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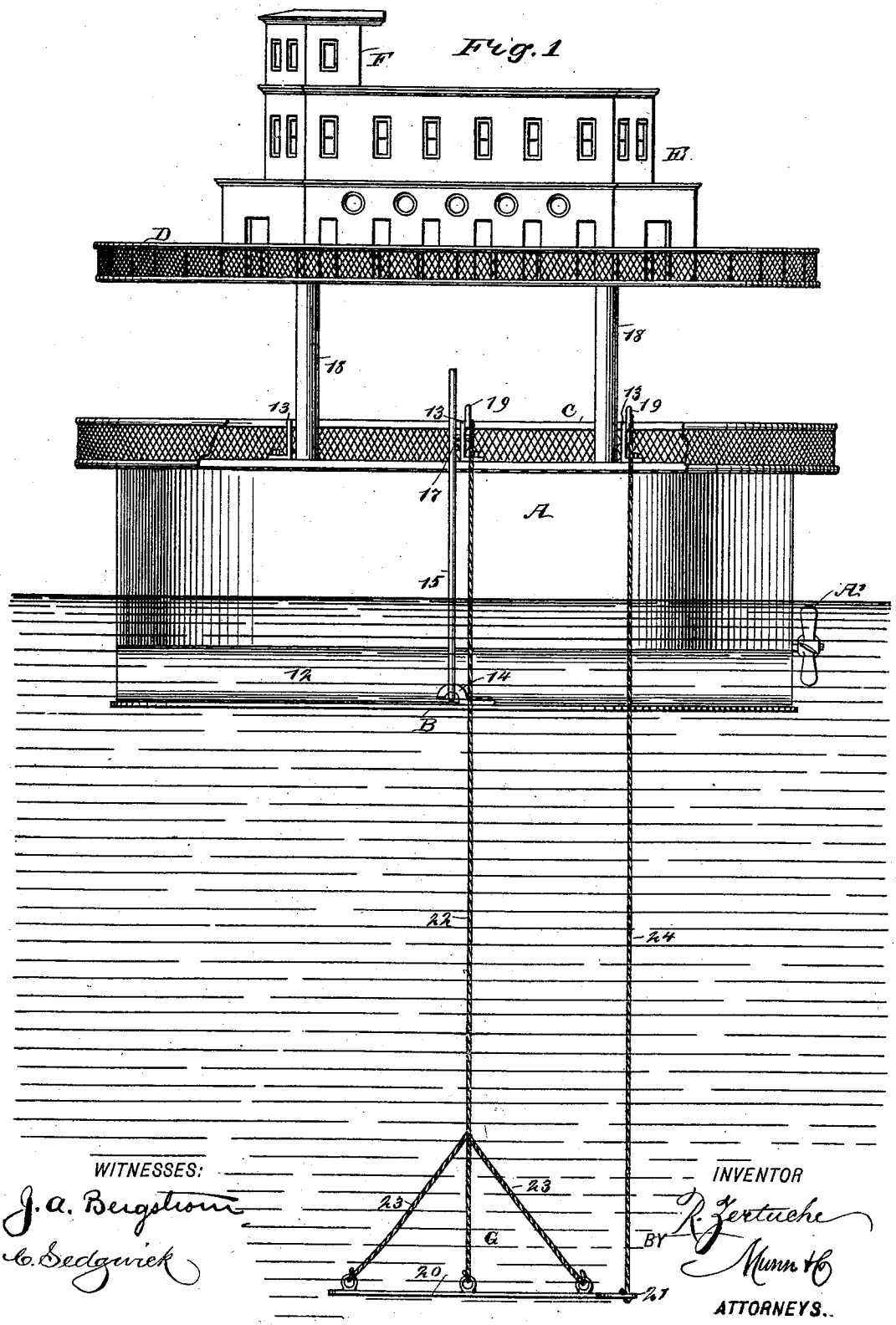
3 Sheets—Sheet 1.

R. ZERTUCHE.

VESSEL.

