

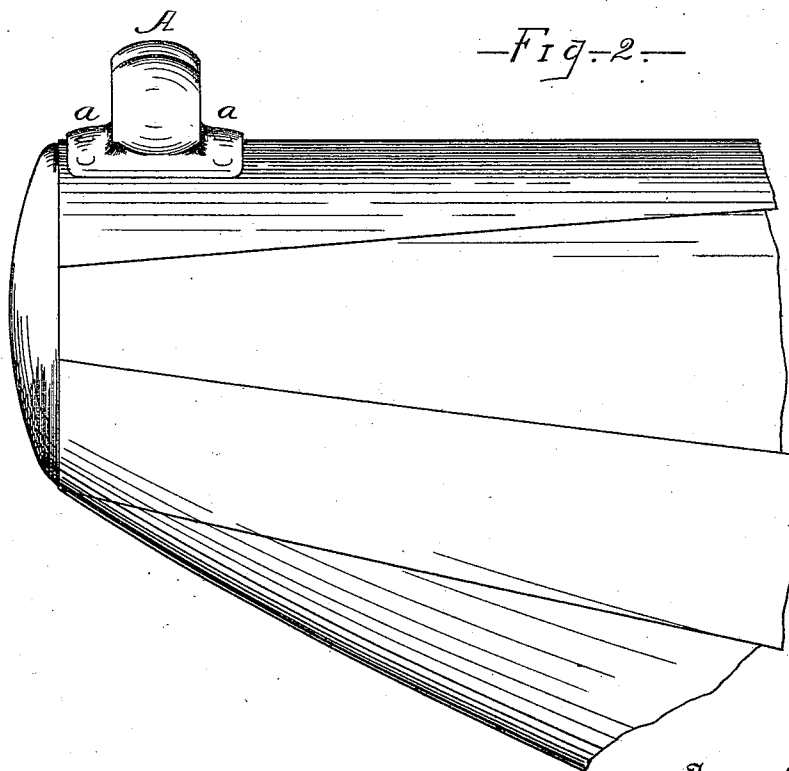
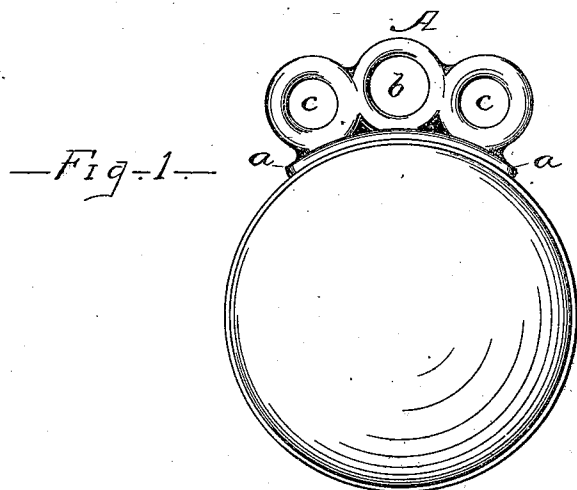
(No Model.)

2 Sheets—Sheet 1.

A. McDOUGALL.
HAWSER AND ANCHOR CHAIN FAIR LEADER.

No. 512,209.

Patented Jan. 2, 1894.



Witnesses
J. M. Givv
Leonard B. Lynn

Inventor
Alexander Mc Dougall
By *tip* Attorney
Francis L. Egan

(No Model.)

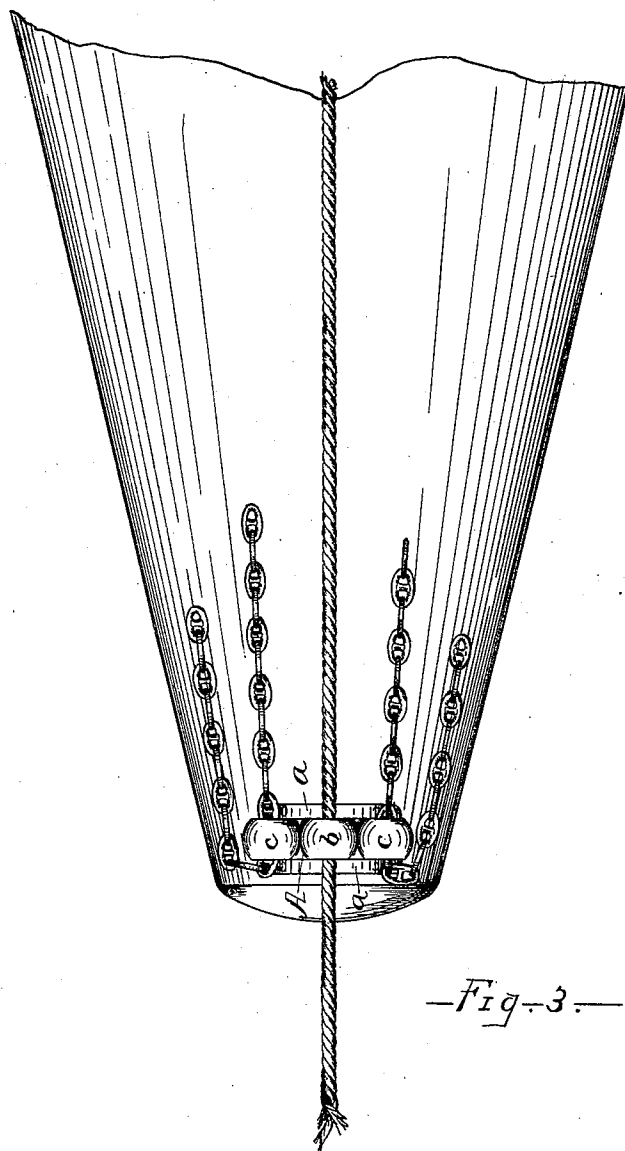
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—Fig. 3.—

