

No. 652,061.

Patented June 19, 1900.

A. WALLACE, JR.
FREIGHT VESSEL.

(Application filed Apr. 11, 1900.)

(No Model.)

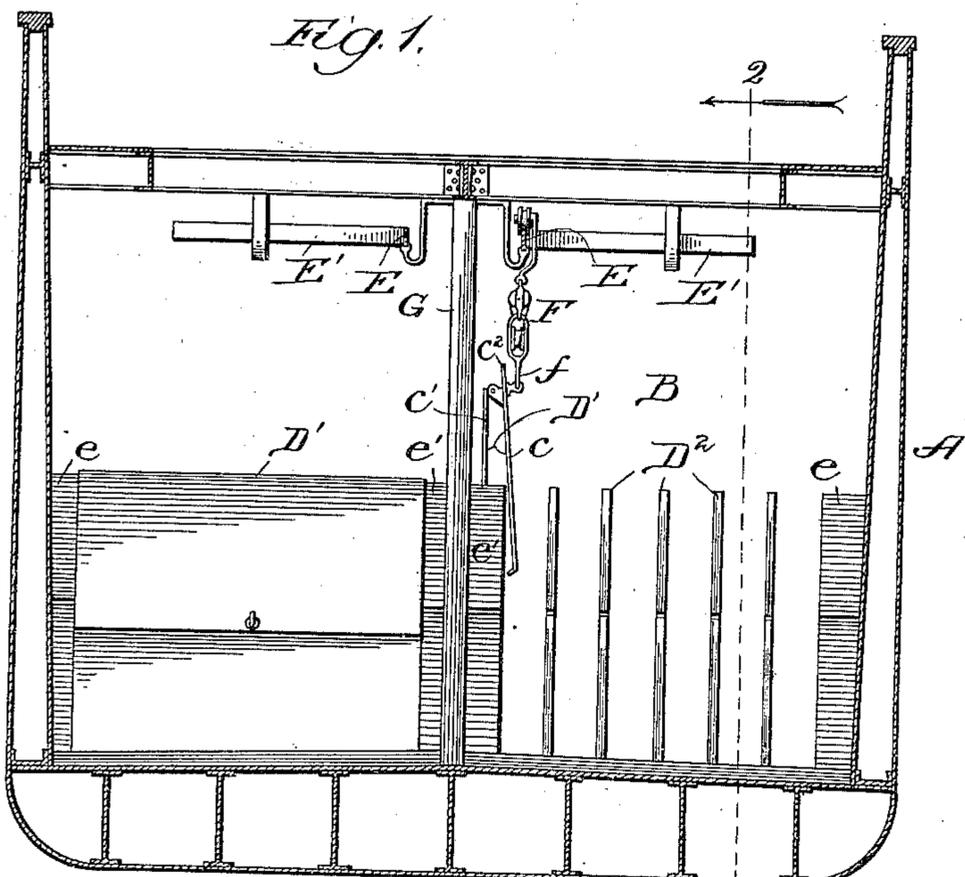
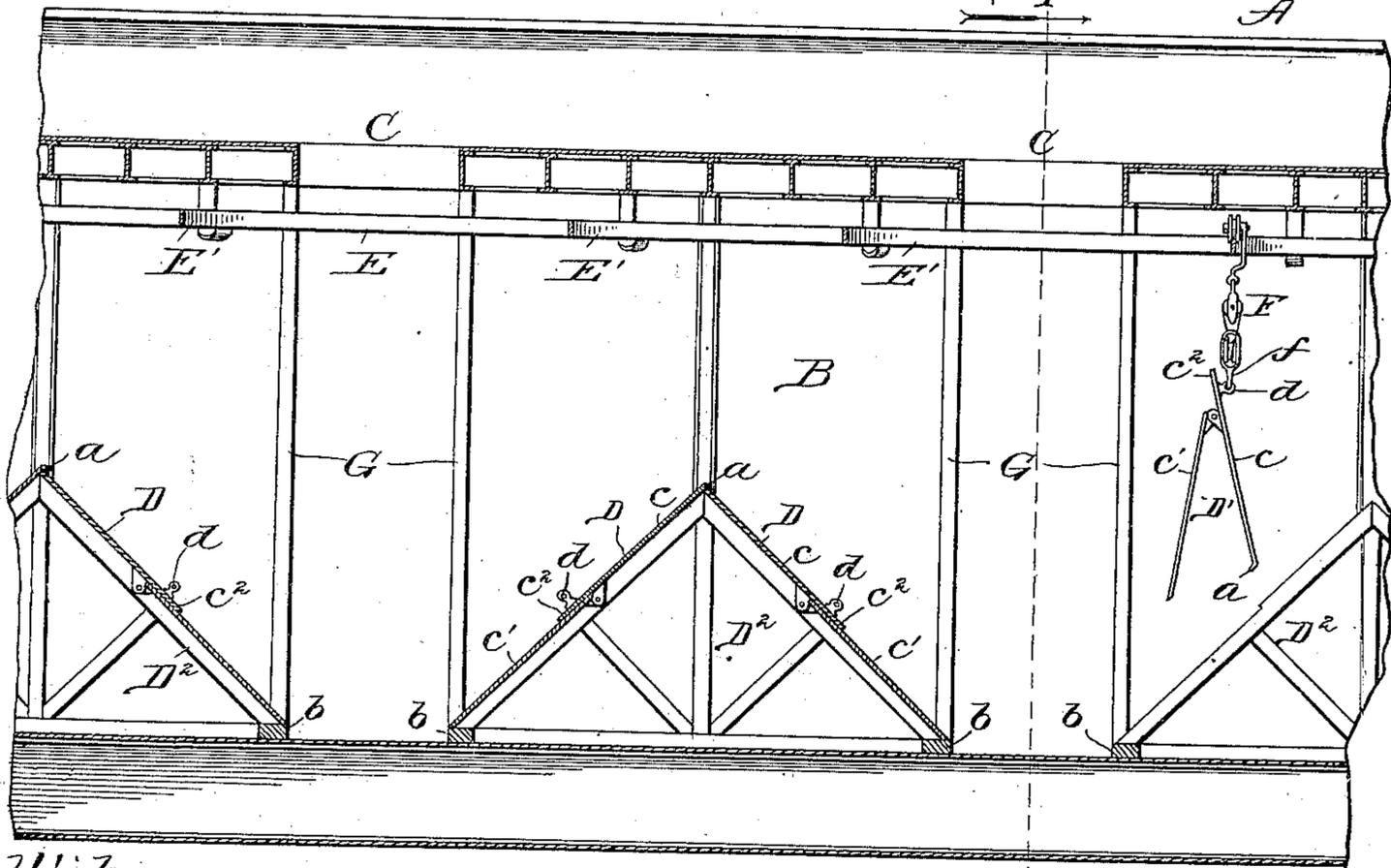


