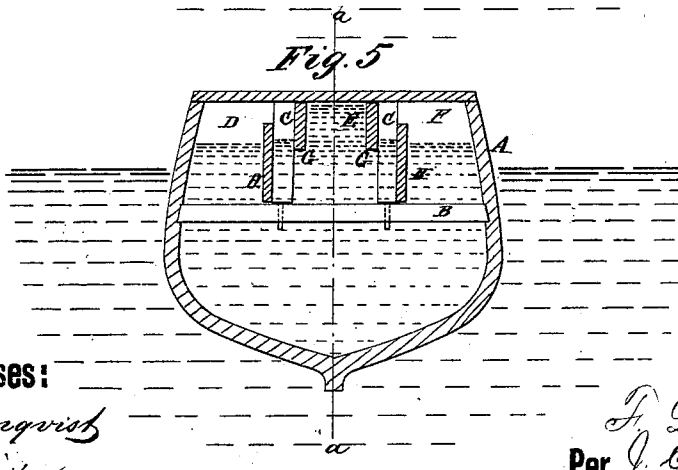
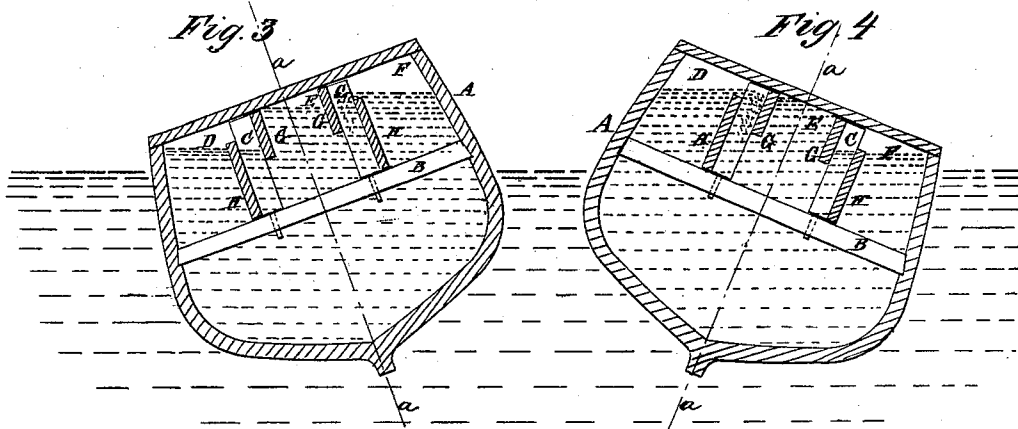
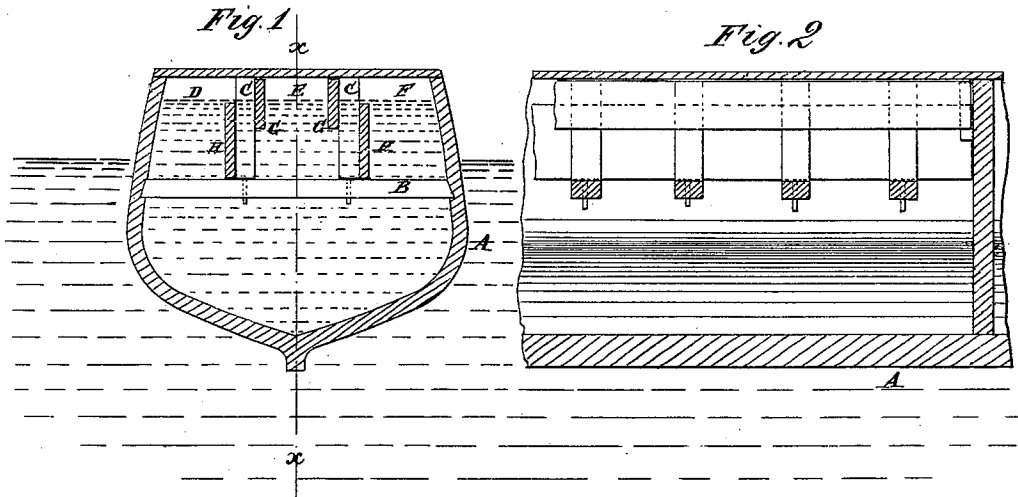


F. DEMARTINI & J. CHERTIZZA.

Vessels for Transporting Grain in Bulk.

