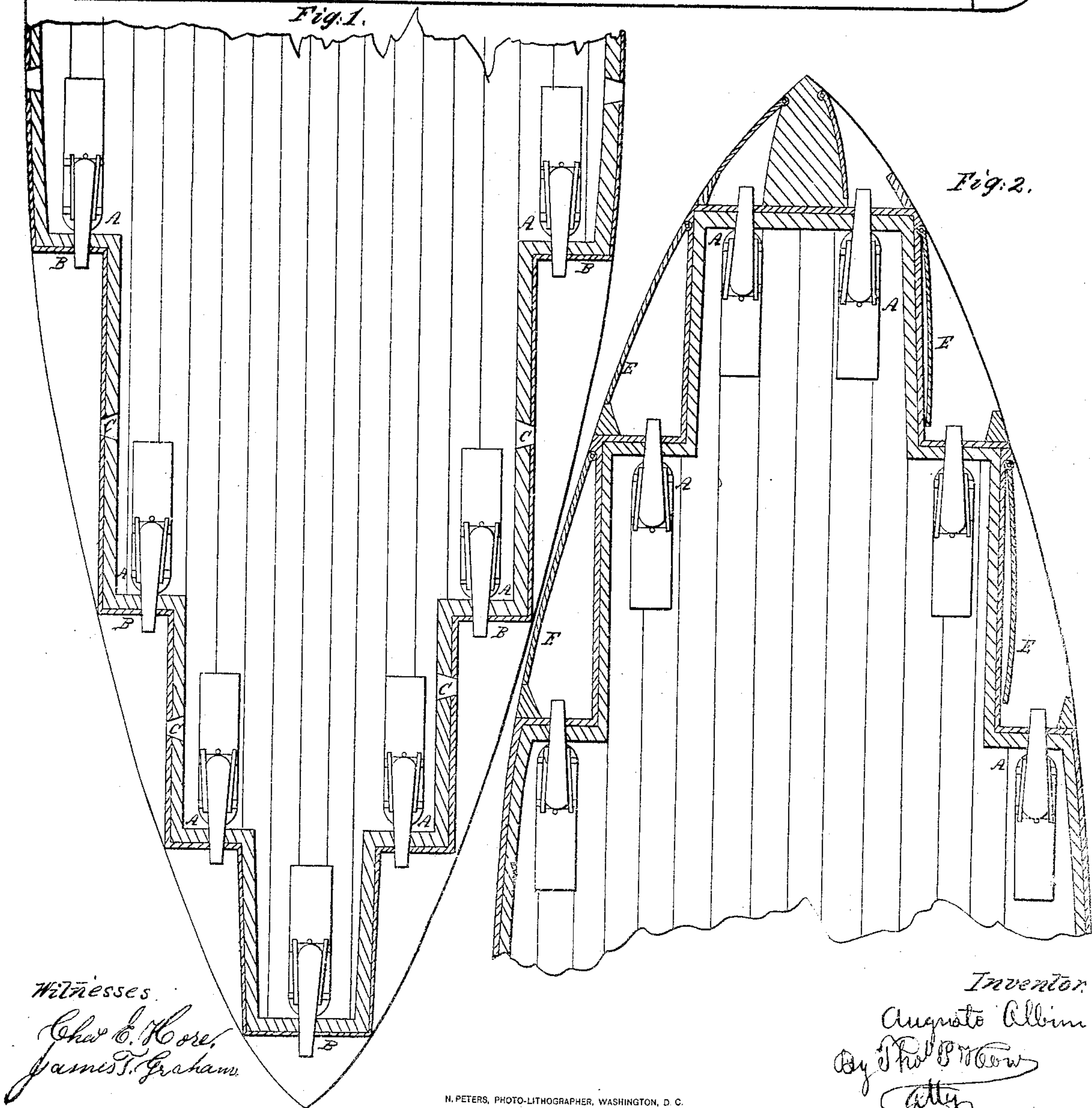
