

No. 680,692.

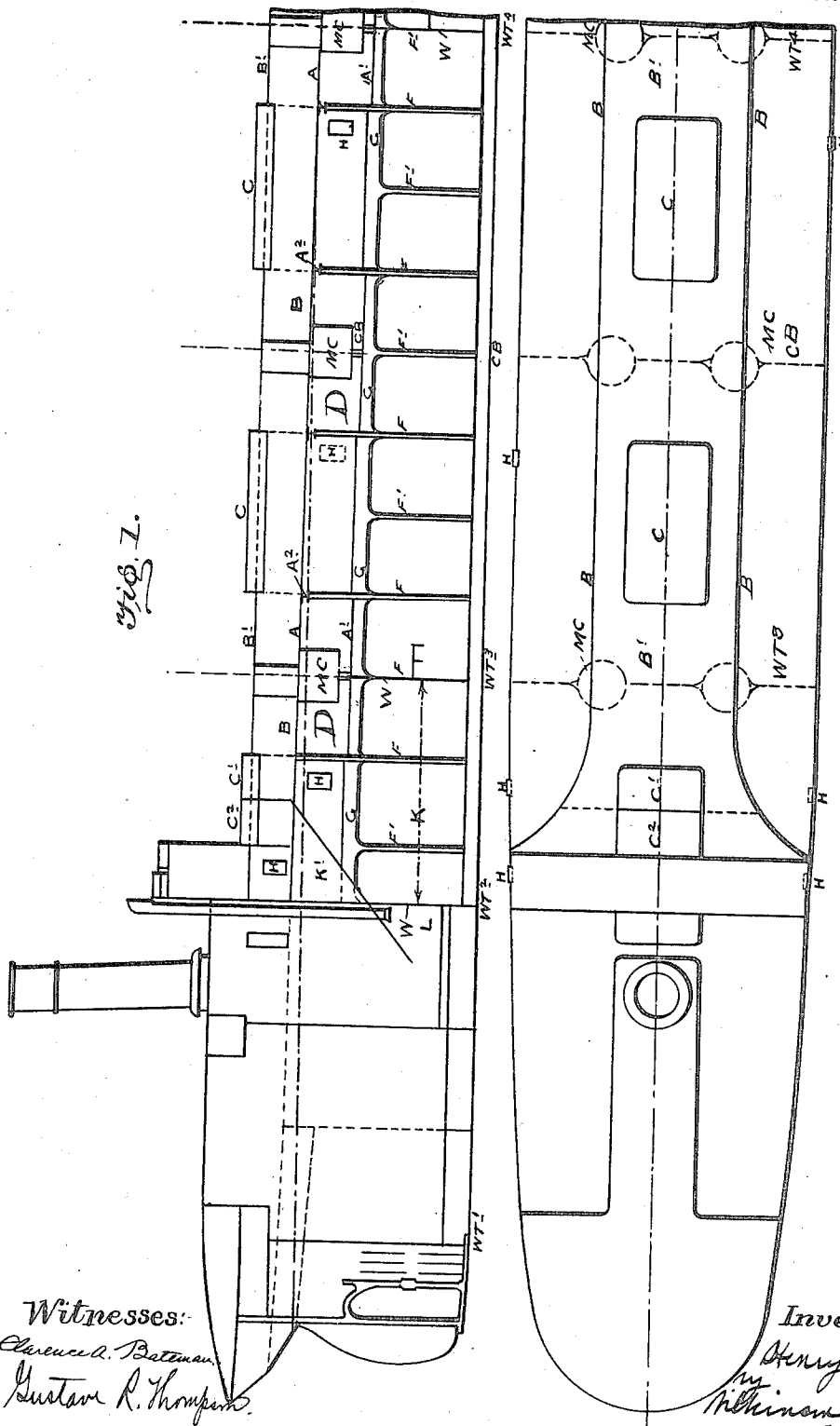
Patented Aug. 20, 1901.

H. BURRELL.
CARGO STEAMER.

(Application filed Sept. 6, 1899.)

