

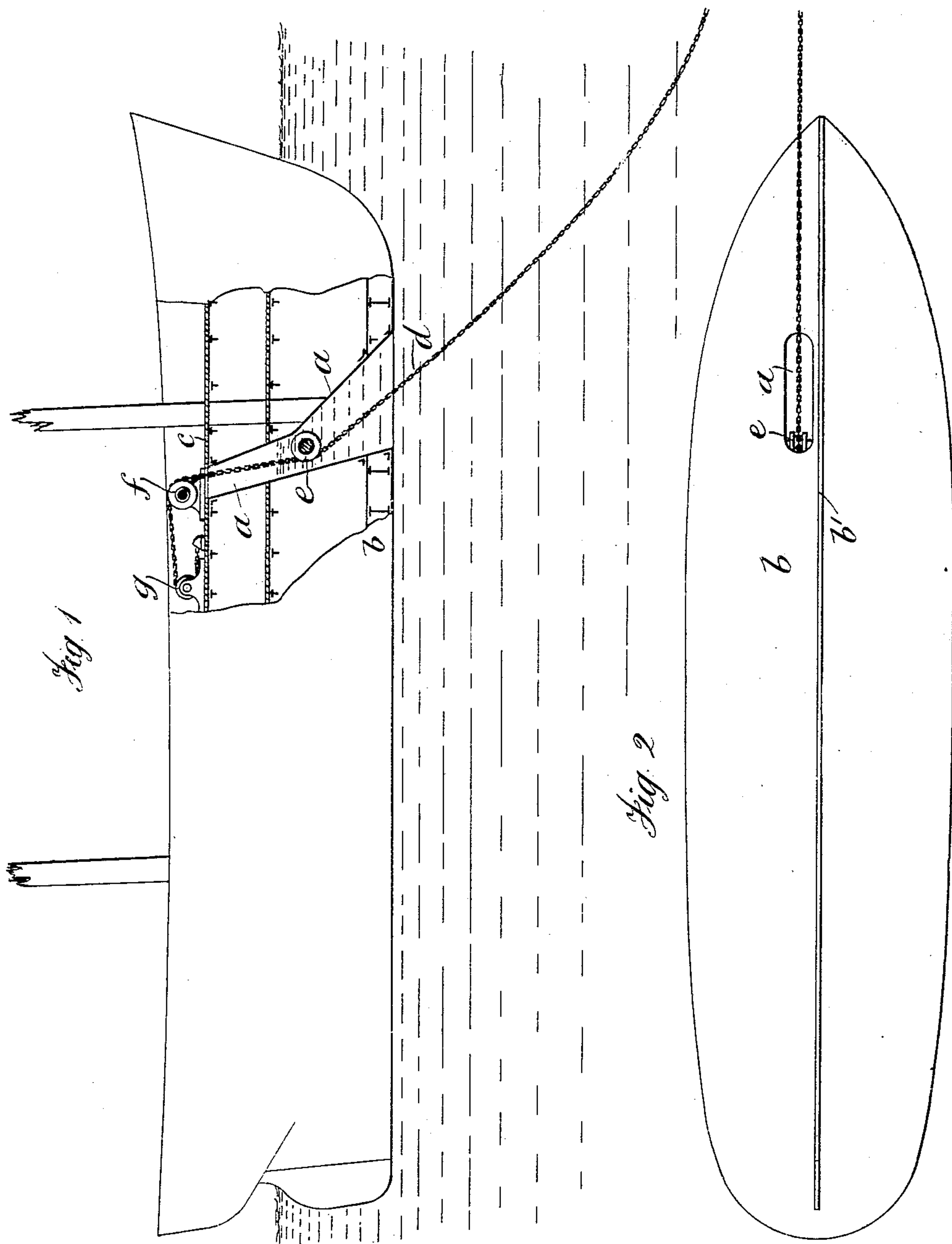
No. 704,155.

W. M. WALTERS.
MOORING SHIPS.

Patented July 8, 1902.

(Application filed Sept. 10, 1901.)

(No Model.)



Witnesses

W. B. Johnson
W. Walters.

Inventor

William M. Walters

UNITED STATES PATENT OFFICE.

