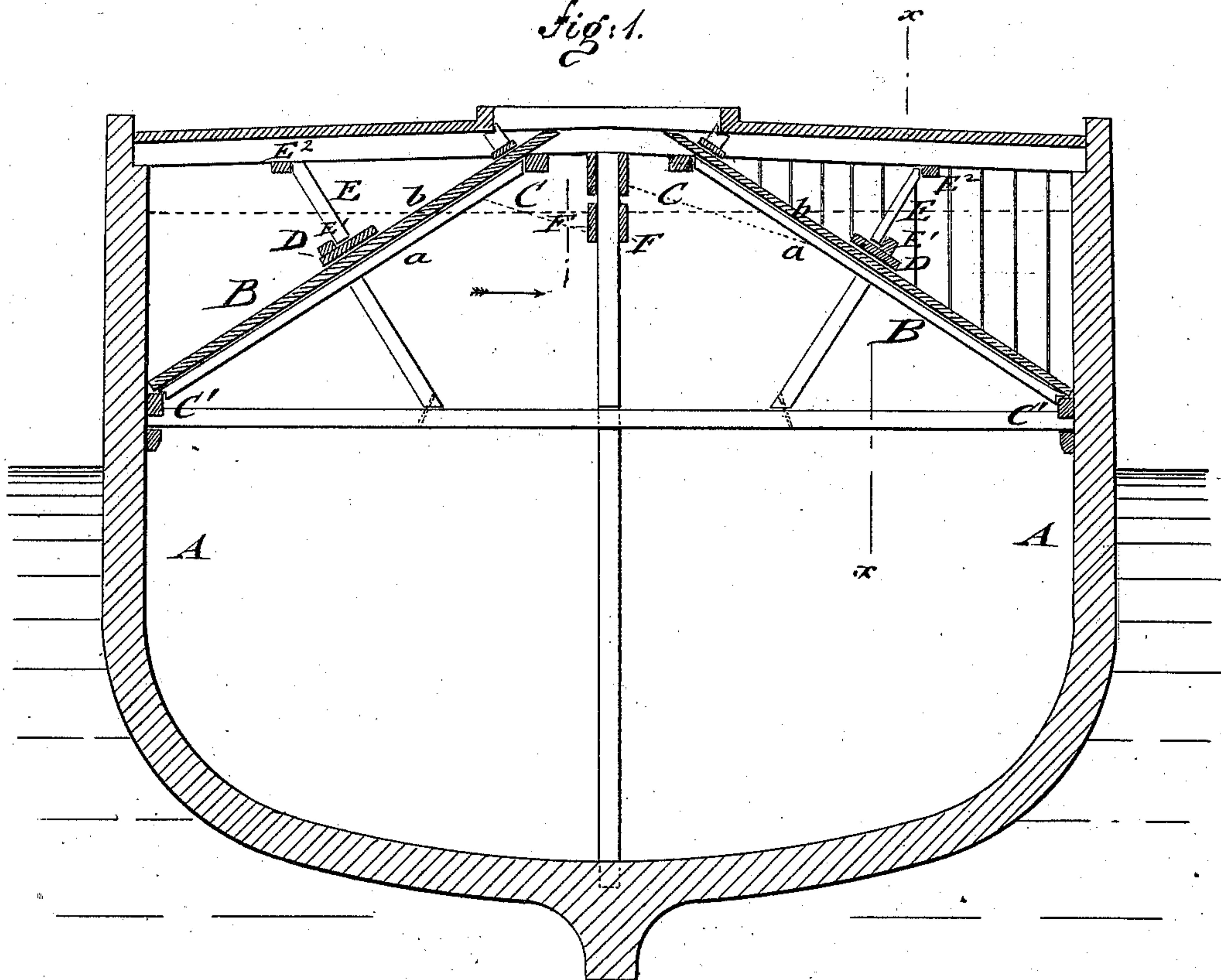
