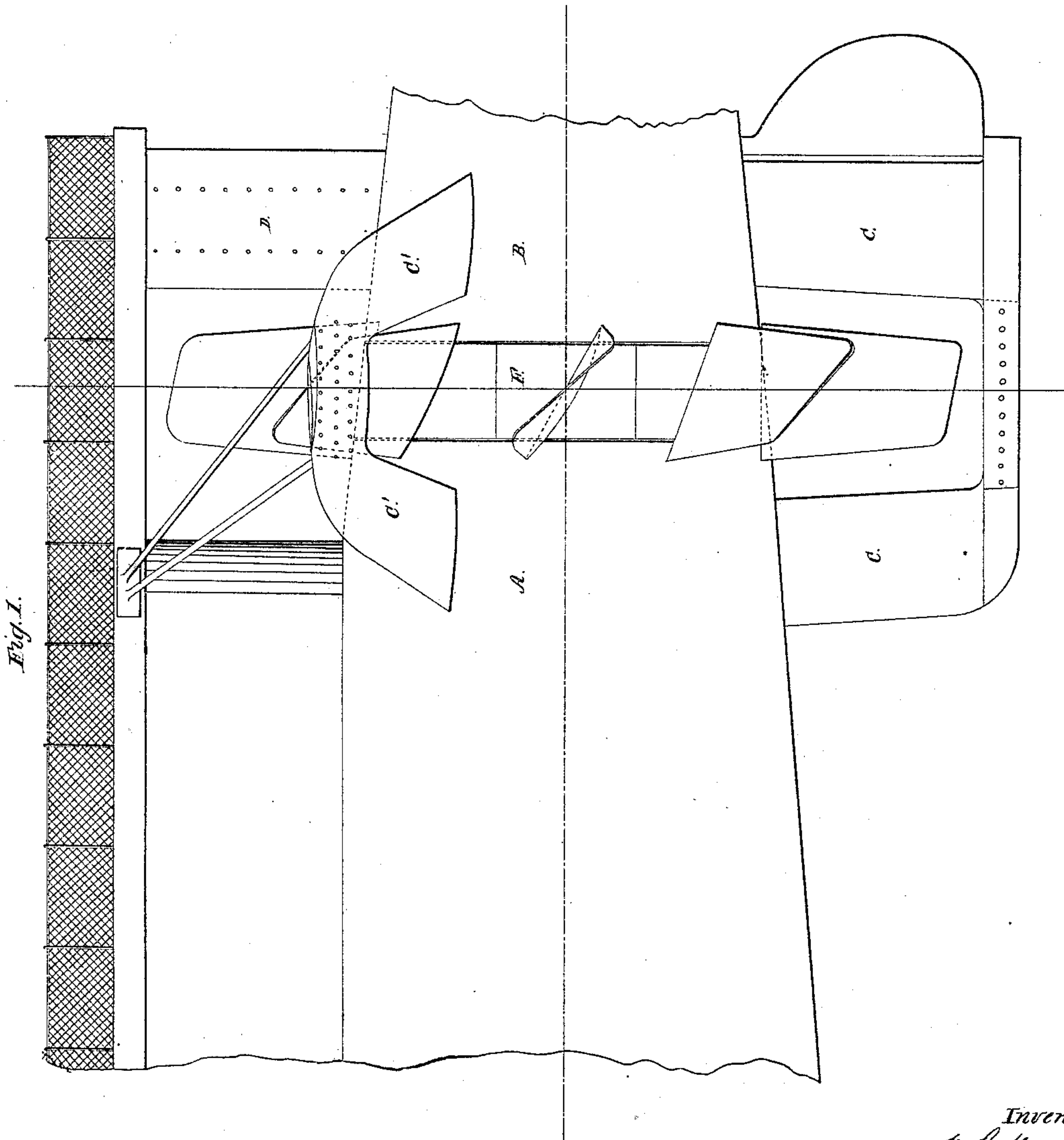


W. L. & T. Winans.  
Screw Propeller.

N<sup>o</sup> 57,836.

Patented Sep. 4, 1866.



Witnesses.

Jas A. Leavelle  
Wm. L. Winans

Inventor.