No. 513,856. Patented Jan. 30, 1894.

Fig. 1



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Fig. 2

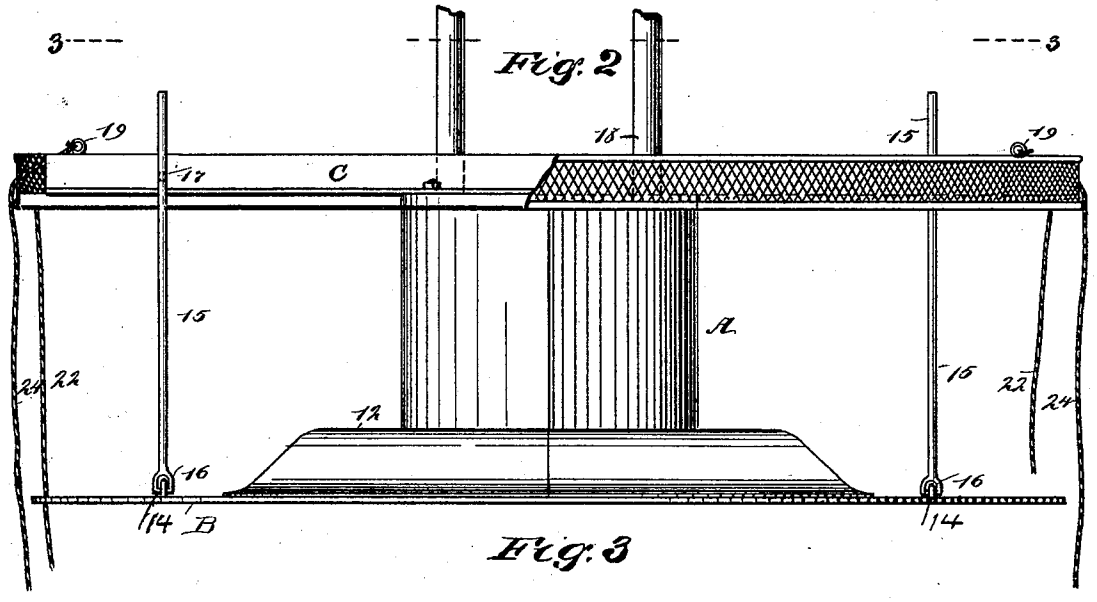
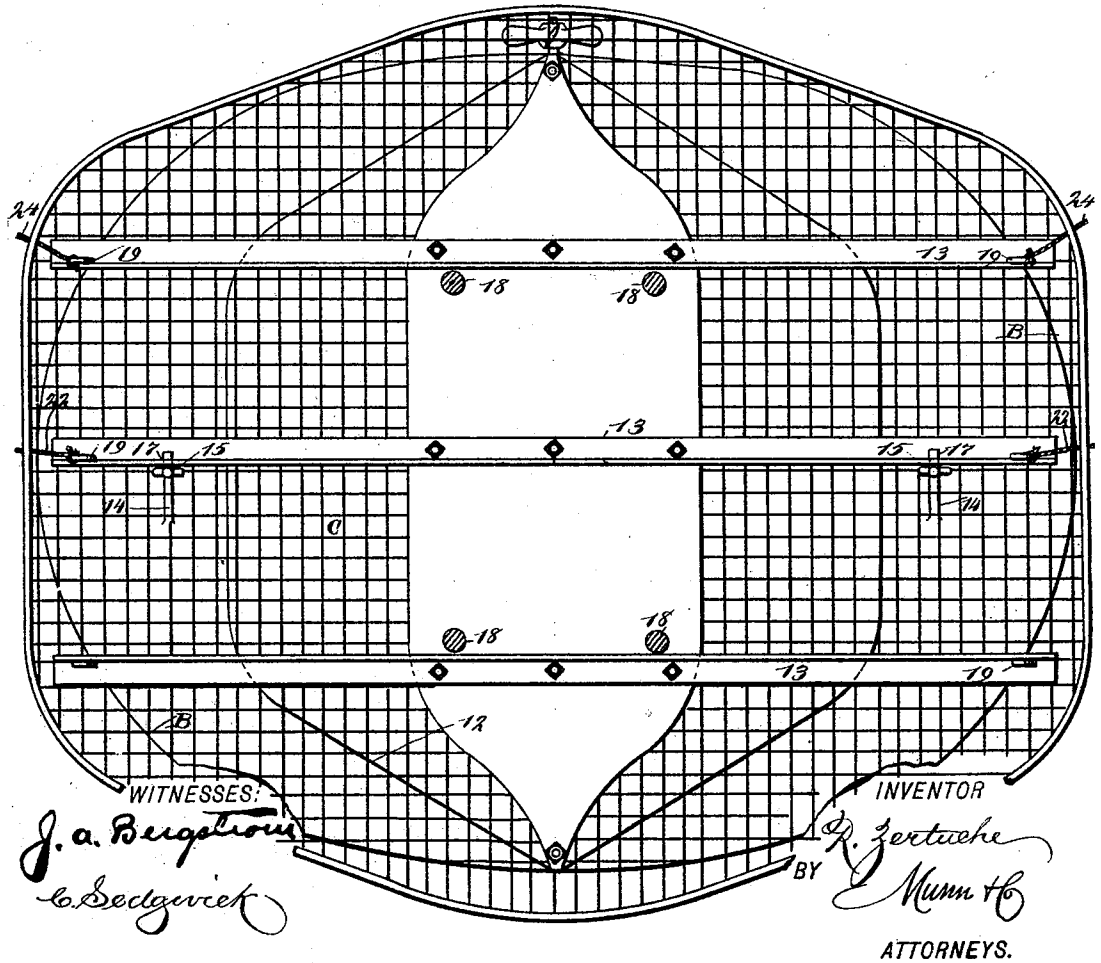