(No Model.)

4 Sheets—Sheet 1.



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4 Sheets—Sheet 2.

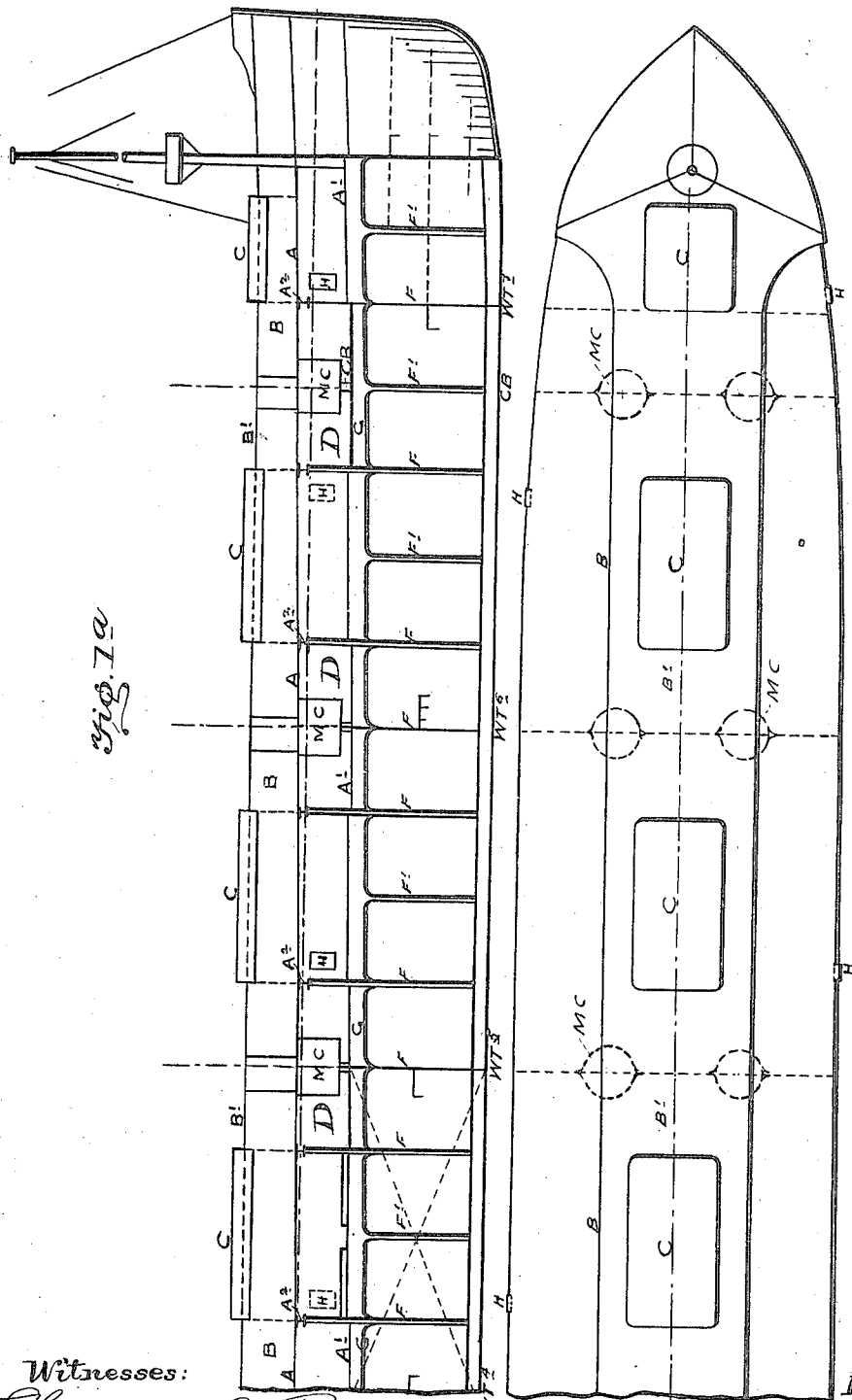