Witnesses

J. M. Givv.

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UNITED STATES PATENT OFFICE.

ALEXANDER McDOUGALL, OF DULUTH, MINNESOTA.

HAWSER AND ANCHOR-CHAIN FAIR-LEADER.

SPECIFICATION forming part of Letters Patent No. 512,209, dated January 2, 1894.

Application filed October 26, 1892. Serial No. 450,083. (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 a Combined Hawser and Anchor-Chain Fair-Lead; 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 a certain improvement in the barges and steamboats invented by me, and described and claimed in various Letters Patent of the United States, by which I am enabled to dispense with the ordinary hawse-pipes, so as to thereby decrease the expense of manufacturing such boats, to a certain extent, and wherein there will be less possibility of the anchor chains being caught and retarded by ice and dirt, as is now the case.

The invention is not limited to use with barges and steamboats of my general design, but may be applied to other varieties of vessels, by slightly modifying the construction thereof, as will be understood. Neither is the invention limited to use on the bow portion of the boat, since it may be advantageously used on the stern thereof.

To accomplish the ends and objects above set out, the present invention consists generally of a combined hawser and anchor chain fair lead, constructed as I shall presently describe, preferably of a single heavy casting, bolted or riveted in place on the bow part of the boat, or on the stern thereof, with a central eye or opening for the passage of the hawser or tow line, and with similar eyes or openings on each side thereof, for the passage of the anchor chains. When used on the stern portion of the boat the said side eyes or openings may be used for the passage of suitable cables, to facilitate the handling of the boat in canals, or in landing at docks or for other purposes, and in case one of my improved barges, has been converted into a vessel of war, the said side eyes or openings may be put into use for the passage of stern anchor chains, by which the vessel may be swung around in the arc of a circle, for the purposes

mentioned and in the manner described in an application for Letters Patent, filed by me on the 20th day of August, A. D. 1891, and numbered serially 403,263.

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 end view of the nose of one of my improved vessels, showing the present improvement attached thereto; Fig. 2, an elevation of the bow thereof, and Fig. 3, a plan view.

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

A—represents the improved combined hawser and anchor chain fair lead, which is preferably made of a single piece of cast metal, although it may be made in any other manner as will be understood. The said device consists of the base *a*, the central eye or opening *b*, and the side eye or opening *c*, on each side thereof. The base *a* is made of a general arched shape as shown, so as to fit solidly over the curved decks, immediately back of the nose, or at a similar point at the stern, and it is held there in position by means of bolts or rivets passing through the same, and engaging with the plating of the vessel. In case of a vessel provided with a flat deck, the base *a* is also made flat, and with other varieties of decks, the said base is to be changed accordingly. The three eyes or openings *b*, *c*, *c* are preferably cast with said base, but other constructions and modes of manufacturing same, may be adopted. The most desirable arrangement of these eyes is that shown in the drawings, wherein the three eyes are substantially in line with each other, and equidistant from the deck, so that a line drawn over the tops of these eyes will correspond with the curve of the deck, as will be evident. The central eye or opening *b* is used for the passage of the usual cable or hawser, and the side eyes *c*, *c* receive the ordinary anchor chains. In this way I am enabled to dispense with the hawser pipes which are now used, and which are objectionable for the reason that they are liable to break, and also, become clogged with ice and dirt.

Although the eyes or openings *c. c.* may become filled with ice, the quantity thereof is so small as not to interfere in any way with the proper operation of the anchor chains.

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

1. An improved hawser and anchor-chain fair-lead, consisting of the central eye or opening *b* for the hawser, and the side eyes or openings *c, c,* for the anchor chains, the said eyes or openings being rigidly attached together, and to the deck of a vessel, equidistant from the deck, so that a line drawn over
10 the tops of said eyes or openings will corre-

spond with the curve of the deck, substantially as described.

2. An improved hawser and anchor-chain fair-lead, consisting of a base *a*, secured to the deck of a vessel; a central eye or opening *b*, for the hawser; and side eyes or openings for the anchor chains, said eyes or openings being cast directly on the base so as to be equidistant from the deck, substantially as described. 20

ALEXANDER McDOUGALL.

In presence of—
FRANK L. DYER,
J. B. MCGIRR.