FIG. 2.



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UNITED STATES PATENT OFFICE.

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FREIGHT VESSEL.

SPECIFICATION forming part of Letters Patent No. 652,061, dated June 19, 1900.

Application filed April 11, 1900. Serial No. 12,407. (No model.)

To all whom it may concern:

Be it known that I, ANDREW WALLACE, Jr., a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Boats, of which the following is a specification.

My invention relates to an improvement in the class of freight-boats for carrying bulk freight in which the hold is provided at intervals in the planes between hatchways with downwardly-converging walls extending crosswise of the hold and forming slope-sided gravity feeding-bins for the purpose of causing the freight as the quantity thereof becomes reduced by unloading to a depth at which the unloading-shovels will not fill adequately to feed by gravity toward the planes of the hatchways, and thus maintain there the requisite depth to enable the shovels to fill. Some docks are equipped with steam-shovel apparatus suitable for unloading boats thus provided with gravity feeding-bins and others are not so equipped, but the unloading has to be performed with scoop-shovels for loading buckets raised and lowered through the hatchways. These scoop-shovels cannot be used to advantage where there are gravity feeding-bins in the hold; and the object of my improvement is to provide a construction of the bin whereby it may be readily and conveniently removed and stowed away when its use is not desired and easily replaced when wanted.

My invention consists in the general construction of the means for accomplishing my aforesaid object; and it also consists in details of construction and combinations of parts, all as hereinafter described, and set forth in the appended claims.

Referring to the accompanying drawings, Figure 1 is a cross-section, taken at the line 1 on Fig. 2 and viewed in the direction of the arrow, of a boat equipped with my improvement; and Fig. 2, a broken longitudinal section of the same, taken at the line 2 on Fig. 1 and viewed in the direction of the arrow.

A denotes a boat of any suitable general construction to adapt it to carry bulk freight in its hold B. The hatchways C C are commonly provided at intervals of twenty-four feet from center to center. Transversely

across the bottom of the hold extend walls D D', each of a height of about four feet, more or less. These walls are provided in pairs midway between hatchways, meeting at an apex, where one should overlap the other, as shown at *a*, and whence each slopes downward to the side of a hatchway, at which it preferably meets a longitudinal shoulder *b*, which need be only a few inches high.

I form each bin side or wall, preferably of metal, in sections *c* and *c'* of unequal width, hinged together in the manner shown by providing the hinge-sections to extend on the under sides of the sections and beyond their surfaces, the hinge part on the lower narrower section projecting from near its upper edge and that of the wider upper section projecting from a point in its width corresponding with the width of the lower section, to leave a free portion *c²* for overlapping the section *c'* for some distance below its upper edge, and thus covering any crevice between the wall-sections that might otherwise be formed by their being hinged together. On the face of the free portion *c²* of each section *c* is provided a suspension-eye *d* for a purpose hereinafter explained.