Fig. 1a

Fig. 1b

Witnesses:
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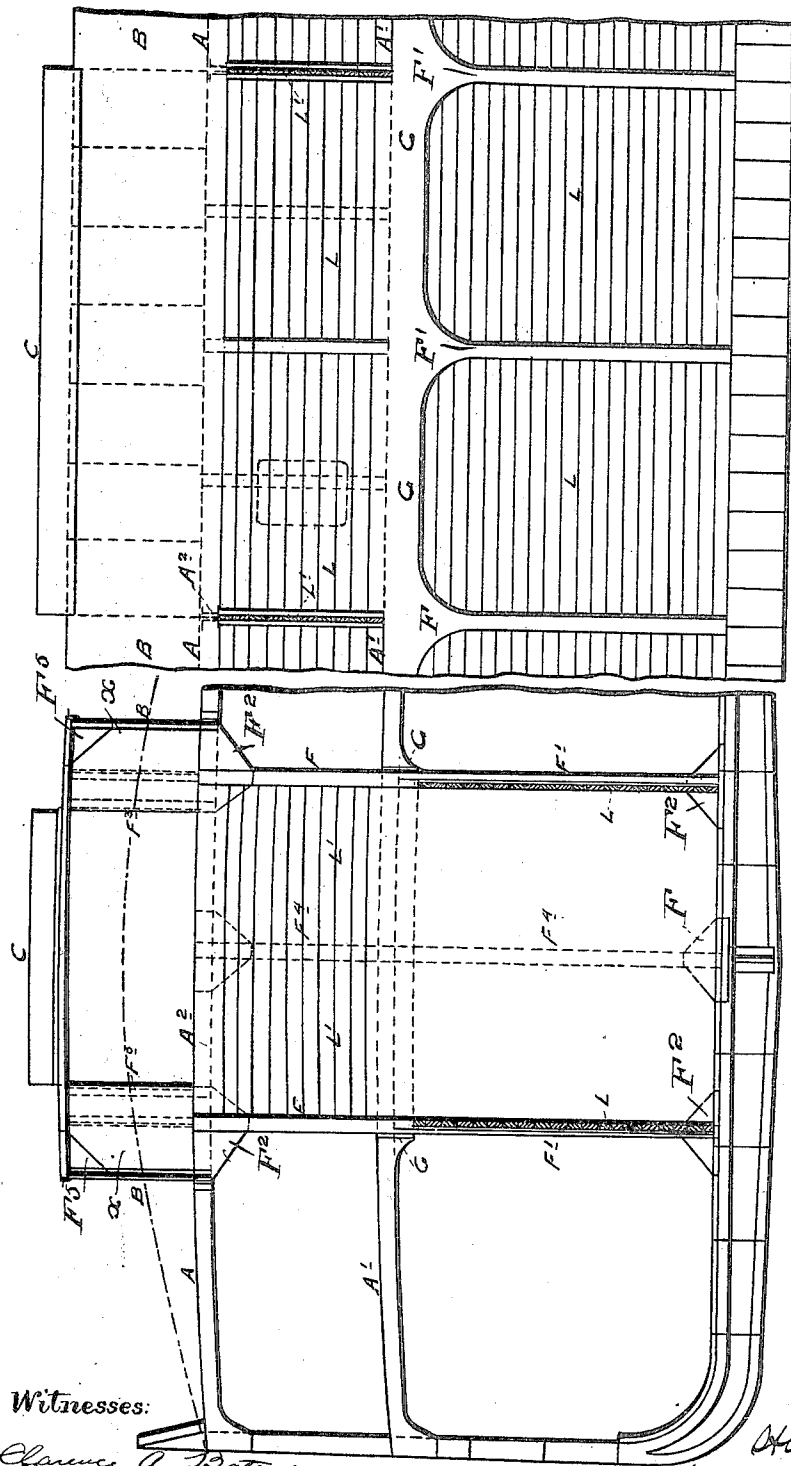


Fig. 3.

