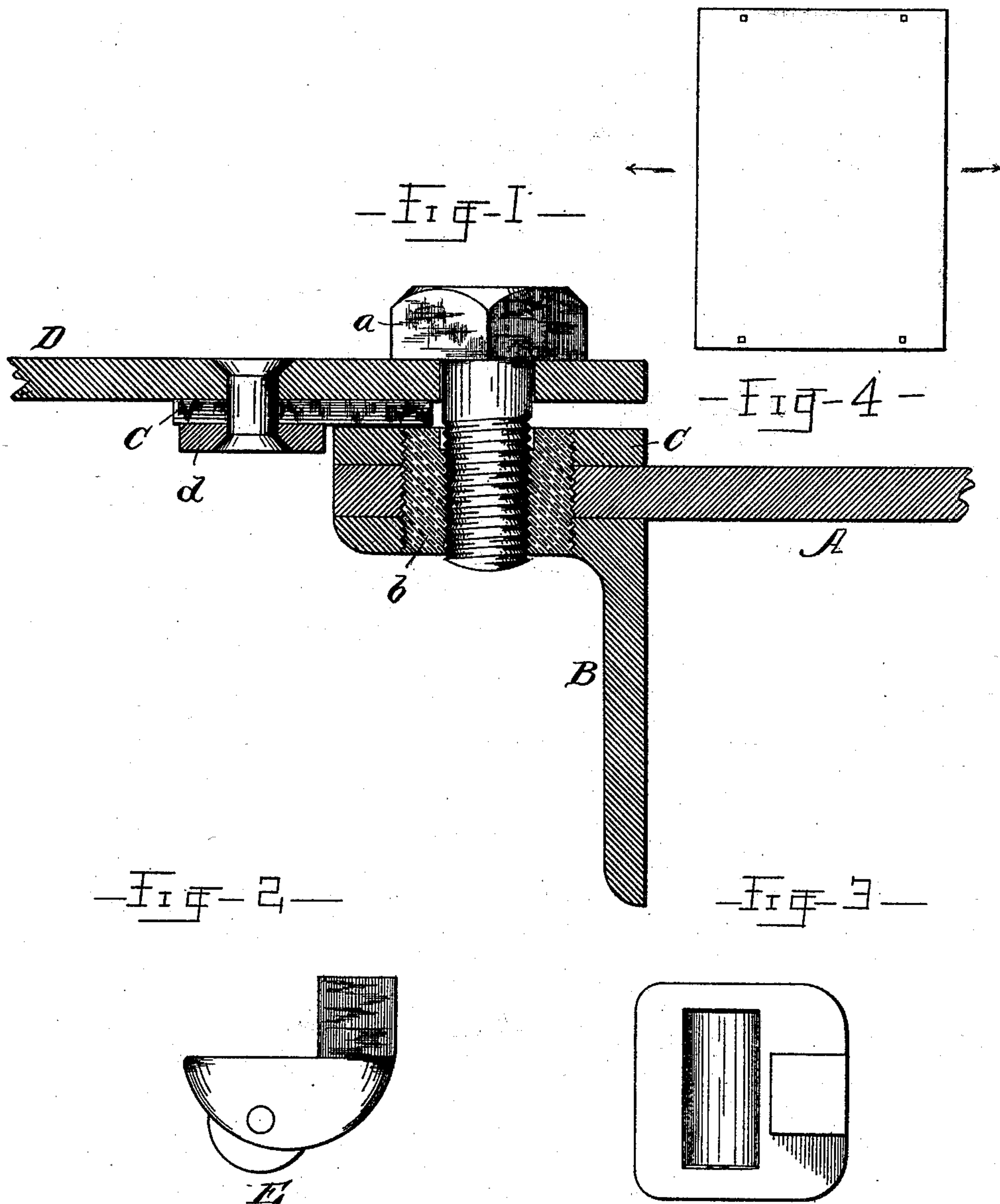


(No Model.)

A. McDOUGALL.  
SHIP'S HATCH.

No. 513,523.

Patented Jan. 30, 1894.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## SHIP'S HATCH.

SPECIFICATION forming part of Letters Patent No. 513,523, dated January 30, 1894.

Application filed October 22, 1892. Serial No. 449,690. (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 Hatches; 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.

In several Letters Patent of the United States granted to me, I have described and claimed various new and improved barges and steamboats, embodying as a conspicuous feature, the employment of a curved top or deck, which, owing to the high load-line of the boats, is so close to the water, that in rough weather in heavy seas, waves often pass entirely over the same. The interior or hold of the said boats is reached by hatchways, pierced through and formed in the said curved top or deck, and adapted to be normally covered by appropriate hatches, which being of plate iron or steel are comparatively very heavy. Since the said hatches have to be moved to one side or the other, to open the said hatchways, when the vessel is to be loaded and unloaded, it becomes necessary to provide some appropriate mechanism for doing this, and in view of the fact, before mentioned, that waves often pass entirely over the said curved top or deck, it is very essential that the said hatches, when in position, should be entirely water tight, so that there can be no leakage. In Letters Patent of the United States, granted to me on the 4th day of December, A. D. 1888, and numbered 393,997, I have described and claimed mechanism whereby the hatches may be moved to one side or the other, and by which the desired water-tight joint will be formed between the hatch and the deck. The said mechanism for moving the hatches described in the said Letters Patent, is objectionable, for the reason that the screw bolts on which the hatch rests will become quickly worn out, and will interpose too much friction in the moving of the

hatch, and the means described therein for effecting the proper water-tight joint between the hatch and deck is also capable of improvement.