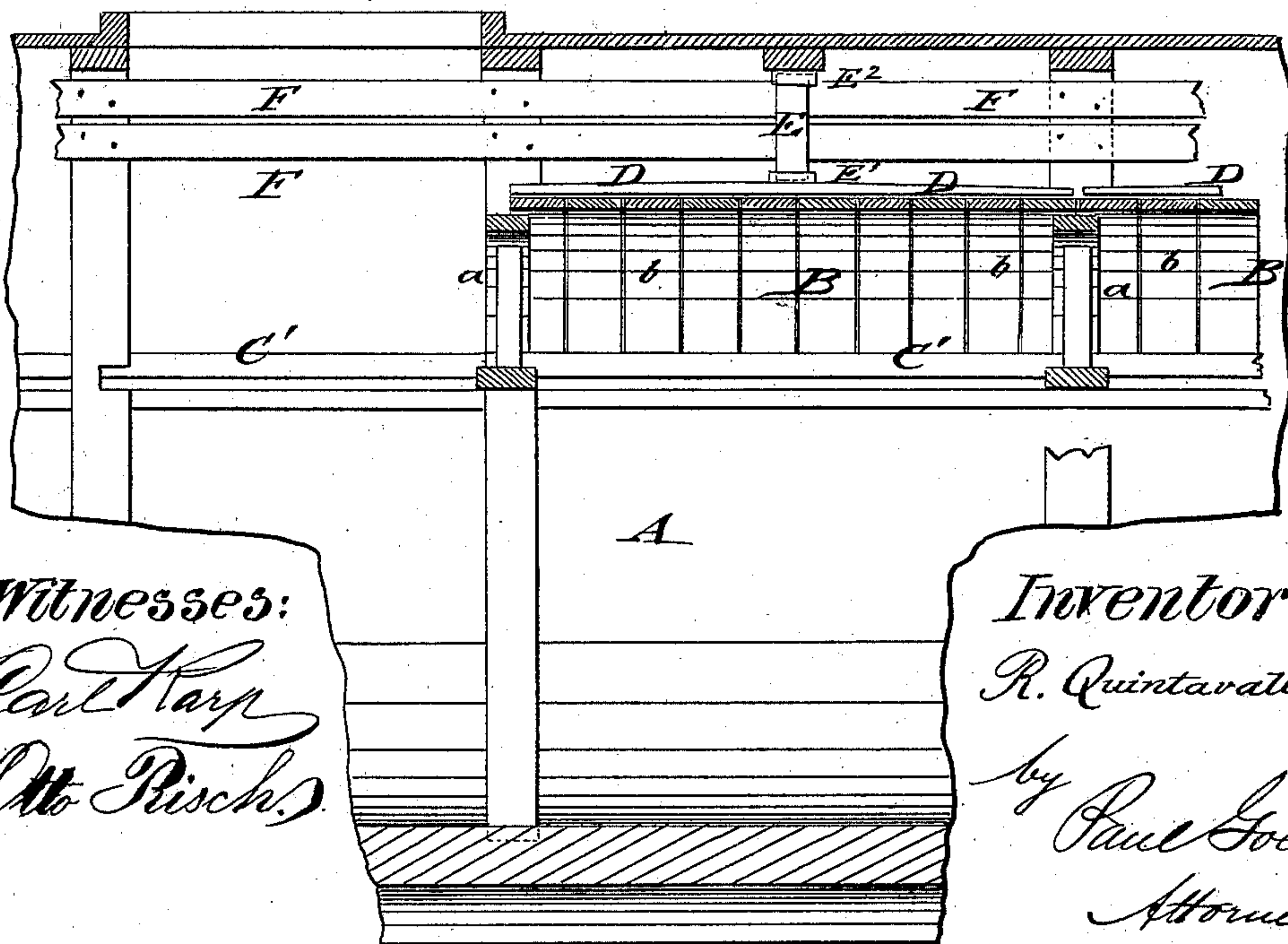


