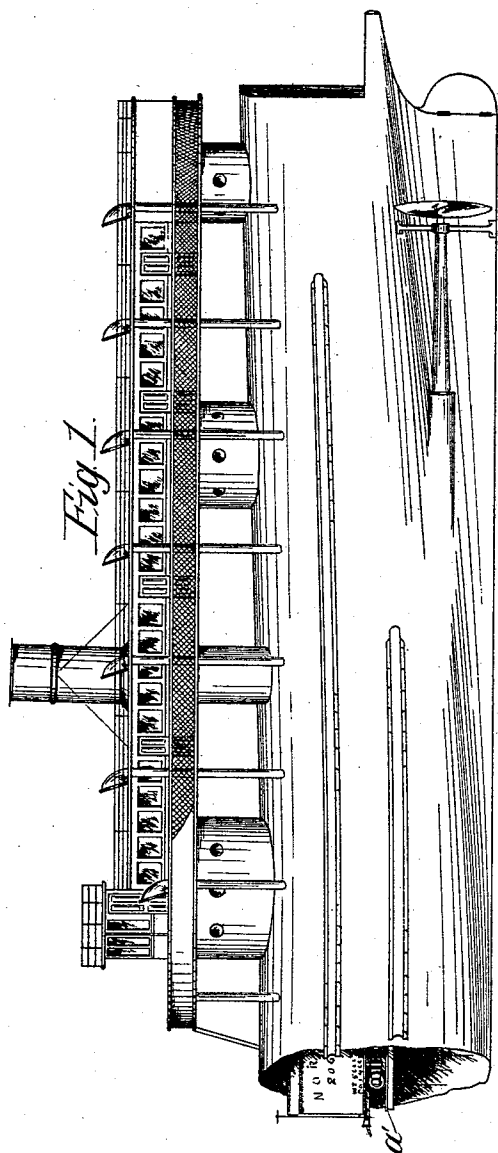
2 Sheets—Sheet 1.

A. McDOUGALL.

BOAT FOR TRANSPORTING RAILROAD CARS.

No. 498,680.

Patented May 30, 1893.



Witnesses
Arthur D. Bennett
J. Stack.

Inventor
Alexander McDougall
By His Attorney
Frank B. Ayer

(No Model.)

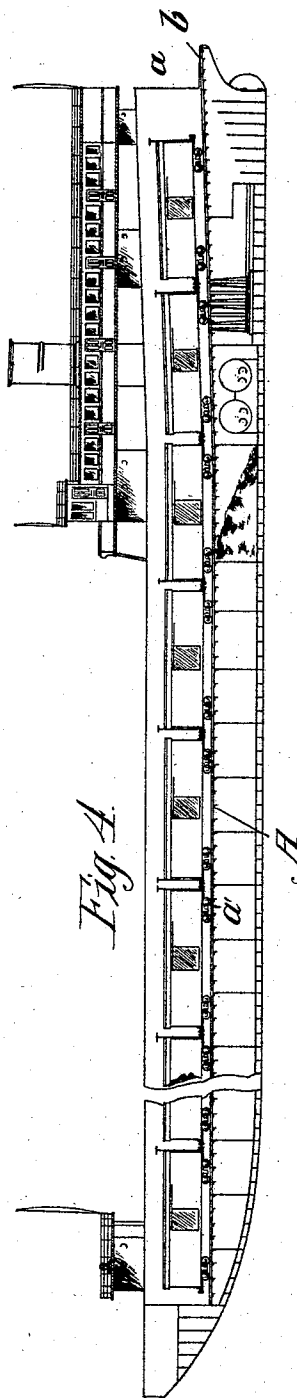
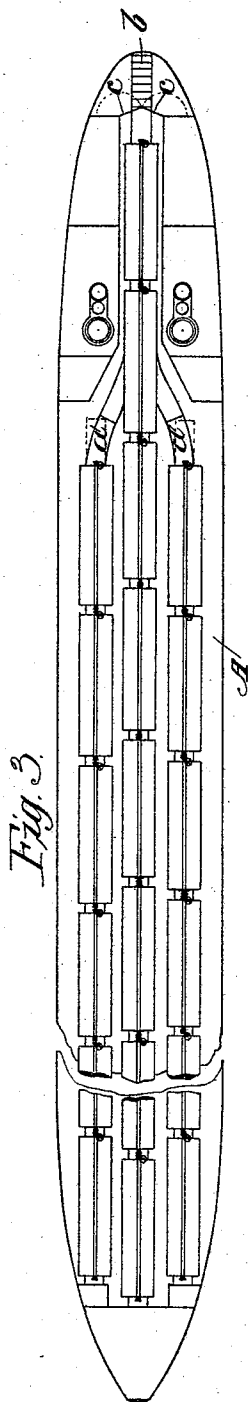
2 Sheets—Sheet 2.