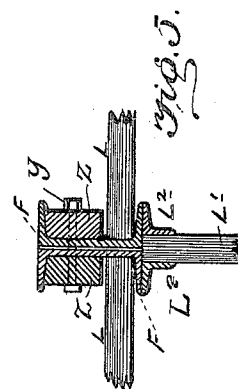


Fig. 5.

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Gustave R. Thompson.

Inventor:

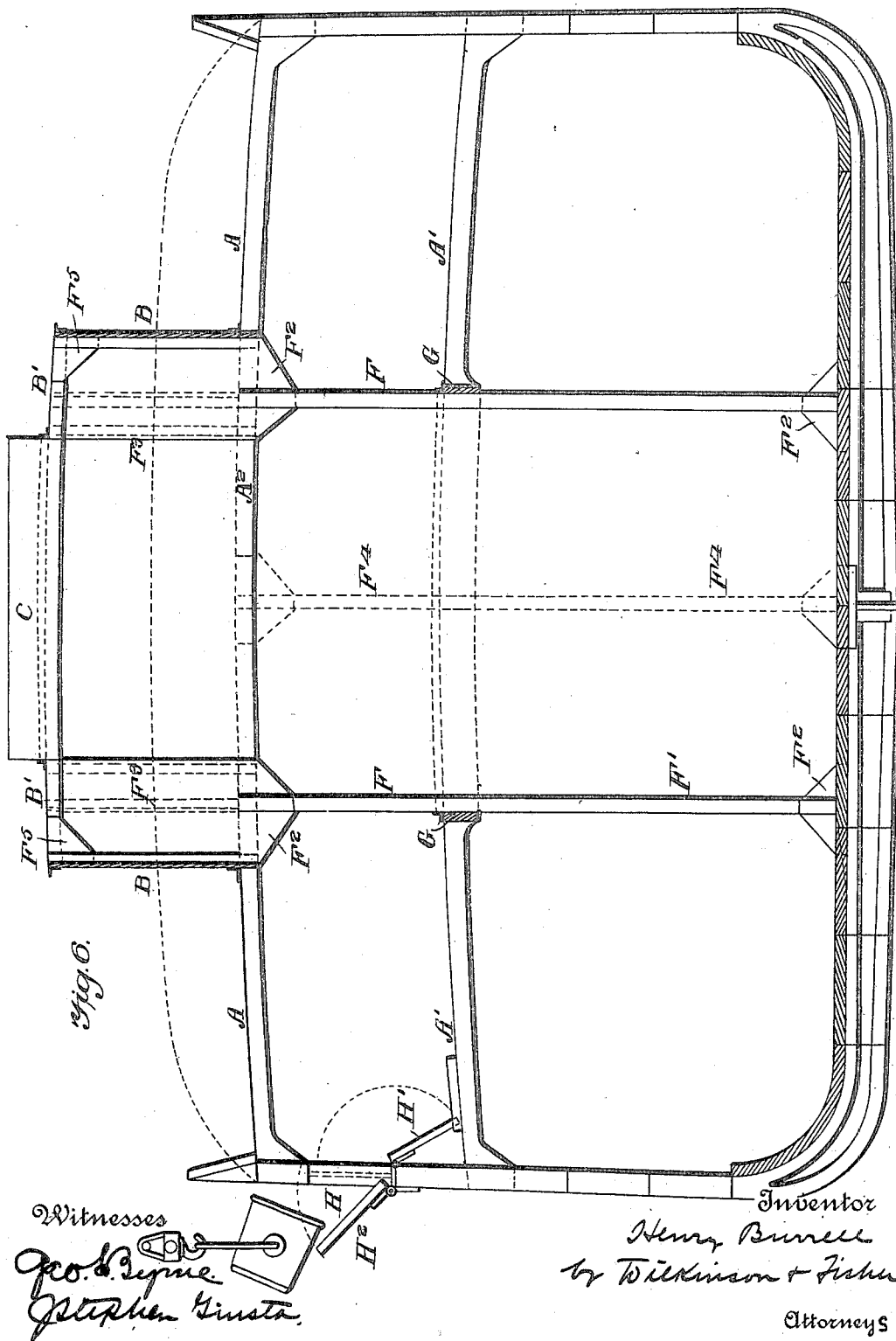
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H. BURRELL.
CARGO STEAMER.