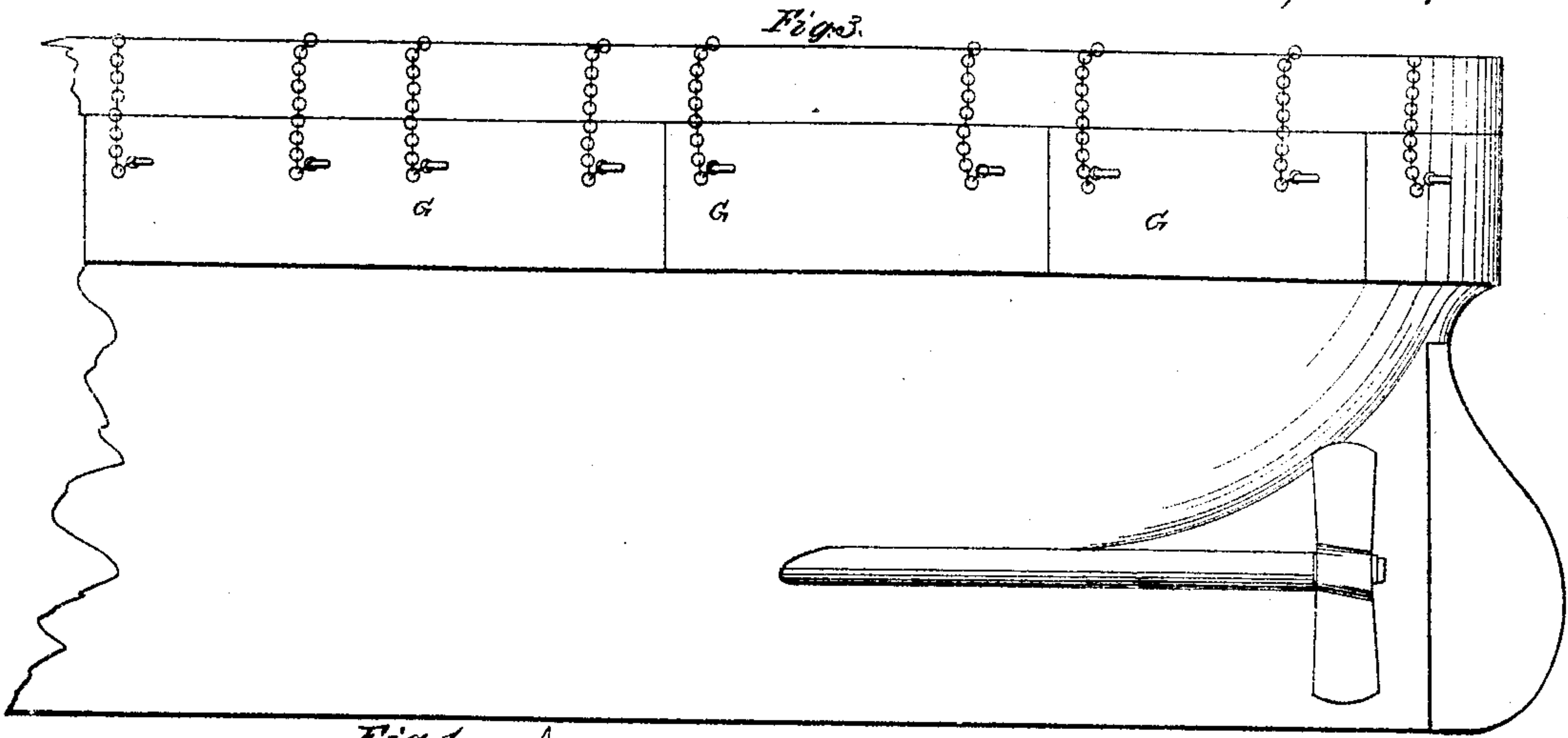