A. McDOUGALL.

BOAT FOR TRANSPORTING RAILROAD CARS.

No. 498,680.

Patented May 30, 1893.



Witnesses
Arthur D. Bennett
J. Stack.

Inventor
Alexander McDougall
By his Attorney
Frank L. Loper

UNITED STATES PATENT OFFICE.

ALEXANDER McDOUGALL, OF DULUTH, MINNESOTA.

BOAT FOR TRANSPORTING RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 498,680, dated May 30, 1893.

Application filed July 29, 1892. Serial No. 441,614. (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 Boats for Transporting Railroad-Cars; 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 changes and additions in those vessels which have been invented by me, both barges and steamboats, and described and claimed in several Letters Patent of the United States, whereby the said vessels are especially adapted for use in the transportation of railroad cars from one place to another.

By means of the improvement, as I shall presently describe it, a great many railroad cars can be transported at one time, and being entirely within the hold of the boat, there can be no danger of the cars being swept overboard or being affected by the elements in any way. By reason also of the covered solid construction of my improved vessels, and the fact that the boat can be partially submerged so as to reduce pitching and rolling to a minimum, I am enabled to successfully transport railroad cars, in much heavier weather, and in higher seas, than would be possible with the vessels which are used at present for the same purpose. The vessel by its particular construction is also well adapted for passing through ice.

The present improvements are particularly intended for use with a steamboat of my improved construction, in which a hull of particular design is employed, having straight sides, parallel with each other, both horizontally and vertically, a curved top, provided with hatches therein, a rounded bottom, a spoon-shaped bow and a skeged stern. The present boat, being designed for the particular purpose before mentioned, embodies these general characteristics of hull, but differs therefrom in certain features to better adapt the same to the use to which it is to be put. The most important change is in the overhang of the stern, at which point the cars are allowed to enter the vessel. The said overhang of the stern, instead of being practi-

cally on the same plane as the bow, is much lower, so that the railroad cars may pass on the same under the curved deck of the vessel, through a suitable opening made for this purpose. This opening is adapted to be closed in any way, preferably by ordinary metal doors, suitably packed so as to exclude water when at sea.

To enable the cars to more easily enter the interior of the boat, the curved top thereof, bulges slightly upward at its rear portion, so as to make a sufficiently large opening, without depressing the overhang of the stern to too great an extent. In the present vessel the false bottom is located about midway of the boat, instead of being near the lower portion thereof, as in my other boats. In this way several large tanks are formed beneath the said false bottom, which can be filled more or less with water, so as to partially submerge the vessel, in order, thereby, to reduce rolling and pitching to a minimum in heavy weather. The tracks for receiving the cars are placed on this false bottom, and are arranged in any desired manner.

The forecastle of the vessel is reached in the ordinary way, through a turret, and similar turrets are located near the stern for carrying a suitable cabin. It is preferable to make use of two screws, operated by twin engines, placed one on each side of the entrance tracks, but other arrangements can be used as a substitute.

In loading the vessel with cars, it is backed up into a slip in the usual manner, and the cars are run onto the overhang of the stern into the hold, being distributed therein as desired. The opening at the stern is now securely closed, and the vessel is prepared to proceed. In case stormy weather or rough seas are encountered, the water tanks are filled more or less, so as to partially submerge the boat to any desired extent, whereby the pitching and rolling of the vessel will be reduced in a great measure. Should field ice be met the vessel may steam backward through the same so that the propellers will crush and break up the ice. With ordinary drift ice there will be no necessity of this precaution, since the particular form of bow which I have adopted, will force such ice down and under the boat, or to one side thereof.