(Application filed Sept. 6, 1899.)

(No Model.)

4 Sheets—Sheet 4.



UNITED STATES PATENT OFFICE.

HENRY BURRELL, OF GLASGOW, SCOTLAND.

CARGO-STEAMER.

SPECIFICATION forming part of Letters Patent No. 680,692, dated August 20, 1901.

Application filed September 6, 1899. Serial No. 729,654. (No model.)

To all whom it may concern:

Be it known that I, HENRY BURRELL, ship broker and ship owner, of 4 Devonshire Gardens, in the city of Glasgow, Scotland, have
5 invented Improvements in the Construction of Cargo-Steamers, (for which I have obtained a patent in Great Britain, No. 2,770, dated the 7th day of February, 1899,) of which the following is a specification.
10 My present invention relates to improvements in sea-going vessels, particularly freight or cargo steamers, and is designed to improve the construction of the cargo-holds and the construction in general.
15 It is one of the objects of this invention to so construct a vessel that a much greater amount of freight or cargo may be carried than is possible with the existing vessels of equal dimensions.
20 Another object is to so construct the vessel that loading and unloading of the cargoes from the hold may be accomplished in a much shorter time than has been possible heretofore. It will also be obvious that the stability of the vessel and the structural strength
25 and rigidity will be much increased by placing the engines and boilers aft, with the cargo occupying the entire amidships-section of the vessel, as the weight will be well distributed
30 over the whole vessel. This is a great improvement over the method now in vogue of placing the heavy boilers and engines amidships, giving to the ship a tendency to rock on its transverse axis.
35 Another object of my said invention is to provide a simple and effective means for dividing the cargo space or hold of the vessel into compartments of different dimensions to suit varying requirements. By my method
40 the girders and struts that run longitudinally of the cargo-spaces of the vessel and support the decks are so equipped that the boards may be easily inserted or removed from these struts or girders to divide the space into the
45 compartments of any desired size. This is accomplished without providing any special construction, as will be hereinafter more fully described. When cargo in bulk is to be carried, such as coal and the like, these boards
50 may be removed and stored in a comparatively small space.

In order that my said invention may be

more fully described, reference will be had to the accompanying drawings, wherein the same parts are indicated by the same reference-letters throughout the several views. 55

Figure 1 represents a central longitudinal section of the aft half of a vessel embodying my improvements. Fig. 1^a is a similar view of the forward half of the vessel. Fig. 2 is a 60 plan view of the aft half of the vessel, and Fig. 2^a is a similar view of the forward half of the vessel. Fig. 3 represents a transverse section, enlarged, taken amidships of the vessel, showing the cargo-space. Fig. 4 represents a section taken longitudinally of the 65 vessel, showing the method of employing the cargo-boards to divide up the cargo-space. Fig. 5 represents an enlarged transverse section through one of the vertical struts, parts 70 being broken away; and Fig. 6 represents an enlarged transverse section through the vessel, showing the arrangement of the struts, girders, and deck-beams.

Referring particularly to Figs. 1 to 2^a, A 75 represents the main deck of a vessel provided with my improvements.

B represents the trunk or cabin provided with the upper deck B'.

C C are hatches provided at regular intervals along the trunk B, these hatches passing from the upper deck B' to the base or 80 lowest hold.

C' is a hatch through which coal may be hoisted from the bunker K and lowered 85 through the hatch C² to the chute K' into the boiler-room.

A' is the lower deck beneath the deck A, and A² represents the deck-beams for supporting the upper deck A. 90

D D are compartments between the hatches C C, in which may be located crane-supports or the like provided with power-chamber MC, attached thereto.