A. Albini
Armor Clad.

N^o 45,113.

Patented Nov. 15, 1864.



Witnesses

Chas. E. Hore,
James T. Graham.

Inventor

Augusto Albini
By Thos. P. Brown
Atty

A. Albini.
Armor Clad.

Patented Nov. 15, 1864.

N^o 15,113.

Fig. 5.

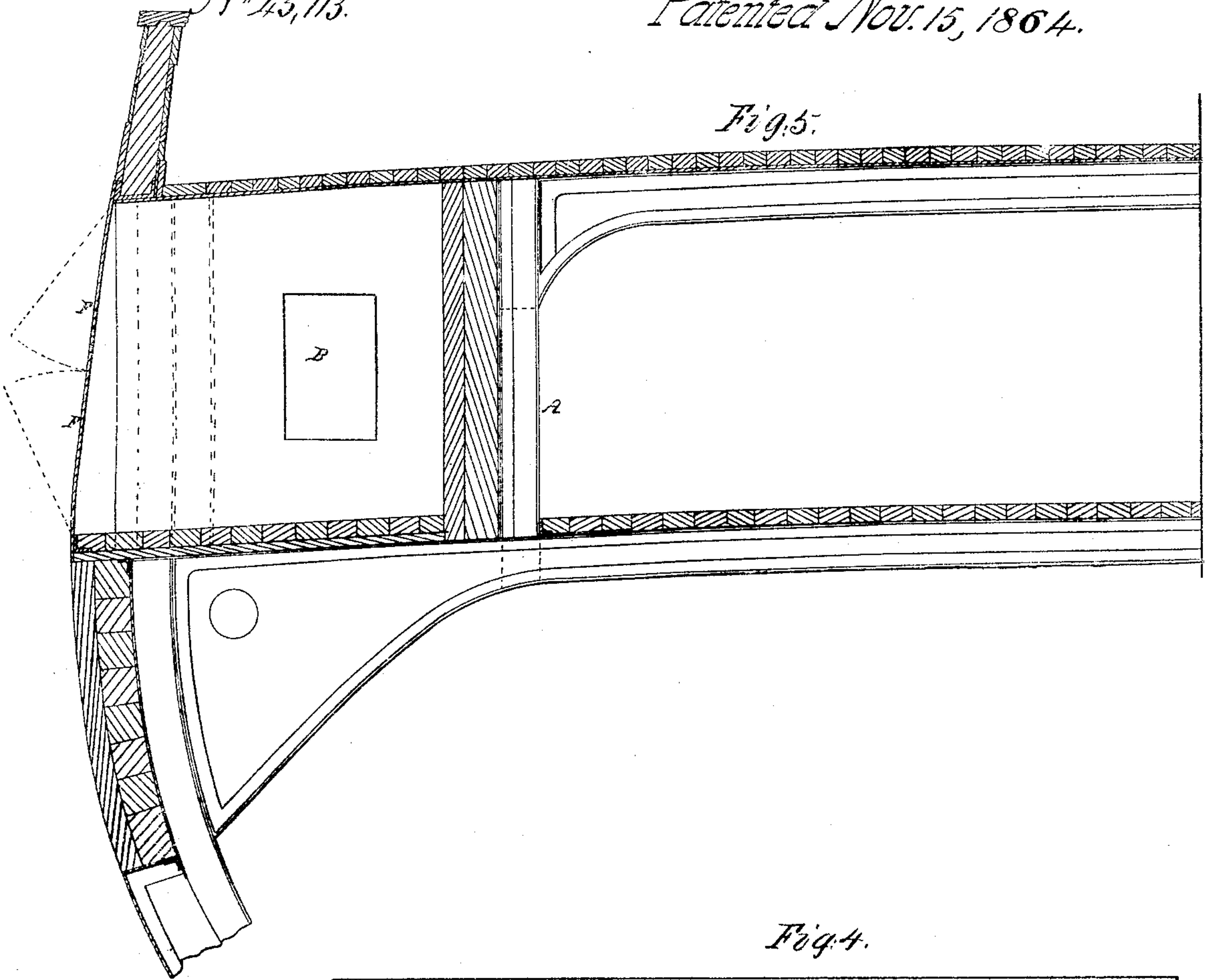
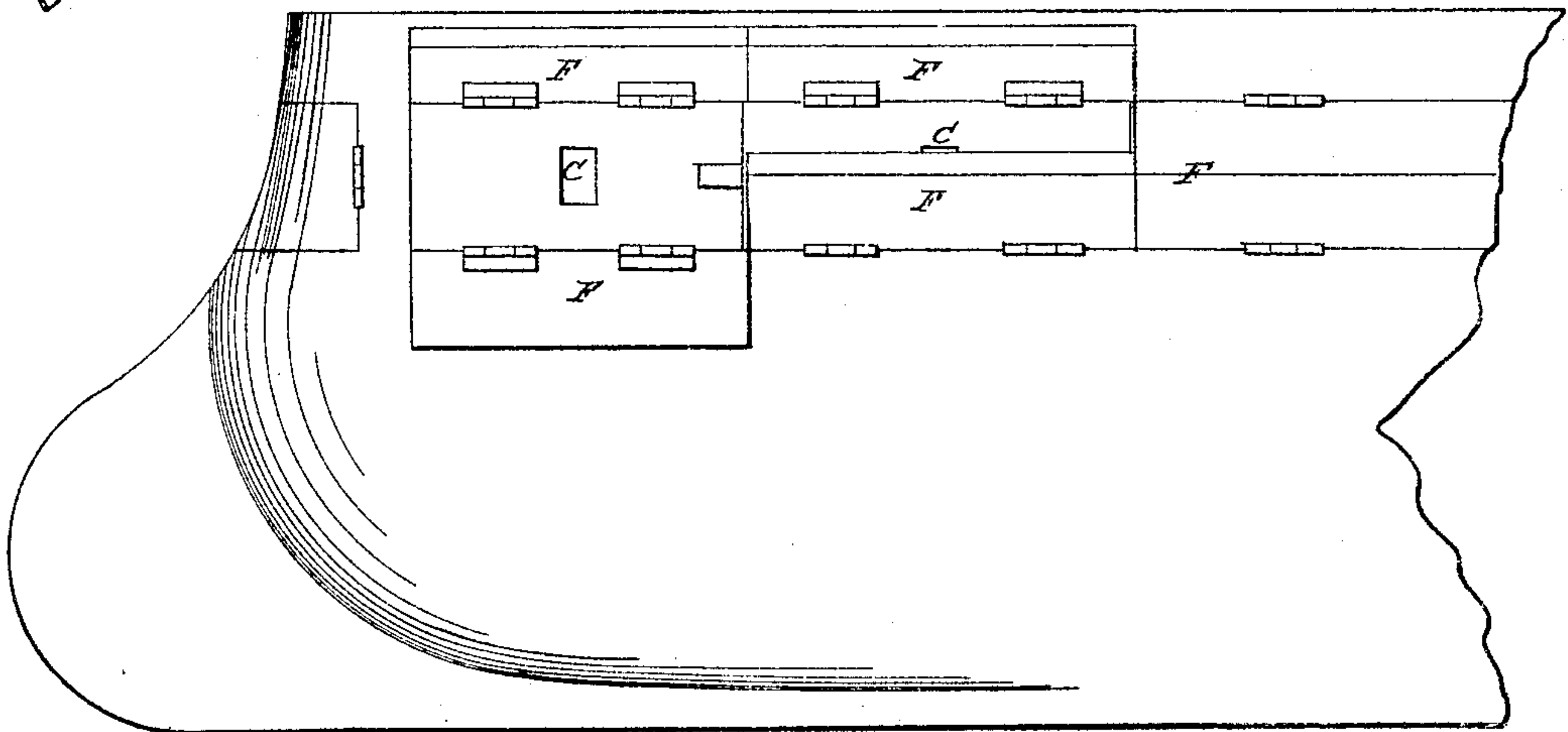


Fig. 4.



Witnesses.
Chas. Edw. How
James T. Graham.

