

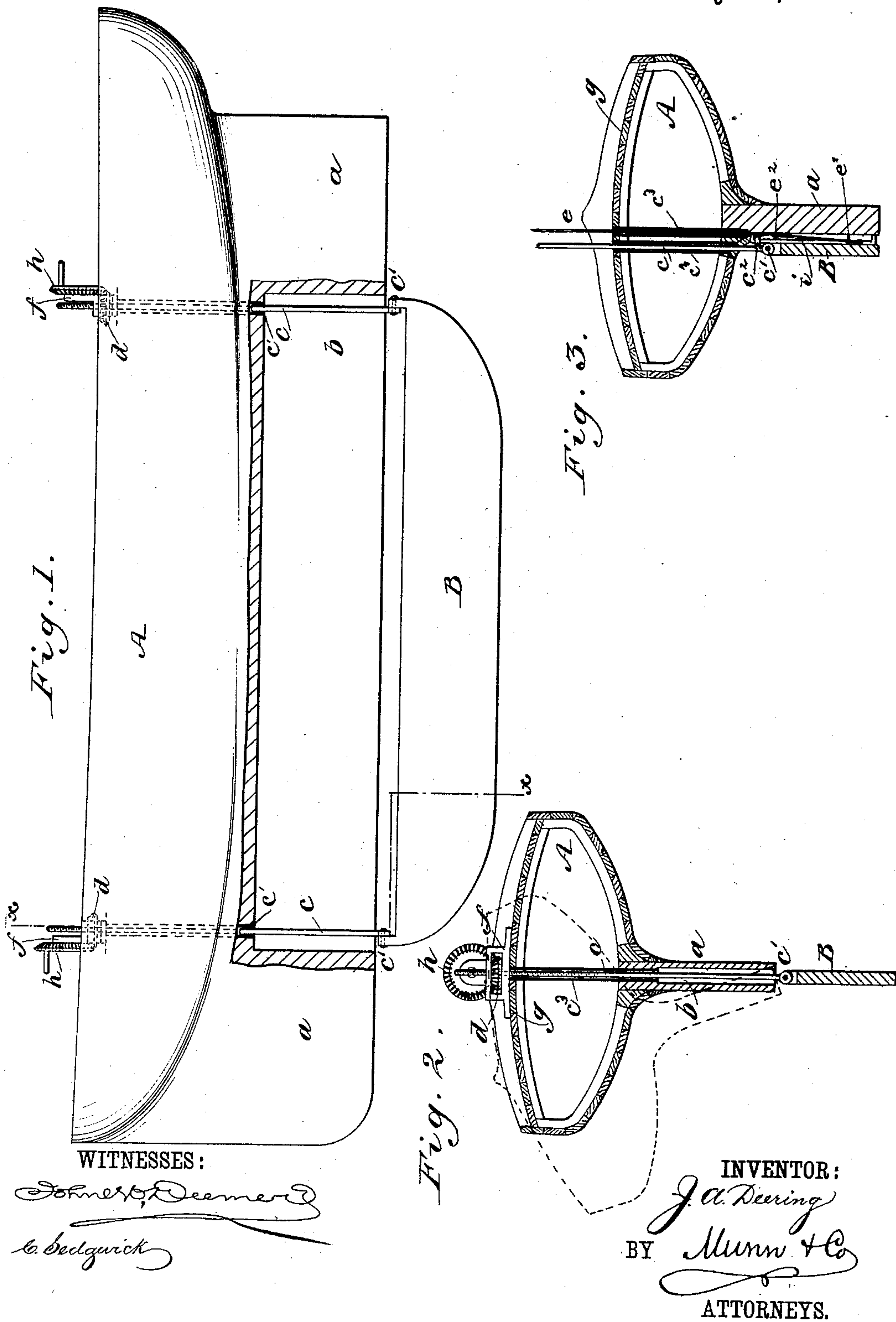
(No Model.)

J. A. DEERING.

SWINGING CENTER BOARD FOR VESSELS.

No. 341,643.

Patented May 11, 1886.



UNITED STATES PATENT OFFICE.

JAMES A. DEERING, OF GLOUCESTER, MASSACHUSETTS.

SWINGING CENTER-BOARD FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 341,643, dated May 11, 1886.

Application filed July 20, 1885. Serial No. 172,122. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. DEERING, of Gloucester, in the county of Essex and State of Massachusetts, have invented a new and Improved Swinging Center-Board for Vessels, of which the following is a full, clear, and exact description.