The present invention, which is applicable to any metallic boat, has the same objects in view of the device of the said patent, and by its use overcomes all the objections to the said prior device, inasmuch, as I am able by its use to move the said hatch easily and quickly, and the proper water-joint is obtained in a much simpler and better way.

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 a sectional view of a portion of the hatch and outer plates; Fig. 2. a side elevation of one of the hatch rollers; Fig. 3. a plan view of the same, and Fig. 4. a plan view of the hatch.

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

A—represents the outer plate or skin of the boat; and B. an angle iron secured to the under side of the same around the hatchway, so as to strengthen the plating at that point. For a similar purpose a flat metal strip C. is secured to the upper side of the plate, around the hatch-way.

D. is the hatch, which consists, preferably, of a heavy rectangular metal plate. This hatch is held in place by a number of screw bolts *a*. passing through the same, and engaging with a bushing *b*. which is tapped in place, and extends through the three plates A. B. and C. This bushing is preferably made of brass, but it may be made of any other non-corrosive metal, such as, galvanized iron or aluminum. The object of making use of this bushing, is to prevent corrosion or rusting with the screw bolts *a*. which can thereby be easily removed at any time.

A rubber packing *c*. is secured to the under side of the hatch by means of a metal strip *d*. riveted in place. The said rubber packing



rests on the edge of the hatch-way, on the metal strip C and when the screw bolts *a*. are tightened up the said packing will be forced against the said metal strip C thereby forming a perfectly water-tight joint with the same.

By attaching the rubber packing to the under side of the hatch by means of a metal strip *d*. it may be quickly replaced, when worn, by another.

The hatch D. is provided on its two sides parallel with the boat with two rectangular holes (see Fig. 4) which extend entirely through the same. Since these rectangular holes are on the outside of the packing *c*. they will not affect the water-tight character of the hatch.

E. is a metallic roller of any appropriate construction provided with a rectangular shank, which engages with one of the rectangular holes in the hatch before referred to. When it is desired to move the hatch to one side or the other, the screw bolts are first loosened, so as to free the hatch. The hatch is now slightly elevated, with a bar or other mechanical appliance, and the shanks of each of the rollers E. is inserted in one of the rectangular holes. Being thus mounted on the roller E. the hatch can be easily moved from its position over the hatch-ways, and vice versa.

I make use of a rectangular shank engaging with a similarly formed hole, so that the roller will be held rigidly in place, in order that the hatch will travel true, but other constructions may be adopted, where suitable guides are provided for this purpose.

It will be observed that by firmly bolting a hatch of this improved construction in position over the hatchway, it will tend to restore in a great measure the strength sacrificed by the cutting of the hatch way in the deck, so that the vessel will not be weakened either fore and aft or athwart ships, as is the case with hatches which are not bolted or otherwise firmly secured in place.

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

1. In a vessel one or more hatches therefor, provided with openings therein, for the reception of the shanks of removable rollers,

whereby the said hatch may be moved to one side or the other.

2. In a vessel, one or more hatches therefor, provided with rectangular openings therein, for the reception of the rectangular shanks of removable rollers, whereby the said hatch may be moved to one side or the other.

3. In a vessel, a hatch therefor, made of a single plate of metal and having openings therein for the reception of the shanks of removable rollers, whereby the said hatch may be moved to one side or the other.

4. In a vessel, a hatch therefor, having a rubber packing secured to its under side, all around and adjacent to the edges thereof, and openings in said hatch between said packing and the edges of the hatch for the reception of the shanks of removable rollers, substantially as set forth.

5. In a vessel, a hatch way cut in the plating A, thereof, an angle iron B, around said hatch way, and a hatch D, having a packing *c*, secured to the under side of the same all around, openings in said hatch between said packing and the edges thereof, and screw bolts *a*, in said openings and engaging through said plating A, and angle iron B, substantially as set forth.

6. In a vessel, a hatch way cut in the plating A, thereof; an angle iron B, around said hatch way and below the same; a strip C around said hatch way and above the same; bushings *b*, tapped through said plating A, angle iron B, and strip C; and a hatch D, having a packing *c*, secured to the under side thereof all around; openings in said hatch between said packing and the edges thereof; and screws bolts *a*, in said openings, and engaging with said bushings, substantially as set forth.

7. In a vessel, a hatch therefor, having a rubber packing on its under side all around, and adjacent to the edges thereof; a strip *d*, for holding said packing in place; and openings in said hatch between said packing and the edges thereof, for the reception of shanks of removable rollers, substantially as set forth.

ALEXANDER McDOUGALL.

In presence of—

FRANK L. DYER,

J. B. MCGIRR.