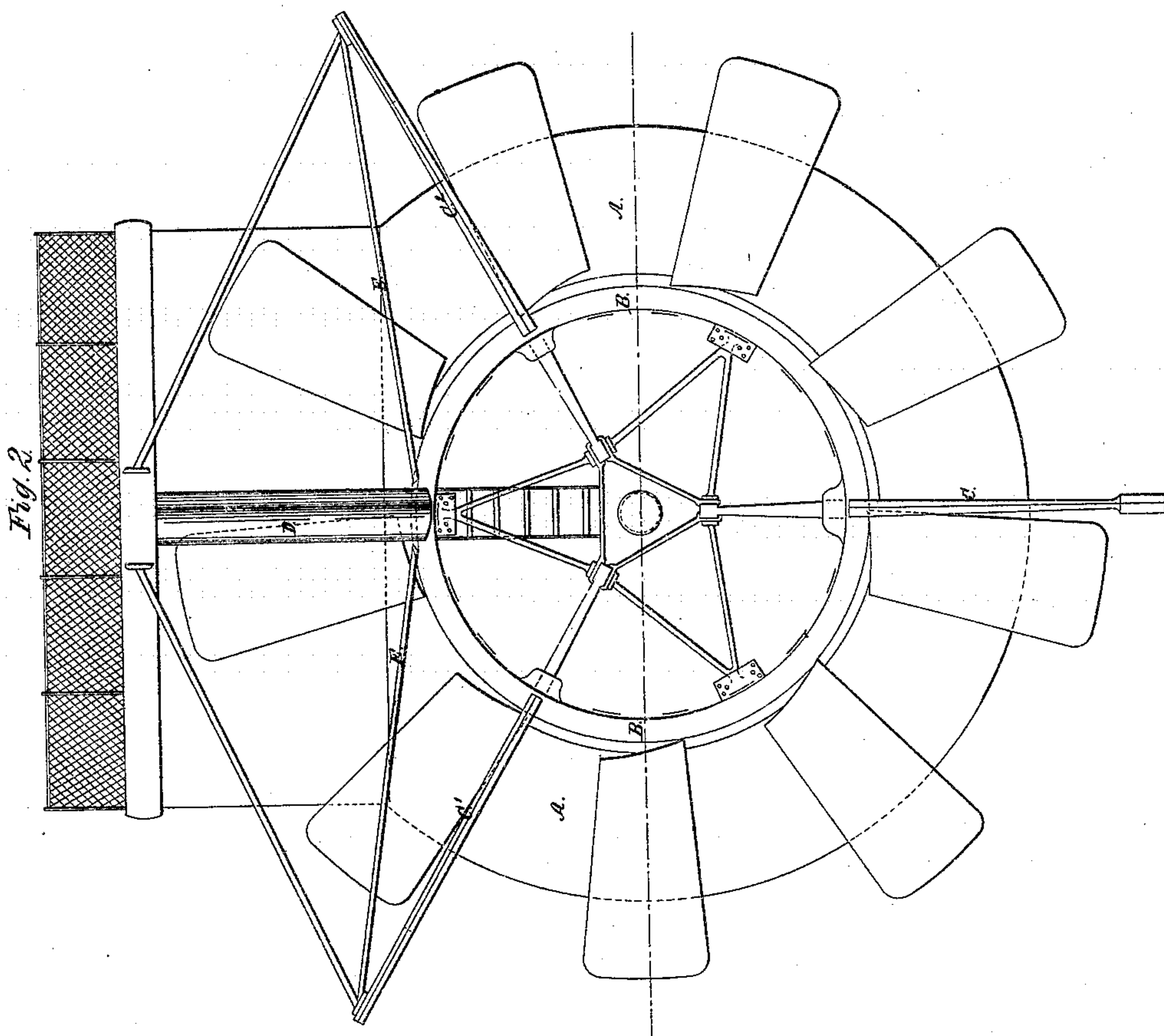
W. L. Winans  
T. Winans  
Per Mumpsey  
Attorney

Sheet 2. 3 Sheets.

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Jas. A. Service  
G. M. Livingston