R. QUINTAVALLE.  
 Device for Preventing the Shifting of Cargoes in Vessels  
 No. 219,305.                      Patented Sept. 2, 1879.

*Fig: 1.*



*Fig: 2.*



*Witnesses:*  
*Carl Karp*  
*Otto Pisch*

*Inventor:*  
*R. Quintavalle*  
*by Paul Goepel*  
*Attorney*



# UNITED STATES PATENT OFFICE.

ROBERT QUINTAVALLE, OF BROOKLYN, ASSIGNOR OF THREE-FIFTHS PART OF HIS RIGHT TO HIMSELF, AND TWO-FIFTHS PART TO THEODORE F. C. PETRASCH, OF NEW YORK, N. Y.

## IMPROVEMENT IN DEVICES FOR PREVENTING THE SHIFTING OF CARGOES IN VESSELS.

Specification forming part of Letters Patent No. **219,305**, dated September 2, 1879; application filed March 19, 1879.

*To all whom it may concern:*

Be it known that I, ROBERT QUINTAVALLE, of the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Devices for Preventing the Shifting of Cargoes in Vessels, of which the following is a specification.

In the accompanying drawings, Figure 1 represents a vertical transverse section of a vessel with my improved device for preventing the shifting of cargoes; and Fig. 2 is a vertical longitudinal section of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention has reference to an improved device for preventing the shifting of cargoes in vessels, so that grain and similar products may be shipped without the least danger of the vessel being thrown, in rough weather, on her beam ends; and the invention consists of a removable ceiling that is formed of inclined partitions, which extend from the center of the vessel to the sides, and are rigidly secured by means of detachable braces or stanchions set against cleats of retaining-boards of the partitions and of the deck. Below the deck and hatchway are arranged longitudinal center-planks, which extend to a certain depth, and divide the uppermost space between the partitions into two parts.

Referring to the drawings, A represents a vessel which is provided with my improved device for preventing the shifting of cargoes.

This device consists, essentially, of a ceiling formed of inclined partitions B, which are placed in the between-deck hold and arranged so as to extend from the center, or from points near the center, of the vessel to the sides thereof. The upper ends of the partitions B rest upon longitudinal supporting-strips C, while the lower ends rest on side strips, C', of the between-deck beams. The partitions B are constructed of fixed and inclined stays *a*, at suitable distances from each other, and of removable planks *b*, which rest on the upper and lower strips, and can be put in or taken out singly, one after the other, and thus conveniently stored away into small space after use, when the vessel is to take a cargo of a different nature.

A number of planks, *b*, form a section or panel of the partition, and are locked firmly to the top and bottom strips and the stays by means of longitudinal boards D and stanchions or center-braces E. The stanchions E are set against cleats E<sup>1</sup> of the boards D and against cleats E<sup>2</sup> at the under side of the deck-beams. By removing the stanchions the longitudinal retaining boards and planks may be taken out, while the inclined stays remain, as they are permanently attached to the vessel.

To the center stanchions of the vessel are secured two or more center-planks, F, which extend longitudinally in the direction of the center-line of the vessel and extend to a suitable depth from the deck down into the between-deck hold. The between-deck hold is filled with grain or other cargo up to the center-planks, which divide the space above the grain or other cargo into two parts, and decrease thereby the surface exposed to motion.

When the triangular space at both sides of the inclined partitions is also to be filled with grain, the lower portions of the partitions are arranged with short removable planks, which are secured in position by transverse bolts, and which are removed for letting out the side portions of the cargo when the latter is to be discharged.

When the anti-shifting partitions are rigidly locked in position by the retaining-boards and stanchions, the lower hold and between-deck hold are loaded with grain in bulk, and the cargo then prevented from shifting by the inclined partitions. By the gradual settling of the cargo the small triangular space above the surface of the grain at both sides of the center-planks is slightly increased. A shifting of grain can only take place at the comparatively-small surface of the same, where it does no harm, while the body of the cargo remains immobile.

The danger to vessels having shifting cargoes being thrown, in rough weather, on their beam-ends, and thereby liable to founder, is obviated by the partitions, and thereby the shipment of grain or other products in bulk rendered more secure.

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

1. The combination of a vessel provided in the between-deck hold with fixed means of support near the center, and at the sides with diagonal removable platforms that are secured in fixed positions to the center and side supports, substantially as and for the purpose set forth.

2. The combination, with a vessel, A, having longitudinal center and side strips, C C', in the between-deck hold, of inclined removable partitions B, secured by retaining-boards D and stanchions E, substantially as set forth.

3. The combination of inclined partitions B, supported on longitudinal top and side strips of the between-deck hold, with retaining boards D and stanchions E, secured to cleats of the

retaining-boards and deck-beams, substantially as specified.

4. The combination of a vessel having inclined removable partitions in the between-deck hold with longitudinal center-planks attached to the center stanchions and extended to suitable depth below the deck, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two witnesses this 8th day of March, 1879.

ROBERT QUINTAVALLE.

Witnesses:

PAUL GOEPEL,

THEO. F. C. PETRASCH.