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

Figure 1 is a sectional side elevation of a vessel having my new swinging center-board applied thereto. Fig. 2 is a transverse sectional elevation of the same, taken on the line *x x* of Fig. 1; and Fig. 3 is a similar view showing a modification.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

In the construction shown in Fig. 1 the keel *a* of the vessel *A* is recessed to form the chamber *b*, to receive the center-board *B* when raised by the rods *c c*, while in the construction shown in Fig. 3 the center-board *B* is applied to the side of the keel *a*, as hereinafter described.

The center-board *B* is by preference made of metal and several tons in weight, and is attached to the lower ends of the rods *c* by means of hinges *c' c'*, so that when lowered it will be free to maintain a vertical position in the water, no matter to what extent the vessel may heel over. This is illustrated in full and dotted lines in Fig. 2, and is of great advantage, as it prevents leeway of the vessel, and the weight tends to right the vessel up, and, as the center-board always presents a vertical surface in the water, it causes the vessel to more readily answer the rudder, so that in a storm the vessel may be controlled with greater ease and safety than ships of ordinary construction. The rods *c* are screw-threaded at their upper ends, and placed upon each of them is a centrally screw-threaded gear-wheel, *d*, held in the casting *f*, secured to the deck *g* of the vessel. Another large gear-wheel, *h*, is attached to the casting *f*, and meshes with the gear-wheel *d*, so that by turning wheel *h* the gear-wheel *d* will be revolved for raising or lowering the rods *c* and center-board *B*.

In the construction shown in Fig. 3, in order to guide the up-and-down movement of the

center-board *B*, I provide the side of the keel with two bars or rods, *i*, that set out from the keel, and I form the rods *c* at their lower ends with the eyes *c''*, that run upon the rods *i*, and in order to hold the lower edge of the center-board against the side of the keel when the center-board is raised I employ two rods, *e*, one at each end of the center-board. These rods *e* reach up to the deck of the vessel, and are attached at their lower ends to the lower edge of the center-board and pass through eyes or staples *e'*, driven into or otherwise made fast to the side of the keel. The rods *e* are jointed at *e''*, so that when the center-board is lowered and the joints pass below the eyes or staples *e'* the rods *e* will not in any manner interfere with the free swinging of the center-board.

The rods *c* are inclosed in the wells or tubes *c''*. These may be fastened by screwing the tubes into the wood of the vessel or into a screw-cap below, fitted for that purpose. This method saves the cutting of floor and timber and the cost of building wells. Caulking and keeping them tight is also saved, and room is thus saved for the carrying of cargo, and unbroken stowage is given. In bad weather the danger of shifting cargo against the sides of the center-board wells and causing a leak, with loss to cargo or vessel, is stopped.

The center-boards now are confined to the amidships of vessels, and their effectiveness is lessened by being shorter than the vessel. My swing-board may be used the whole length of a vessel's bottom, and when the pivoted board is down and the vessel rolls to leeward the displacement of water in proportion to the depth of the board is very great, and when the vessel rolls to windward it is increased. This great resistance often breaks the common center-board and sometimes opens the vessel. This danger cannot occur with my swinging board. The vessel simply swings each side of it like a buoy riding to an anchor.

In working to windward out of a dangerous position, when a center-board is mainly relied on, the swing-board is always easy and in the best position for holding the vessel to windward, and can be relied upon in stormy weather without fear of breaking the board or straining the vessel.

I am aware that center-boards have been

hinged so as to remain in a vertical position at all times when lowered; and I am also aware that they have been raised and lowered by a windlass, and also by a pinion meshing into a rack to which they are attached, and I therefore do not claim such inventions.

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

10 1. The combination, with a vessel, of rods *c*, extending up through the same and having their upper ends screw-threaded, a screw-threaded gear-wheel, *d*, through which the said rods pass, the gear-wheel *h*, meshing with
15 the gear-wheel *d*, the center-board *B*, hinged to the lower ends of said rods, and means for guiding the center-board as it is raised and lowered, substantially as herein shown and described.

2. The combination of the rods *c*, having 20 their upper ends screw-threaded, the screw-threaded gear-wheels *d*, through which the said rods pass, the gear-wheels *h*, meshing with the gear-wheels *d*, the center-board *B*, hinged to the lower end of the rods *c*, and the tubes 25 *c*³, surrounding the said rods, substantially as herein shown and described.

3. The center board *B*, hinged to the rods *c*, in combination with the guide rods *i* and jointed rods *e*, attached to the lower edge of 30 the center-board *B* and passed through the eye *e*¹, for staying the lower edge of the center-board, substantially as described.

JAMES A. DEERING.

Witnesses:

CHAS. F. WONSEN,

PETER A. CARLTON.