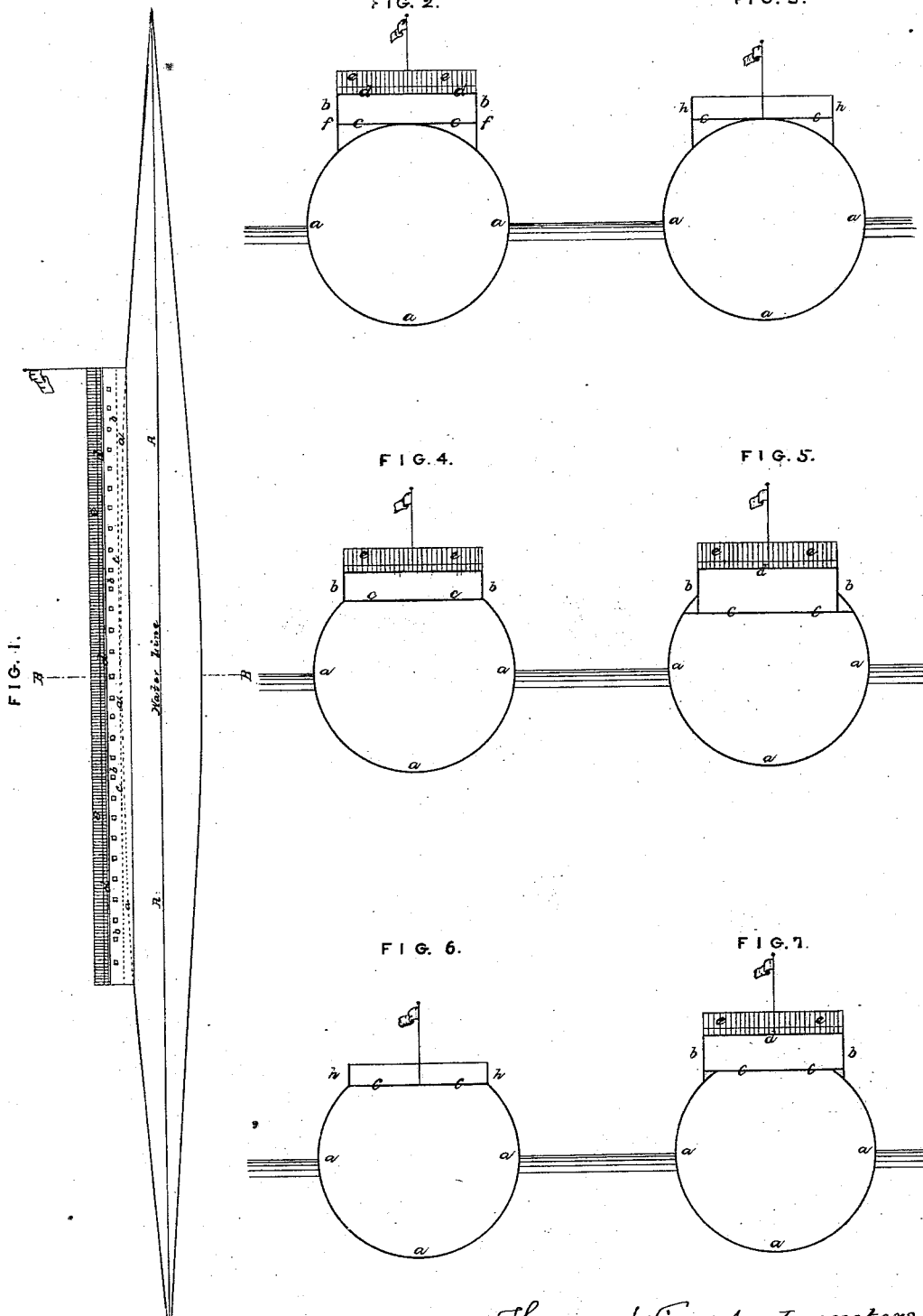


T. & W. L. WINANS.
Construction of Spindle Shaped Vessel.
 No. 161,372. Patented March 30, 1875.



Witnesses.
Wm. S. Merrill
Harry Galeman.

Thomas Winans Inventors.
William L. Winans by
John H. Bates, their atty at law.

UNITED STATES PATENT OFFICE.

WILLIAM LOUIS WINANS, OF LONDON, ENGLAND, AND THOMAS WINANS,
OF BALTIMORE, MARYLAND.

IMPROVEMENT IN THE CONSTRUCTION OF SPINDLE-SHAPED VESSELS.

Specification forming part of Letters Patent No. 161,372, dated March 30, 1875; application filed
March 9, 1875.