For a better comprehension of my present

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

Figure 1, is an elevation of the rear portion of my improved vessel; Fig. 2, an end elevation of the same; Fig. 3, a plan view of the interior of the vessel, and Fig. 4, a longitudinal sectional view.

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

The vessel illustrated in the figures embodies the same general characteristics of hull and construction which have been before pointed out by me in various Letters Patent of the United States.

The hull is constructed of steel plates, secured to transverse beams. The sides thereof are parallel longitudinally and vertically, the top is curved, the bottom is rounded, the bow is made spoon-shaped and the stern is skeged.

The overhang of the stern is on a plane considerably lower than the bow, and the sides and top of the boat are abruptly ended some distance in advance thereof, as shown in the drawings. In this way a flat entrance *a*. is formed near the stern of the boat, through which the cars pass in entering the hull, and at the stern portion is a platform *b*. on which the cars run before passing through the said entrance. The entrance to the hold is to be closed when desired, preferably by doors *c. c.* which are to be suitably packed. These doors, when closed, incline outward, (see Fig. 3) so as to better withstand any waves which might strike against the same.

To better accommodate the cars, the top or deck of the boat bulges slightly upward at its rear portion, as shown in Figs. 2 and 4.

A—is a false bottom, which extends to the extreme stern end of the boat, and which is firmly supported in any way by suitable frames. The space beneath the false bottom *A*. may be filled wholly or partially with water, when desired, to partially submerge the boat, for the purpose before mentioned. Ordinary railroad tracks *a'. a'*. are placed on this false bottom, or on suitable stringers secured thereto, and are to be arranged in any desired manner.

In Fig. 3, a central track is shown reaching to the extreme stern of the boat, with two side tracks, switching into the said central track. This arrangement possesses many advantages, but it is by no means necessary, since the side tracks can be dispensed with, or instead of introducing the cars into the hold, directly over the stern, they may be run into one side thereof.

In Fig. 3 two engines are illustrated, one on each side of the central track, but one, or even three engines could be used as a substitute therefor. The said arrangement being consequently capable of change, I do not wish to be limited to the same.

In loading the boat it is backed into a suitable slip, so that the tracks at the stern will coincide with the tracks on the dock. The cars are now passed into the boat and are distributed therein, according to the arrangement of the tracks. The tracks on the stern can be brought down or up to a level with the tracks on the dock by pumping water into or out of the water-tanks beneath the false bottom. In case heavy weather is encountered, and should the boat begin to labor, as I have before mentioned, the water-tanks can be filled more or less so as to submerge the boat to a greater or less extent.

I have found out that when the vessel is submerged to a greater or less extent, the pitching and rolling are correspondingly reduced, which fact I have before pointed out in Letters Patent of the United States, and this feature makes the boat especially adapted for the purpose mentioned herein, since the vessel is enabled to carry railroad cars in all sorts of weather, which is strictly necessary.

It will be understood that one of my improved barges may be used for the transportation of cars, and that the general broad idea which I have described herein, of introducing the cars into the stern of the boat, may be applied to other varieties of vessels.

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

1. An improved vessel for transporting railroad cars, provided with an open stern, having tracks therefrom, extending into the hold, and having water-tanks adapted to receive water for partially submerging the vessel, to a greater or less extent, substantially as set forth.

2. An improved vessel for transporting railroad cars, consisting of a hull, provided with straight parallel sides, a curved top, a rounded bottom, and a skeged stern, part of said stern overhanging the main portion of the hull; tracks extending from said stern into the hold, and water tanks for partially submerging the vessel to a greater or less extent, substantially as set forth.

3. An improved vessel for transporting railroad cars, consisting of a hull having straight parallel sides, a curved top, a rounded bottom and a skeged stern, a part of said stern overhanging the main portion of the hull; a false bottom for said vessel forming a water compartment beneath it, adapted to be partially or wholly filled, whereby the vessel may be partially submerged to a greater or less extent; tracks extending from said stern on said false bottom and inclined doors *c, c*, above said stern for closing the entrance to said hull, substantially as set forth.

ALEXANDER McDOUGALL.

In presence of—

A. D. BENNETT,
J. C. STACK.