J. N. Buell.

Centre Board for Vessels.

No. 45,018. Patented Nov. 15, 1864.

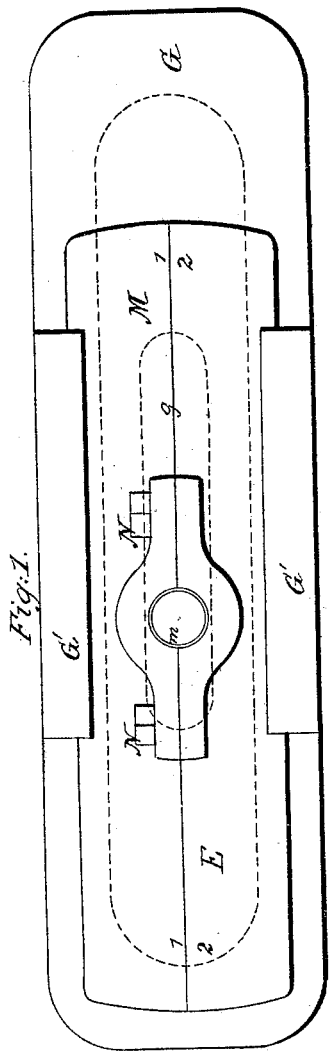

Fig. 1.

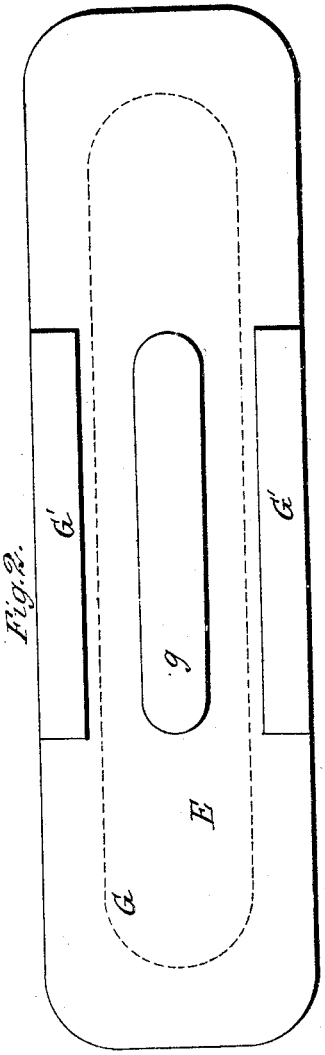

Fig. 2.

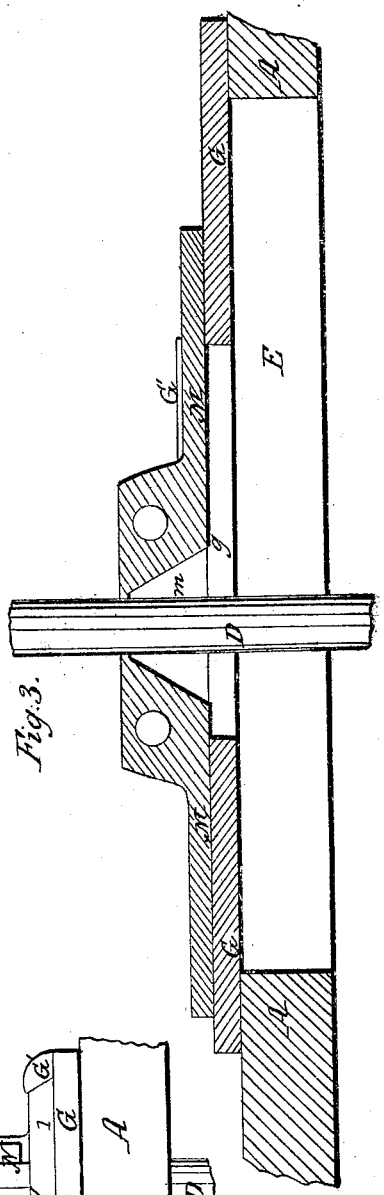

Fig. 3.

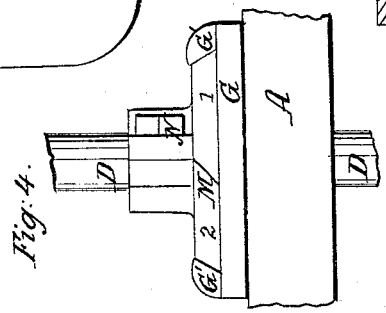

Fig. 4.

Witnesses.

A. D. Wright

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UNITED STATES PATENT OFFICE.

J. NELSON BUELL, OF MIDDLETOWN, CONNECTICUT.

IMPROVED DEVICE FOR OPERATING CENTER-BOARDS.

Specification forming part of Letters Patent No. **45,018**, dated November 15, 1864.

To all whom it may concern:

Be it known that I, J. NELSON BUELL, of Middletown, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Vessels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification.

Figure 1 is a plan view of the novel parts. Fig. 2 is a plan view of the same with some of the parts removed. Fig. 3 is a longitudinal section, and Fig. 4 is an end elevation.