No. 142,842.

Patented September 16, 1873.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRANCESCO DEMARTINI AND JOHN CHERTIZZA, OF NEW YORK, N. Y.

IMPROVEMENT IN VESSELS FOR TRANSPORTING GRAIN IN BULK.

Specification forming part of Letters Patent No. 142,842, dated September 16, 1873; application filed August 16, 1873.

To all whom it may concern:

Be it known that we, FRANCESCO DEMARTINI and JOHN CHERTIZZA, of the city, county, and State of New York, have invented a new and useful Improvement in Carrying Grain in Bulk, of which the following is a specification:

The object of this invention is to provide simple and efficient means for preventing the damage caused by the rolling and careening of vessels laden with grain in bulk. The shifting of the cargo in a vessel thus laden is a source of much trouble and danger, as it is apt to strain and render her unseaworthy.

The invention will first be fully described, and then clearly pointed out in the claim.

In the drawing, Figure 1 is a vertical cross-section of a ship laden with grain, resting square in the water, and provided with our partitions. Fig. 2 is a vertical longitudinal section taken on the line *xx* of Fig. 1. Fig. 3 is a vertical cross-section, showing the vessel careened to the left, the shifting of the cargo being seen. Fig. 4 shows the vessel careened to the right, showing the central compartment full to the deck. Fig. 5 is another cross-section, showing the vessel resting squarely on the water, representing the position of the cargo. The lines *aa* in these figures are at right angles with the deck and passing through the keelson.

Similar letters of reference indicate corresponding parts.

A is the vessel, the inner side of which is ceiled, or prepared for the reception of grain in bulk in the usual manner. B indicates cross-stays, placed about half-way between the deck and the bottom of the vessel. These stays are connected with the vessel for the support of the sides, and are not unusual in the holds of vessels. C are stanchions, placed on each of the cross-stays B, and supported at right angles with the deck. These stanchions have partition-boards upon each side, which divide the portion of the hold above the cross-stays into three compartments, D, E, and F. These compartments are about equal in size or capacity, but may be raised, as may be found advisable. G represents the partition-boards on the insides of the stanchions. These boards extend from the deck about one-third (more or less) the distance to the stays. H are the partition-boards, which are attached to the

outer sides of the stanchions, and extend from the cross-stays upward a short distance above the lower edges of the inner partition-boards G, so that the two boards of each set of stanchions lap past each other, as seen.

With this arrangement, it will be seen that the compartments are connected by the spaces between the stanchions, so that the grain may pass over the outside partitions H H from the outside compartments, and under the inside partitions G G into the central compartment E. This is done as the vessel rolls and is careened, as seen in Figs. 3 and 4. The result is, the central compartment E is soon filled after the vessel commences to roll, and the grain in that compartment is retained, as seen in Figs. 4 and 5.

When a vessel is loaded with grain in bulk, the hold is completely filled; but after a short time at sea the grain packs and settles a foot or more, so that, ordinarily, the cargo keeps shifting as the vessel rolls, throwing the grain first on one side and then on the other, and frequently straining and loosening the ship's fastenings, and rendering her unsafe.

By our improvement, this shifting is so prevented that no damage can occur, and the vessel is navigated as easily as it is when laden with immovable cargo.

The stanchions are dovetailed to the cross-stays, and the partitions are held in place by means of cleats on the vertical cross-partitions or ends of the compartments. These partitions may, therefore, be removed and packed away at the end of the voyage, so that other freight may be stored without obstruction.

We do not confine ourselves strictly to this particular arrangement of parts, as variations may be made without departing from our invention.

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

The combination, with cross-stays B and stanchions C, of partitions G H, constructed and arranged as and for the purpose described.

FRANCESCO DEMARTINI.
JOHN CHERTIZZA.

Witnesses:

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