Fig. 3



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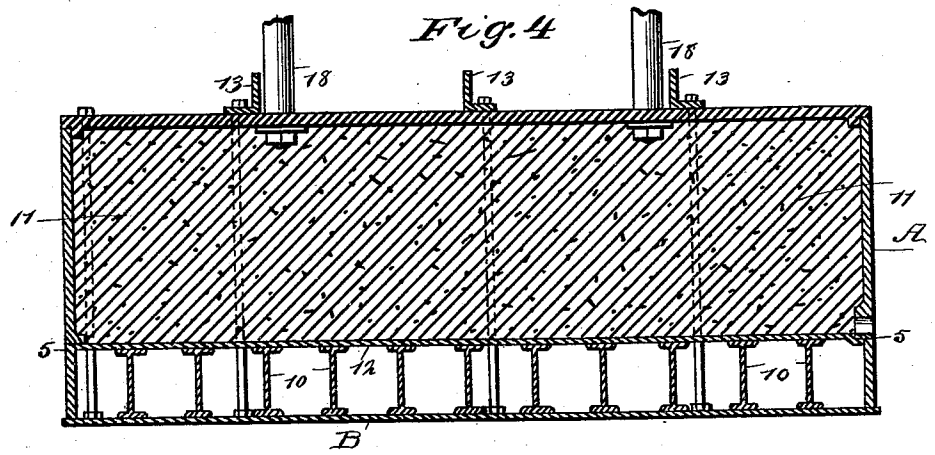
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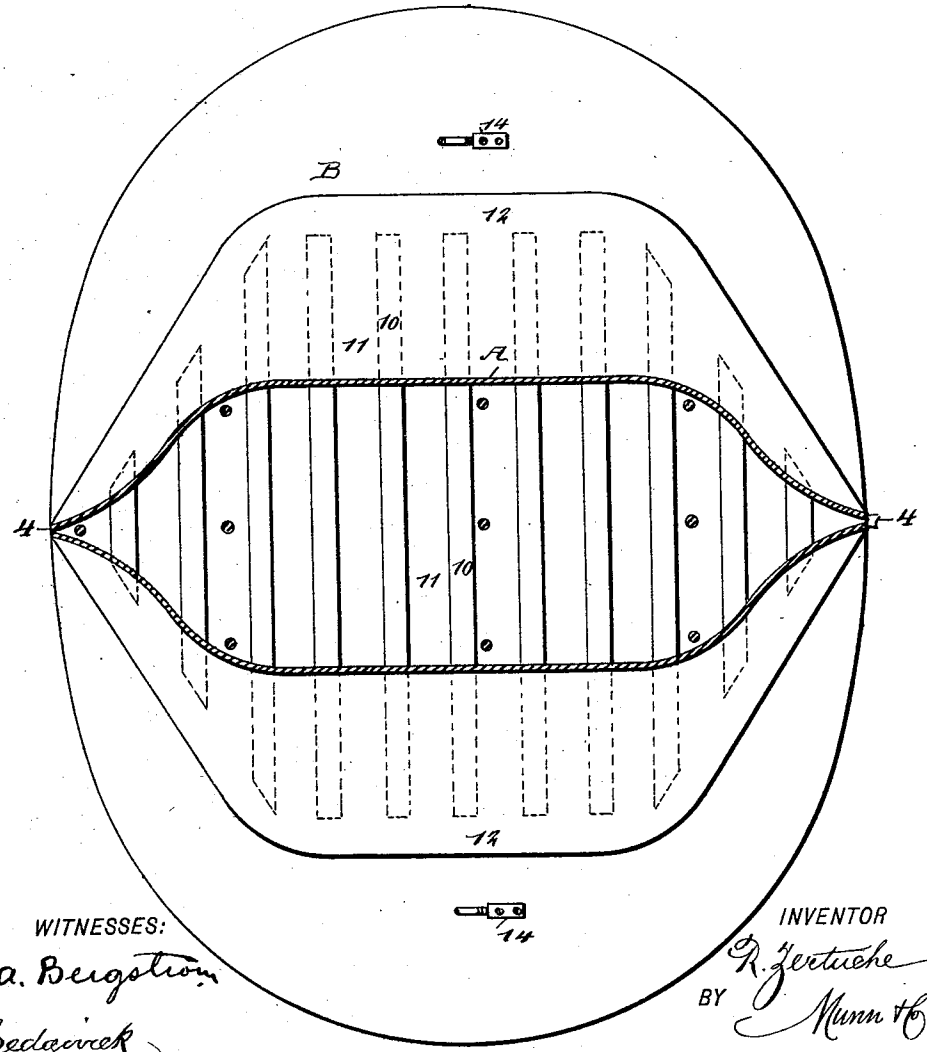
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No. 513,856. Patented Jan. 30, 1894.

Fig. 4





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Fig. 5

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UNITED STATES PATENT OFFICE.

RUBEN ZERTUCHE, OF SALTILLO, MEXICO.

VESSEL.

SPECIFICATION forming part of Letters Patent No. 513,856, dated January 30, 1894.

Application filed March 10, 1893. Serial No. 465,395. (No model.)

To all whom it may concern:

Be it known that I, RUBEN ZERTUCHE, of Saltillo, Mexico, have invented a new and useful Improvement in Vessels, of which the following is a full, clear, and exact description.

My invention relates to an improvement in vessels, and especially to an improvement in the type of vessels adapted to draw but little water; and the object of the invention is to so construct the vessel that it will be steady, will be light of draft, and will offer but little resistance to the water, and consequently will be capable of being propelled at a high rate of speed.

Another object of the invention is to construct the vessel in such manner that it will not roll and pitch as is customary with vessels of the ordinary type.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improved vessel a portion of one of the decks being broken away; Fig. 2 is a front view of the hull of the vessel and the deck above the hull, a portion of the deck being in section. Fig. 3 is a section taken horizontally, and practically on the line 3—3 of Fig 2. Fig. 4 is a vertical section taken through the hull of the vessel from stem to stern, and practically on the line 4—4 of Fig. 5; and Fig. 5 is a horizontal section taken essentially on the line 5—5 of Fig. 4.