The figures show the novel parts, with so much of the other parts as are necessary to show their relation thereto.

Similar letters of reference indicate like parts in all the figures.

My invention relates to the manner of covering the aperture in the deck of a vessel through which the lifting-rod to the center-board passes up, and is especially important in the transportation of coal and the like material upon the deck, which is liable to fall into the spaces by the side of the center-board and choke the same.

My invention is designed to cover the hole in such a manner as to let the lifting-rod play back and forth as much as is desired and at the same time effectually prevent anything from falling through to interfere with the working parts below.

Those accustomed to the navigation of shallow rivers and coasts will understand that by "center-board" I mean a plate of wood or metal, of whatever name and whether mounted in the center or at one side, which is inclosed in a water-tight casing or "trunk" standing parallel with the keel of the vessel and extending down through the bottom of the vessel. The trunk is necessarily open at the under side, but may be nearly covered at its upper edge, which is usually at the level of the deck. In the case or trunk the center-board is hung on a fixed transverse pin at its forward end, leaving the "after end" to be raised and lowered at will, so as to be all within the vessel or to drop down and present the center-board below the bottom of the vessel, as required. The latter is the situation desired in sailing under ordinary circumstances when the water is deep, so as to give the lateral resistance or hold on the water to diminish sidewise movement or leeway; but if the water is shallow, the center-board must be raised more or less to prevent it from striking the bottom and obstructing and deranging the motion of the vessel.

The raising and lowering of the center-board is usually effected by means of an iron rod fixed to its rear end and passing up through a hole in the deck. The rod may be of moderate size, but the circular motion of the center-board gives it a motion fore and aft. The aperture through which the rod works is usually quite large, to allow for such motion, and also to allow of the occasional introduction of the hands and of various means being sometimes introduced to adjust and repair the connection and to support the center-board while repairing it.

The method heretofore adopted to prevent loose material on the deck from working down through the hole through which the lifting-rod passes has usually consisted either of a fence or wall around to inclose the space or of a piece of board temporarily nailed over it, having a slot or hole as wide as the diameter of the rod and some ten inches in length, running parallel with the center-board, so as to allow for the necessary longitudinal motion of the rod as the center-board is raised or lowered. This slot stands open, or, if closed at all, is stopped only by jamming in old rags or some similar soft material, which form an unreliable stopping.

To enable others skilled in the art to make and use my invention, I will proceed to describe it by the aid of the drawings and by the letters of reference marked thereon.

A is the deck of the vessel over the after end of the center-board. (Not represented.) D is the rod or rope by which the center-board is operated, the rod D being pulled upward when desired by the aid of blocks and ropes connected to the head of the mast. (Not represented.) E is the hole in the deck. All these parts, as also the center-board and trunk, may be of any approved construction.

G is a plate of iron, fitting tightly upon the deck A and adapted to cover the greater portion of the hole E, but has a slot, *g*, as wide as the rod D and as long as its fore-and-aft motion. The plate G is adapted to be lifted up by the hands or other suitable means without serious difficulty whenever it is necessary to allow of acting on the center-board by other

means than by the rod or rope D. Under all ordinary circumstances the plate G lies flat upon the deck, and may be tightly secured by slight bolts or by cleats or other stops to prevent its sliding laterally. Lips G′ G′ extend lengthwise along a portion of its upper surface, as represented, and serve as guides for the slide now to be described.

M is a slide, made in two parts, formed as represented, and secured together with screws N. The rod D is allowed to play up and down through a hole, *m*, which hole is made half in one part and half in the other part of the slide M. The rod D moves freely up and down through the hole *m* as the center-board is raised and lowered, and the slide meantime moves fore and aft freely by sliding on the plate G, guided by the guides G′, so as to accommodate the position of the rod D to the curvature of the motion of the center-board. It follows that the center-board is raised and lowered with freedom, and that no coal or other foreign bodies of any considerable size can work down into the space between the trunk D and the center-board C so as to cause difficulty.

I make the slot *g* a little longer than the fore-and-aft play of the rod D, and I make the slide M twice as long as such motion. The plate G may be, say, three times as long as the slot *g*.

I prefer to make the guides G′ G′ short, as represented, and to make all the parts of iron. If made of brass, the parts may be fitted more nicely without danger of difficulty from rust, but the cost will be greater. Some or all the parts may be of hard wood and serve a good purpose for a long time.

I bevel the two halves of the slide M at their junction, as represented, to allow of their application and removal. To insert them I apply the part 1 first and afterward drop the part 2 into place. The bolts N hold the parts as one solid piece after they are in place.

It will be observed that it is rarely necessary to remove the screws N after they have been properly set.

My invention may be also applied with pumps as a protection to where a pump-rod passes down through the deck, making it impossible for any dirt to work through so as to choke or clog the working parts thereof.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

The movable part M, arranged to operate in combination with the lifting-rod D, or its equivalent, and with the removable support G on or near the deck of a vessel, substantially in the manner and for the purpose within set forth.

J. NELSON BUELL.

Witnesses:

A. D. WRIGHT,

C. A. NEWELL.