WILLIAM MILLER WALTERS, OF LIVERPOOL, ENGLAND.

MOORING SHIPS.

SPECIFICATION forming part of Letters Patent No. 704,155, dated July 8, 1902.

Application filed September 10, 1901. Serial No. 74,932. (No model)

To all whom it may concern:

Be it known that I, WILLIAM MILLER WALTERS, a subject of the King of Great Britain, residing at Liverpool, in the county of Lancaster, England, have invented new and useful Improvements in Mooring Ships, of which the following is a specification.

When light or signal ships are moored in exposed situations by cables from the bows, as is the practice usually, they are during heavy storms subject to great danger of being swamped, owing to the fact that the pull or strain on the cables draws down the bows of the ships into the water, thus allowing heavy waves to readily come on board. Such drawing down of the bows also increases the risk of dragging the anchors.

My invention has for its object to provide means whereby light-ships or signal-ships may be moored in exposed situations and in comparatively deep water with but little risk of dragging the anchors in stormy weather and when the waves are high and at the same time will be enabled to raise the bows freely to the waves, and thus prevent water coming on board, and also to facilitate hauling in or veering out the cable. I attain these objects by the appliances and construction of ship illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a ship, parts being broken away to show the internal construction according to my invention. Fig. 2 is an underneath view of the bottom of the ship.

For the purposes of my invention I construct a tube or passage *a* through the bottom of the ship *b*, either in the center through the keel or preferably, as shown, a little to one side of the keel *b'*. The tube or passage *a* is located about one-quarter of the length of the ship from the bow and is sloped upward and backward to a deck *c*, situated above the water-line. As shown, the tube *a* is narrower at top than at bottom, although it may be of equal width throughout if found more convenient. The tube *a* is made sufficiently wide at the bottom and of such angle of slope as that the cable *d* will not rub or bear against it with any great force, thereby avoiding wear of the sides of the tube, the cable hanging in a natural curve from a wheel *e* to the ground

or anchor. The axle of the wheel *e* is carried in bearings secured within the tube, and the cable *d* passes over such wheel and thence over another wheel *f* to a windlass *g* of any usual kind, whereby the cable may be hauled in or paid out. Instead of having a wheel such as *f*, the windlass itself might be placed in the position occupied by such wheel *f*. The wheel *e* is located in the tube *a* in such position that during a heavy storm the pull of the cable *d* on the ship is at about the center of resistance or of the combined pressure of wind and waves on the ship, and by the tube *a* being on one side of the keel the ship is kept slightly off head to wind, which is a better position in rough weather than directly head to wind. Also by the cable entering the ship at about one-quarter of the length from the bow the front part of the ship, not being borne down by the weight or strain of the cable at its extremity, can rise freely when a wave strikes it, thereby preventing the waves breaking on board and avoiding the danger of being swamped. The wheels *e* and *f* by obviating friction greatly facilitate hauling in the cable or paying it out.

Although I prefer to place the tube *a* on one side of the keel, it may, as before stated, be constructed through the keel, or two tubes, one on each side of the keel, and two cables may be used when desired.

What I claim, and desire to secure by Letters Patent, is—

1. In combination with a ship an upwardly and backwardly sloping tube extending from the bottom of the ship near the keel, at about one-quarter of the length of the ship from the bow, to the deck, a wheel located within the tube at about the center of resistance to wind and waves such wheel being arranged to guide the cable, and means for hauling and securing the cable, substantially as described.

2. In combination with a ship an upwardly and backwardly sloping tube extending from the bottom of the ship near the keel, at about one-quarter of the length of the ship from the bow, to the deck, said tube being narrower at the top than at the bottom, a wheel located within the tube at about the center of resistance to wind and waves, such wheel being

arranged to guide the cable passing up the tube, and means for hauling and securing the cable, substantially as described.

- 5 3. A vessel having a substantially vertical opening leading upward from the bottom of the vessel at about one-quarter the length of the vessel from the bow, said opening having a front wall inclining forwardly and downwardly, and a guide for a cable located ap-

proximately centrally of the height of said opening, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM MILLER WALTERS.

Witnesses:

W. B. JOHNSON,

W. WALTERS.