Inventors

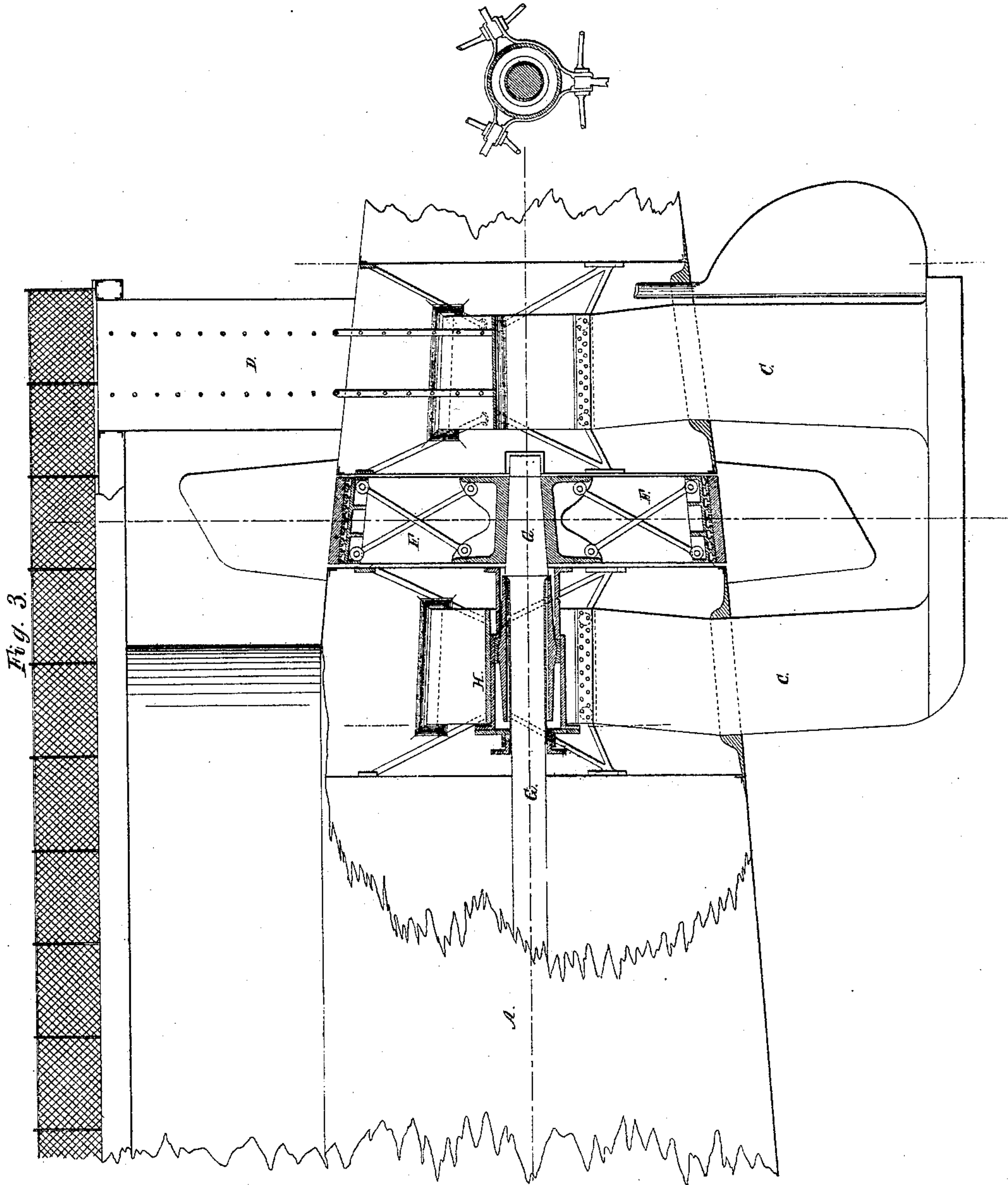
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Per Mump  
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Witnesses.

Jas. A. Service  
G. W. Huntington

Inventors

W. L. Winans  
T. Winans  
Per Winans & Co.  
Attorneys



# UNITED STATES PATENT OFFICE.

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

## IMPROVED PROPELLERS FOR SPINDLE-SHAPED SHIPS.

Specification forming part of Letters Patent No. 57,836, dated September 4, 1866.

*To all whom it may concern:*

Be it known that we, WILLIAM LOUIS WINANS, of London, England, and THOMAS WINANS, of Baltimore, Maryland, United States of America, have invented Improvements in Adapting Propellers for Propelling Ships or Vessels; and we do hereby declare that the following is a full and exact description of our said invention.

Our invention of improvements in adapting propellers for propelling ships or vessels relates to certain improvements upon an invention for which Letters Patent were granted 26th October, 1858, No. 21,918, to Ross and Thomas Winans.