In carrying out the invention, the hull A, may be made of any approved material, and may be given any desired shape. The hull is preferably made as buoyant as possible, and to that end is provided with a filling 11, of cork or a like light material; provision is made, however, for the location of a propeller shaft in the hull, and any approved form of propeller may be employed.

Below the hull the vessel is constructed with what I term a hull plate B, and this hull plate is made somewhat elliptical or oval in shape, but it may be of any approved contour, as, for example, it may be round. The plate B may be perferably made of polished steel, or of any other metal that may be found advantageous in practice, and the plate extends some distance horizontally beyond the sides of the hull, but not beyond the stem and stern thereof, as shown in Fig. 5, as it preferably simply touches the hull at these points.

Between the hull and the hull plate B a number of horizontal beams 10, are arranged at suitable distances apart, and the space between these beams, as shown in Fig. 4, is filled with air, thus providing a series of air-tight compartments at the extreme bottom of the boat and beneath its hull. The beams 10, extend transversely beneath the hull from side to side and some distance beyond its sides, as shown in Fig. 5. The upper surface of the beams 10, and the upper portion of the compartments between the beams, are covered by a cover plate 12, and this plate is preferably curved downward until it meets the upper surface of the hull plate B, as shown in Fig. 2. Thus there are no sharp lines above the hull plate or between the hull plate and the hull, and the space inclosed by the cover plate 12, adds considerably to the buoyancy of the vessel.

It will be understood that the buoyant compartments inclosed by the plate 12 and the hull plate B, are below the water line of the vessel even when said vessel is unloaded. The hull A, rests directly upon the cover plate 12, and the hull and buoyant compartments, and likewise the hull plate B, are securely attached one to the other by bolts, rivets, or equivalent fastening devices.

Ordinarily upon the upper face of the hull a series of transverse beams 13, is located, the beams extending quite a distance beyond the sides of the hull. These beams when so employed are adapted to form the support for what may be termed a lower deck C, and this deck, when it is used, is made of perforated or reticulated material, so that the wind will have but little effect upon it, being able to pass upward through the deck, and therefore the deck will not present a surface against which the wind can strike and careen or rock the vessel.

As the hull plate B, is preferably made as thin as possible and as springy as may be, in

very heavy weather it is necessary that this plate should be braced. This may be accomplished in many ways, for example by extending braces from the hull plate to the hull; but preferably the hull plate at opposite sides of the hull near the center of that portion is provided with hooks or cleats 14, and these hooks or cleats may be engaged from the deck C by braces 15, the braces being provided with eyes or loops 16 at their lower ends, through which the hooks or cleats pass, while the upper ends of the braces are carried upward through and beyond the deck C, to an engagement with one of the beams 13, and an extension or projection 17 of the braces is made to pass through suitable apertures in the vertical members of the beams, as the said beams 13, are either made L or T-shape, preferably the former; but the braces at their upper ends may be secured to the beams 13, or equivalent supports, in any suitable or approved manner. Thus the braces 15, when the weather is quite calm, may be disconnected from the hull plate, as at that time their services will not be needed.

Upon the hull of the vessel, on the deck C, the machinery and cabins or deck houses for the crew may be located, while the upper deck D, may be supported above the hull by means of stanchions 18, or other equivalent supports, and upon the upper deck the passenger cabin E, pilot house F, and other accommodations for passengers may be located when the vessel is to carry passengers; but I desire it to be understood that I claim no particular formation for the upper deck or the quarters contained thereon.

