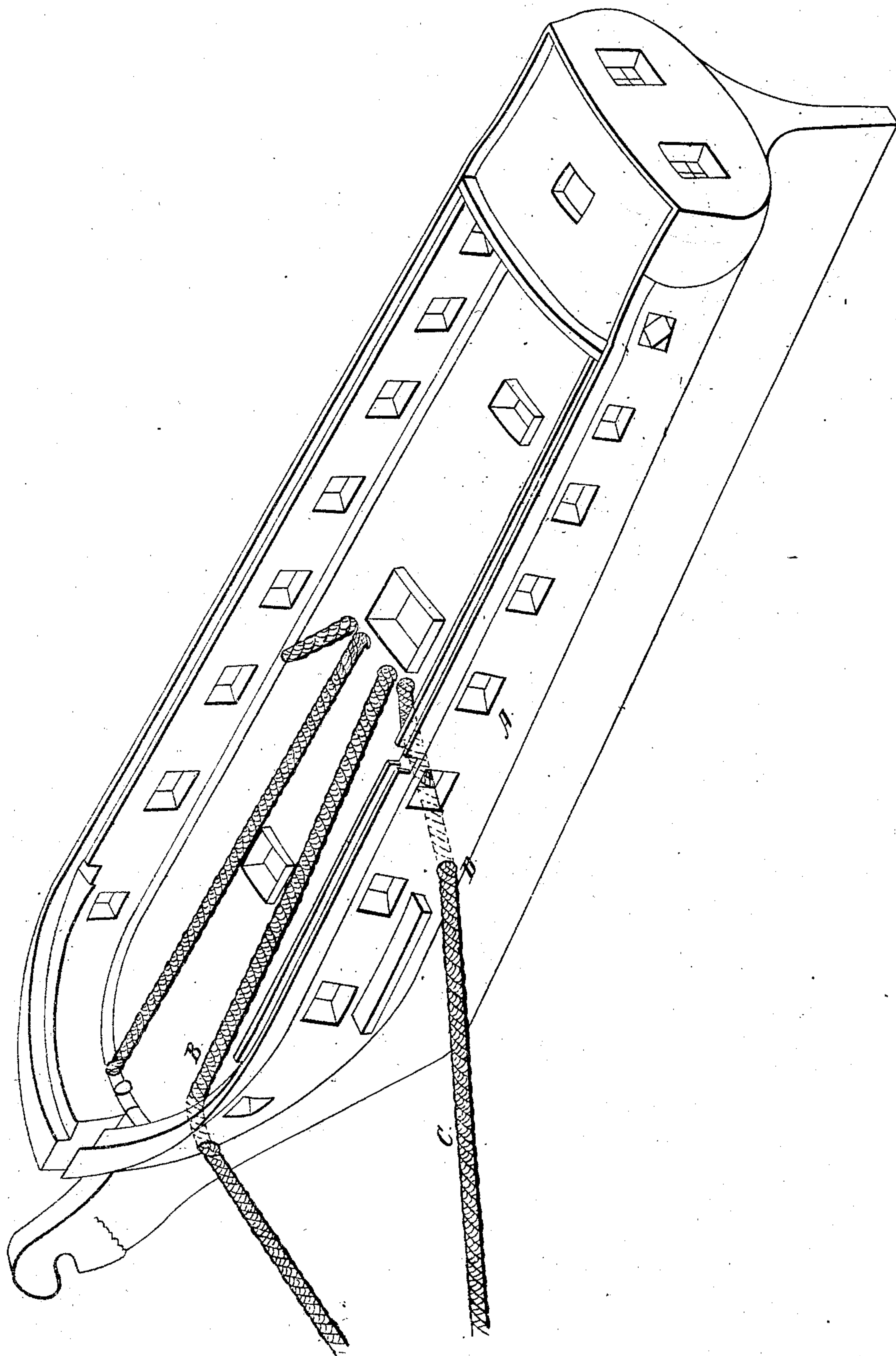


*A. W. Hancock.*

*Hawse Hole.*

*N<sup>o</sup> 18,969.*

*Patented Dec. 29, 1857.*



# UNITED STATES PATENT OFFICE.

ARMIGEL W. HANDCOCK, OF ALLEGAN COUNTY, MICHIGAN.

## MOORING VESSELS.

Specification of Letters Patent No. 18,969, dated December 29, 1857.

*To all whom it may concern:*

Be it known that I, ARMIGEL W. HANDCOCK, of Allegan county, Michigan, have invented a new and useful Improvement in the Method of Mooring Vessels During Foul Weather, whereby the vessels are prevented from dragging their anchors, the said improvement being effected by the use of two anchors "let go," one from the hawser-hole at the bow and one from the hawser-hole which I especially construct therefor in the waist; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawing, lettered to correspond with this specification and made part of the same.

Having had considerable experience at sea and in the naval service of the United States I have frequently had to contend with dangers arising from the dragging of the anchors during heavy storms even when the ship was riding over good anchoring ground. My attention being thus especially directed to counteract or prevent such a condition of things I have invented a method of anchoring vessels by means presently to be described, whereby a vessel rides more easily and securely by two anchors on a side, than she would with four anchors "let go" from the usual hawser holes or out of the "bridal ports" at the bow.

Through the means involved in my invention a vessel receives the wave at the bow and resists it by the bow anchor until the strain is taken off the bow anchor and transferred to a "waist anchor" which I "let go" on the same side of the ship with the bow anchor in use, from a hawser hole which I especially construct for this purpose sufficiently far abaft the fore-chains to let the vessel ride as it were on a center, the resistance to the force of the wave being shifted from the bow anchor to the waist anchor, thus causing the bow of the ship to be lifted

up by the wave as it reaches the axis of motion due to the fixed point given to the hawser by which the waist anchor holds the ship—the two anchors being also made to operate in conjunction by the hawsers being paid out till they are on an even strain. The weight of the vessel is thus brought into play in order to counteract the driving force of the wave, because the vessel becomes a lever the fulcrum of which is the wave itself as it reaches the perpendicular of the hawser-hole abaft the fore-chains. Hitherto the vessel has either had to be capable of resisting the driving force of the wave by one, two, or more anchors at the bows, or yielding to that force of the wave, be driven and drag with the momentum due to her entire weight.

In the drawings (A) is the hull of a vessel riding at anchor by the means by which I effect the purposes set forth.

(B) is the hawser paid out at the bow.

(C) is the hawser paid out at the hawser-hole (D) which I purposely and especially fix at a point abaft the fore-chains—the said hawsers being attached the one to a bow anchor and the other to a waist anchor—two anchors thus arranged and operated being far more effectually secure than four anchors "let go" as usual at the bow-hawser holes or bridal-ports.

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

Mooring a vessel during foul weather by means of two hawsers (B) and (C) paid out at the usual bow hawser hole and at the hawser hole (D) which I especially construct abaft the fore chains whereby a bow-anchor and a waist-anchor are arranged and operated substantially in the manner and for the purposes set forth.

ARMIGEL W. HANDCOCK.

Witnesses:

THOMAS DONN,

THOS. G. CLINTON.