The invention therein patented is described as consisting in the combination of a hull, which may be represented by the two ends of a spindle, divided transversely near the middle or center of its length, with only one vertical propeller, occupying a space between the two portions of the spindle, which are secured together by a suitable framing or sleeve attached to their adjacent ends and extending over the propeller, thus combining the two ends and completing the spindle-shaped hull of the vessel, the hub of the propeller being equal to the diameter of the hull of the vessel at the part where the two ends of the spindle were joined together, and the propeller only about half immersed.

Our present invention—an improvement upon the invention patented by Ross and Thomas Winans October 26th, 1858, No. 21,918, as aforesaid—consists in the adaptation of two screw-propellers, in combination with the spindle-shaped hull, constructed in three parts.

The spindle-shaped hull of the vessel constructed according to the present invention, in combination with two screw-propellers, is formed of three separate and distinct watertight vessels or parts, of which the center or middle part is much the largest. The two smaller end parts of the spindle are united to the larger central part of the spindle by framings, which are wholly or partly above the center or water-line of the vessel. The propellers are placed one at either end of the central vessel or compartment, and occupy a space between the smaller end parts and the larger central part of the vessel. About one-

half of the propeller only is immersed, and they are constructed similar to and operate like the one propeller shown in the specification of the patent of Ross and Thomas Winans, above referred to. By this means a greater amount of propelling-surface of blades, or an equal amount of propelling-surface, can be obtained with less draft of water than by a single propeller, as described in the patent of Ross and Thomas Winans, above mentioned.

Our invention likewise consists in the combination of two propellers, as herein described, with a spindle-shaped hull as improved by our ourselves, and for which improvements we have obtained Letters Patent.

The engines for propelling the wheels or propellers we place in the central compartment or vessel between the propellers. In some cases the propellers are placed upon one shaft common to both, and actuated by the same engines simultaneously. In other cases the propellers are placed upon separate shafts and are actuated by separate engines, so that the propellers may be driven in the same direction or in different directions. By this means the vessel could be turned upon its center by causing the propellers to rotate in opposite directions, and one or both propellers may be used, as required.

In the accompanying drawings, Figure 1, Sheet I, is a side elevation of one end of a spindle-shaped vessel, and showing our improved mode of adapting propellers thereto. We have not considered it necessary to show the other end of the vessel, with the second propeller, as precisely the same arrangement of parts is employed at that end. Fig. 2, Sheet II, is an end elevation of the propeller with the conical end of the vessel removed, in order that the arrangements for supporting the several parts may be more clearly seen. Fig. 3, Sheet III, is a longitudinal vertical section through the boss of the propeller and the bearings for supporting the same.

A represents the center or main part of the spindle-shaped vessel, or that compartment in which the engines are placed. B is part of one of the smaller spindle or pointed ends of the vessel. The parts A and B are connected together by wrought-iron struts or arms C, C', and C<sup>2</sup>. A wrought-iron tubular support, D,



extends down from the upper deck to the compartment B, to the interior of which access may be obtained by means of a ladder of iron struts, placed inside the tubular support D. The lower wrought-iron strut, C, serves also as a fin, to prevent the propeller from pulling round the end of the ship when she is intended to sail straight forward. It also materially assists the steering of the vessel. The two side struts, C' and C<sup>2</sup>, are supported by the tie-rods E E, Figs. 1 and 2.

The boss F of the propeller is constructed, as shown in the drawings, of cast and wrought iron, and is stiffened and strengthened by internal struts and tie-rods, as shown in Fig. 3.

The propeller-shaft G passes through properly-packed water-tight bearings H, which are so constructed as to admit of a little endwise and lateral motion.

It will be seen that the propeller is entirely detached from the compartment B of the vessel, and no access can be obtained to this latter except down the wrought-iron tubular support D. This compartment may be used either for the stowage of cargo or may be fitted up with berths for the crew. It will be seen that if the

outer compartment, B, be damaged, or even if it be knocked away, such an accident would not necessarily affect the stability of the main part of the vessel.

Having now described our invention of improvements in adapting propellers for propelling ships or vessels, and having explained the manner of carrying the same into effect, we claim as the invention, secured to us by Letters Patent, as aforesaid—

The application of two large screw-propellers to spindle-shaped ships or vessels, in the manner and for the purposes herein set forth.

In witness whereof we, the said WILLIAM LOUIS WINANS and THOMAS WINANS, have hereunto set our hands and seals this 20th day of January, 1866.

WM. L. WINANS. [L. s.]  
THOMAS WINANS. [L. s.]

Witnesses:

OSMAN LATROBE,  
45 Clarges Street.

T. H. HAMBLETON,  
45 Clarges Street, London.