While each side or wall D and D' may be of the full length of a bin, I prefer for purposes of support and guidance in adjusting the sides in place, as hereinafter described, to leave permanent end portions *e e'* in proper sloping position for each side to be overlapped by the opposite ends of the sectional walls, which may be thus somewhat shorter than the length of the bins.

The walls D and D' to form the side portions of the bins are adjusted in pairs in position upon the permanent ends *e e'* with their lower edges on the rails *b* at the sides of the hatchways and their upper edges meeting at an apex midway between hatchways, and they are braced in the space underneath them by horses or braces D², of suitable form and material, placed at desired intervals apart.

To remove the bin-walls they are lifted off their supports and either held in folded condition while out of use suspended from the under side of the deck covering the hold if the latter be adequately high, whereby the space within it is clear and the loading is not obstructed; but the suspended sides may be

buried in the freight loaded in the hold if caused to reach high enough therein, or the sectional bin sides may be stowed away until required for use. On removing the sides
 5 D D' the braces D² are of course also to be removed.

As suitable means for conveniently effecting the removal of the bin sides I show tracks E suspended overhead in the hold B to extend across the bins and having branches E'
 10 curving from them to extend over the bin sides. On these tracks are suspended pulley devices F, terminating in hooks *f* and adapted to ride on the tracks to bring them over
 15 the centers of the bin sides and to be lowered to engage the hooks with the eyes *d*. When a hook is thus engaged with an eye *d*, the pulley device may be operated to raise the respective bin side to the position shown in Fig.
 20 2, whereby the section *c'* drops over, thereby reducing the width of the side sufficiently to leave a free space in the hold below it, and the side may be held thus suspended in loading and unloading the boat, in which position
 25 the cargo may bury it without injury to the side and without its taking up material room. If desired, however, each bin side after being thus lifted may be carried away by running the pulley device on its respective branch
 30 to the main track E, on which it may be transported, as represented in Fig. 1, to a side of the partition G, extending along the longitudinal center of the hold and lowered in its folded condition to rest against the partition
 35 on the bottom of the hold. The braces D² may also be placed along this partition for stowing them away without taking up a material amount of room. To replace the bin sides for use when wanted, the braces D² are
 40 placed in position and the pulley devices are brought into requisition to lift and carry the folded bin sides to their proper places, where they are lowered into position, being guided thereto in lowering by the braces and permanent ends *e e'*.
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What I claim as new, and desire to secure by Letters Patent, is—

1. In a boat of the character described, the combination with the hold, of walls removably placed to extend at intervals across it
 50 from between the hatchways and inclining downward to their opposite sides to form slope-sided gravity feeding-bins, said walls being formed of folding sections, substantially as
 55 and for the purpose set forth.

2. In a boat of the character described, the combination with the hold, of pairs of walls formed of folding sections, removably placed to extend crosswise of the hold with the members of each pair meeting apically between
 60 adjacent hatchways and inclining thence

downward to their bases to form therewith slope-sided gravity feeding-bins, substantially as and for the purpose set forth.

3. In a boat of the character described, the combination with the hold and hatchways, of shoulders extending along the sides of the bases of the hatchways, and pairs of walls formed of folding sections, removably placed to extend crosswise of the hold with the members of each pair meeting apically between adjacent hatchways and inclining thence
 70 downward to said shoulders to form slope-sided gravity feeding-bins, substantially as and for the purpose set forth.

4. In a boat of the character described, the combination with the hold, of gravity feeding-bins each comprising sides formed of permanent end portions meeting apically between adjacent hatchways and inclining thence
 80 downward to their bases, and a pair of removable side portions each formed of folding sections adjusted upon and conforming to said end portions, substantially as and for the purpose set forth.

5. In a boat of the character described, the combination with the hold, of pairs of walls formed of folding sections, removably placed to extend crosswise of the hold with the members of each pair meeting apically between adjacent hatchways and inclining thence
 90 downward to their bases to form therewith slope-sided gravity feeding-bins, and braces removably placed underneath said walls, substantially as and for the purpose set forth.

6. In a boat of the character described, the combination with the hold, of walls removably placed to extend at intervals across it from between the hatchways and inclining
 100 downward to their opposite sides to form slope-sided gravity feeding-bins, said walls being each formed of a wider section *c* hinged to and overlapping a narrower section *c'* whereby said sections may fold, substantially as and for the purpose set forth.

7. In a boat of the character described, the combination with the hold, having overhead tracks therein, of walls removably placed to extend at intervals across the hold from between the hatchways and inclining downward to their opposite sides to form slope-sided gravity feeding-bins, said walls being each formed of a wider section *c* carrying an eye *d* and hinged to and overlapping a narrower section *c'*, and a pulley device suspended to ride on said tracks and adapted to engage with said eye, substantially as and for the purpose set forth.

ANDREW WALLACE, JR.

In presence of—
 M. J. FROST,
 A. D. BACCI.