F F are a plurality of vertically-disposed 95 struts running from the base of the vessel to the main deck A, being firmly secured in place by the web-plates F² F². Above these pillars or struts F are provided framings F³, adapted to strengthen the trunk B, angle- 100 irons F³ being provided in the upper corners between the deck and side of the trunk to reinforce the same, suitable passages being left for the crew. F' represents also vertical

struts or pillars placed midway between the pillars or struts F; but instead of extending up to the main deck they stop at the lower deck A'. All of these struts are I-shaped girders, preferably made up of two trough or channel irons bolted together, as by the bolt *y*, Fig. 5. Fitted into the channels left upon each side of the beam thus formed are the strips of planking *z z*, which are held securely in place by the bolt *y*. These strips leave a space or recess between their edge and the edge of the beams, in which may be inserted the ends of the cargo-boards L. Upon one of the flat ends of the beam F are secured the angle-irons L² L², so spaced as to allow the ends of the boards L' to be inserted.

F⁴ represents vertically-disposed struts placed directly in the center of the vessel, midway between the struts F F, starting where the hatchways leave off and dividing the vessel into two compartments, one on each side of the center of the vessel. These struts F⁴ run from the base of the vessel above the keel to the main deck A, being secured in place in the manner described in connection with the struts F.

G G are stringers running longitudinally of the vessel at equal distances from the center thereof and support the inner ends of the lower deck A', where they are cut into by the hatchways, both stringers F and F' being secured thereto.

L represents cargo-boards, which may be interchangeably inserted between the vertical struts F F'.

L' represents cargo-boards inserted between the vertical struts F and run transversely of the vessel, forming the ends of the hatchways.

H represents one of a plurality of port-openings with inwardly-swinging doors H¹ and outwardly-swinging doors H², so that when coal or other bulk cargo is being loaded these two doors improvise a chute.

Water-tight bulkheads are preferably provided along the sides of the vessel throughout the cargo-space, such an arrangement being shown in Figs. 1 to 2^a, inclusive, such bulkheads being indicated by the partitions W W, thereby dividing the vessel up into the water-tight compartments WT¹ WT² to WT⁷, &c.

A space K is generally reserved for the coal or fuel for the vessel. This space for the bunkers is in easy reach of the boiler-room, it being simply necessary to hoist the coal through the hatch C' into the hatch C², where it will be carried by the chute K' directly to the engine-room.

While I have shown my invention as em-

bodied in the particular form of vessel, it is obvious that the same may be applied to various types of steam or other vessels and that various modifications may be made in the details of the same without departing from the spirit of my said invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a vessel of the character described, the combination with the hatches C; of stringers running longitudinally of the vessel, and spaced at a distance equal to the width of said hatches, vertical struts or pillars F, F' supporting said stringers, cargo-boards L', stretching transversely of the vessel between the struts F and cargo-boards L stretching longitudinally of the vessel beneath and above said stringers between the struts F, F', substantially as described.

2. In a vessel of the character described, the combination with a plurality of hatchways disposed longitudinally of the vessel; of stringers G, G, running longitudinally of the vessel, and spaced at a distance equal to the width of said hatches, I-shaped struts F forming the four corners of said hatchways, cargo-boards L' running transversely of the vessel between said struts F forming the ends of said hatchways, vertically-disposed struts F', supporting said stringers G, G, and cargo-boards L connecting said struts or pillars F, F', forming the sides of said hatchways, substantially as described.

3. In a vessel of the character described, the combination with the vertically-disposed I-shaped struts or pillars F, F', made of two channel-beams bolted together by the bolt *y*, strips of planking *z, z*, bolted in the channels of said beams, and held in position by said bolt *y*, leaving a recess large enough to admit the end of a board in said channel, and a pair of angle-irons L², L², secured to one of the flat sides of said struts, forming a recess or channel large enough to admit the end of a board between them, said recess being adapted to hold the board at right angles to said first-mentioned recess; of a plurality of removable cargo-boards adapted to have their ends inserted in said recesses, thereby dividing the vessel up into cargo-compartments, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY BURRELL.

Witnesses:

JOHN SIDDLE,

JOSEPH HENRY PEARSON.