Inventor:
Augusto Albini
By *Chas. Edw. How*
Atty

UNITED STATES PATENT OFFICE.

AUGUSTO ALBINI, OF GENOA, ITALY, ASSIGNOR TO JAMES HENDERSON.

IMPROVED ARMAMENT OF SHIPS OF WAR.

Specification forming part of Letters Patent No. **45,113**, dated November 15, 1864.

To all whom it may concern:

Be it known that I, AUGUSTO ALBINI, of Genoa, in the Kingdom of Italy, but at present residing at Birmingham, in the county of Warwick, in England, have invented certain new and useful Improvements in Ships of War and in arming Ships of War; and I do hereby declare the following to be full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a plan of the main or gun deck in the forward part of a ship constructed and armed according to my invention, and having an odd number of guns. Fig. 2 is a plan of the main or gun deck in the forward part of a ship, constructed and armed according to my invention, having an even number of guns. Fig. 3 is a side view of the afterpart of a ship, showing one mode of closing the ports. Fig. 4 is a side view of the forward part of a ship, showing other modes of closing the ports. Fig. 5 is a vertical cross-section showing the construction.

My invention and improvement consists in constructing and arming ships so that guns, more or fewer, according to the size and armament of the ship, may be fired from the bow and stern in a direction parallel with the keel.

I make the hull of the ship from the keel to the main or gun deck the same as the hull of an ordinary ship. Above the main or gun-deck, on each side of the ship, fore and aft, instead of having the ordinary curved bulwarks, I construct a series of angular recesses or casements, as represented at A, Figs. 1 and 2. These recesses or casements are formed by the intersection of vertical planes running alternately at right angles to and parallel with the keel of the ship. These angular recesses or casements, beginning at the bow and stern of the ship, either with one recess or casement, as represented in Fig. 1, or with two, as represented in Fig. 2, extend on each side of the ship in the direction of the ship's length to a distance depending upon the size of the ship and the number of guns required, one gun being situated in each of said recesses or casements. That side of each recess or

casement which is transverse to the ship's length, and through which the gun is fired, I protect with armor-plates six or seven inches in thickness, and that side of the recess or casement, which is parallel to the ship's length I protect with thinner plates. The regular port-holes B are situated in the side of the recess or casement which is transverse to the ship's length; but there may be port-holes through the other side of the recess, as represented at C, Fig. 1, so as to allow the guns to be fired broadside when required. The guns D inside the angular recesses or casements are mounted on carriages, which are worked on one side, as they are placed so close to the bulwarks as to allow room only for the limited training necessary to concentrate their fire. I prefer to mount the guns on sliding carriages, as they offer great facilities for working the guns on one side, and in a rough sea the guns can be placed on the ends of the slides, and the weight of the guns can thereby be brought more amidship. By these arrangements the weight of the armor and guns, instead of being near the outside of the ship, are brought nearer the center, and the tendency of the ship to roll is thereby diminished. By this arrangement the bow and stern are not overloaded, but the weight is uniformly distributed in the direction of the length of the ship. The projecting stern under the water-line gives sufficient buoyancy to the ship.

To preserve the outside shape of the ship when not in action, I close the angular recesses with ports of the ordinary kind, or I arrange the ports so that they may be moved like a door and fold in and lie flush with the longitudinal side of the recess or casement, as represented at E, Fig. 2, or they may be arranged as represented at F, Fig. 4, or as represented at G, Fig. 3, or these outer ports may be entirely dispensed with, and the upper deck made to conform to the angular shape of the recesses or casements.

Instead of making the recesses or casements of an angular shape, the angles may be rounded off, so as to give the recesses or casements an undulatory instead of a rectangular figure.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The construction and arrangement of the gun-deck and bulwarks of a ship in the manner herein described, so that guns may be fired from either the bow or the stern or from

both at the same time in a direction parallel with keel.

AUGUSTO ALBINI.

Witnesses:

THOMAS LAKE,

GEORGE F. WARREN,

Both of No. 17 Gracechurch, Street, London.