If in practice it is found desirable, even the lower deck C may be dispensed with, and a boom or an equivalent may be projected outward from the sides of the hull to form an upper support for the braces 15. The beams 13, booms, or whatever substitutes may be employed for the beams, are ordinarily provided with cleats 19 at or near their outer ends, and these cleats are adapted to serve as fastening devices for anchors G, the anchors being adapted to be employed only when the vessel encounters very rough weather, when they are employed to steady the vessel and prevent it from drifting to windward, and the anchors are likewise employed to stop the headway of the vessel and cause the vessel to lie to, it not being necessary for the anchors to reach bottom in order to control the movements of the vessel. The anchors have been made the subject matter of a separate application, filed February 27, 1893, Serial No. 463,897, and form no part of the present invention. They consist of the plates 20, preferably of polished steel, the said plates being provided at one end, preferably their forward end, with an extension 21. A cable 22, is attached to the center of each anchor plate at its upper face, and this cable is secured preferably to the central deck beam 13, or whatever equivalent for the beam may be employed. Auxiliary ropes or cables, preferably four in number, and designated as 23, are branched from the main cable and are secured to the anchor plates near the corners thereof. A second cable 24, is employed, which is attached to the extension 21 of the anchor plates, and these second cables are carried upward and are attached to one of the side deck beams 13, as is shown in both Figs. 1 and 3. The anchors stand horizontally, one at each side of the vessel, and as a column of water is at all times sustained by the anchor plates while they are in use, a vessel will be held comparatively stationary, or will be prevented from rolling in a high sea, the vessel being rendered by the use of the anchors exceptionally steady. When the anchors are to be drawn upward, tension is exerted upon the auxiliary cables 24, which will carry the anchor plates to a perpendicular position, presenting their edges to the surface of the water, and in this manner but little power will be required to elevate the anchors. The anchors need not necessarily be made of very thick material, but they are preferably of quite an extensive area.

Such a vessel as has been above described is not only exceedingly simple in its construction, durable and economic, but it will travel rapidly upon any body of water and with but little unpleasant motion except when there is a head wind or sea, at which time the vessel may be anchored and be maintained in a steady position, rendering it safe at that time for even inexperienced persons to walk the deck.

Among the advantages that may be mentioned with reference to this form of vessel are the following: By reason of the oval hull plate the vessel is given great stability, and is effectually prevented from upsetting; it can not be forced from the water by the wind however strong the wind may be, when the anchors are thrown overboard one at each side of the hull, since the column of water above the anchors will hold them effectually in place, and a further advantage consists in the fact that an increase of speed may be obtained by reason of the great reduction of friction, as the vessel is of exceedingly light draft.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In the construction of vessels, the combination, with a hull, of a hull plate located below the hull and connected therewith, which plate extends beyond opposite sides of the hull, as and for the purpose specified.

2. In the construction of vessels, the combination, with a hull, of a hull plate connected therewith, extending horizontally beyond opposite sides of the vessel and flush with its stem and stern, as and for the purpose specified.

3. In the construction of vessels, the combination, with a hull, of a hull plate located below the hull, extending beyond opposite sides

thereof and flush with the hull at stem and stern, and buoyant compartments located between the hull and hull plate, serving to connect the two, as and for the purpose set forth.

4. In a vessel, the combination, with a hull, having a filling of buoyant material of a hull plate extending beyond the sides of the hull and flush with its stem and stern, beams located upon the hull plate, extending transversely beneath the hull, and a cover plate concealing the beams and buoyant material and attached to the hull and to the hull plate, as and for the purpose set forth.

5. In the construction of vessels, the combination, with a hull and a hull plate connected therewith, extending horizontally beyond opposite sides, of a deck extension, and braces connecting the hull plate and extension, as and for the purpose set forth.

6. In the construction of vessels, the combination with a hull, and a hull plate attached to the hull and extending horizontally beyond the sides thereof, of braces removably connected with the hull and with the hull plate, as and for the purpose specified.

7. In the construction of vessels, the combination, with a hull, a hull plate extending beyond both sides of the hull and flush with its stem and stern, and a buoyant compartment located between the hull plate and the hull, of side extensions from the hull, and braces removably connected with the hull extensions and with the upper side faces of the hull plate, as and for the purpose specified.

RUBEN ZERTUCHE.

Witnesses:
A. M. MOLINA,
C. SEDGWICK.