To all whom it may concern:

Be it known that we, THOMAS WINANS, of Baltimore, in the State of Maryland, and WILLIAM L. WINANS, a citizen of the United States, now a resident in England, have invented an Improvement in the Construction of Steam-Vessels of the Spindle Form, of which the following is a specification:

On the 25th October, 1858, Letters Patent of the United States were granted to Ross Winans and Thomas Winans (one of the present applicants) for an improvement in the form of the hulls of steam-vessels, which consisted in constructing the hull in the form of a spindle, with all the transverse sections thereof circular.

Since the date of the said Letters Patent we have been uninterruptedly engaged in experiments with spindle-formed steamers of different sizes, with a view to the most perfect development of that form of construction, and the invention here described is the result of the experience that was necessary to arrive at it.

For convenience, strength, and safety we form the interior of the spindle-shaped hull into a number of water-tight compartments, which may be rendered entirely independent of each other.

To afford greater facilities for access into these compartments than was contemplated in the original invention of Ross and Thomas Winans, and to secure other advantages, has been the object of the present invention, which consists in making a deck or decks, cabin or cabins, with or without a deck or decks thereon, on the upper part of the spindle-vessel patented by Ross and Thomas Winans, as aforesaid.

The length and breadth of the deck or decks, and the dimensions of the cabin or cabins, will depend on the size of the vessel, and the purpose for which it is intended, they being such, however, as not to impair the principle of its construction.

The deck or the floor of the cabin may be flat or nearly flat, supported above the diminishing peripheries of the spindle in any appropriate way; or the top part of the spindle may be cut off, so as to bring the deck or the floor of the cabin nearer to the line of floatation;

or the floor of the cabin may be sunk into the spindle.

With the foregoing description the accompanying drawings will be readily understood.

Figure 1 represents a longitudinal view of one of the forms of spindle-vessels, patented as aforesaid, with one of the modifications of this invention applied thereto, viz., a flat deck, with cabin and deck thereon.

The dotted line *a a a a*, Fig. 1, shown through the cabin, indicates the upper part of the spindle-shaped hull *A A*. *b b b b* represent the sides of the cabin, which is placed thereon, with the deck *d d d* and a railing, *e e*.

Fig. 2 represents a vertical cross-section taken at the line *B B* of Fig. 1. *a a a* represent the hull; *c c*, the floor of the cabin; *b b*, the sides of the cabin; *d d*, the deck; *e e*, a railing; *f f*, the sides of the cabin, carried below the floor *c*, and attached to the sides of the hull of the vessel.

Fig. 3 represents a modification of the above, and is also a vertical cross-section. *a a a* represent the hull; *c c*, the flat deck placed upon it, with bulwarks or railing *h h*.

Fig. 4 is a vertical cross-section, representing the top part of the hull *a a a*, cut off; *c c*, the floor of the cabin; *b b*, the sides of the cabin; *d*, the deck, with a railing.

Fig. 5 is a vertical cross-section, representing the top part of the hull *a a a* cut off; *b b*, the sides of the cabin, extending below the circular sides of the hull, down to the floor of the cabin *c c*. *d* is the deck, with a railing.

Fig. 6 is a vertical cross-section, representing the top part of the hull *a a a* cut off at the flat deck-line *c c*, with bulwarks or railing *h*.

Fig. 7 is a vertical cross-section, representing the top part of the hull *a a a* cut off at the line *c c*; *b b*, the sides of the cabin, extended down below its floor, and attached to the sides of the hull; *d*, the deck, with railing.

It is apparent that the cabin shown in the accompanying diagrams may be subdivided into several cabins, if required; and in the case of large vessels, one or more cabins or

decks may be added thereon, extending the whole or part of the length and breadth thereof.

By some one or other of the numerous modifications of which the combination herein described is susceptible, the spindle-vessel, patented as aforesaid, will be most advantageously utilized for commercial purposes.

The invention likewise consists in a similar combination of deck or decks, cabin or cabins, with the hull of spindle-shaped vessels, having flat or nearly flat lowest submerged portions, similar to that for which Letters Patent of the United States of America were granted to us on the 28th October, 1873.

What we claim as our invention in the above is—

The combination, substantially as described, of a deck or decks, cabin or cabins, with the hull of spindle-shaped vessels, such as are herein described and referred to, as aforesaid.

In witness whereof we, the said WILLIAM LOUIS WINANS and THOMAS WINANS, have hereunto set our hands and seals this twentieth day of January, eighteen hundred and sixty-six.

THOMAS WINANS. [L. S.]
WM. L. WINANS. [L. S.]

Witnesses to the signatures of THOMAS and WM. L. WINANS:

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