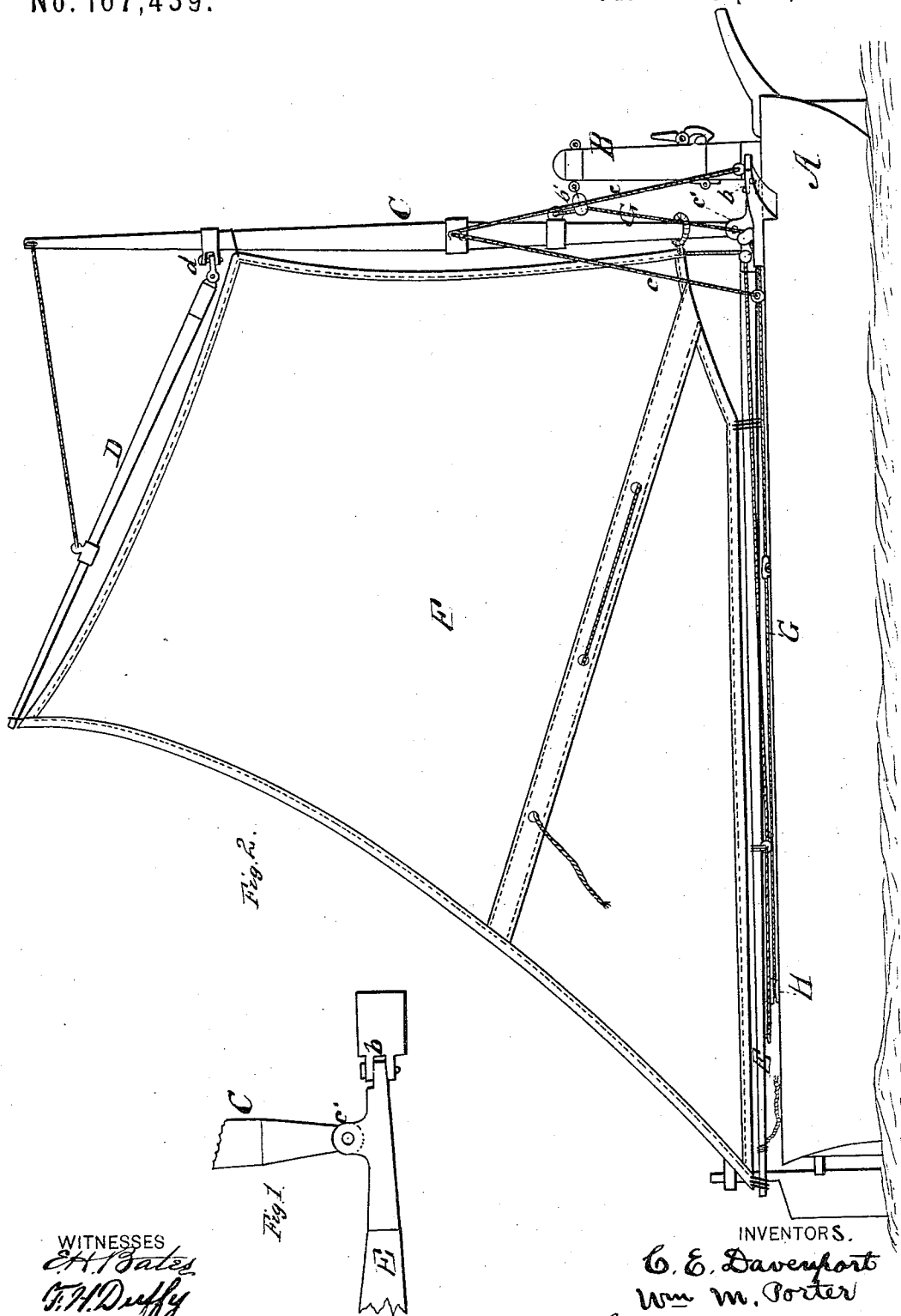


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Hinged Mast for Boats.

No. 167,439.

Patented Sept. 7, 1875.



WITNESSES
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IMPROVEMENT IN HINGED MASTS FOR BOATS.

Specification forming part of Letters Patent No. **167,439**, dated September 7, 1875; application filed February 16, 1875.

To all whom it may concern:

Be it known that we, CHARLES E. DAVENPORT and WILLIAM M. PORTER, of Washington, District of Columbia, have invented certain new and useful Improvements in Boats' Masts and Rigging; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of our invention relates to a new and useful improvement in the construction of the mast, gaff, boom, and sail of a sail-boat; and it consists, first, in a falling mast, or a mast capable of being lowered at will and at a moment's notice; second, in such a construction and arrangement of parts that the sail may be lowered at will from the stern of the boat; third, in relieving the boat in a squall from the rocking influence of a standing mast.

The object of our invention is to present such a construction of parts that a single yachtsman may manage a sail-boat from his seat in the cock-pit, and take in or stow his sail at a moment's warning without leaving his seat; also, to allow the mast to be lowered simultaneously with the sail, so as to pass under bridges, and to prevent rocking in heavy sea; also, to prevent loss of life in a squall by stowing sail and mast and rigging simultaneously at a moment's warning; also, to economize expense and material in obviating the necessity of using a multiplicity of blocks, halliards, stays, jacks, cleats, and pulleys.

Figure 1 is a detail view of our invention. Fig. 2 is a side elevation of a ship, showing the sails set.

Referring to the drawings, A is the hull of the boat, of any ordinary or desirable size, shape, or material. B is the standing mast, and it is provided with a band and eye, *b*, at its junction with the deck, this eye serving as the pivot for the boom, which will be described hereinafter. At the upper extremity of this standing mast B are suitable attachments *b'*

for a pulley, all of which may be of any desirable form, the object being to furnish bearings for the pulley through which run the halliards.

This pulley may be rigged single, double, or otherwise.

C is the falling mast, which is pivoted to the boom near the mast at *c'*. This mast is provided with stays *c*, which are suitably attached to the hull in the ordinary manner. D is the gaff, loosely pivoted and attached to the falling mast C at *d*. This gaff is formed in one with the falling mast, and to it is attached the upper portion of the sail F. E is the boom, of ordinary size and construction, loosely pivoted to the standing mast B, and it is provided with all necessary facilities for the attachment of the sail, main-sheet, &c., as is usual. F is the sail. These four last-mentioned parts are made in one, and are lowered or raised together. G is the halliard, by which the sail is raised or lowered, and it leads from an eye on the falling mast through a pulley at the upper extremity of the standing mast, thence down to the deck, and along the same through suitable blocks, rollers, pulleys, &c., to the cleat H, which is on the starboard side of the cock-pit, where it is within reach of, and may be manipulated by, the man at the tiller or helmsman.

By this construction we obviate the necessity of mast-hoops, throat-halliards, peak-halliards, outhaul, downhaul, &c., but one halliard being necessary.

The sail and boom are provided with the ordinary fore-and-aft leach-lines, reefing-lines, and other well-known elements, to none of which we lay claim, as they are old.

A modification is shown in the drawing, in which the standing mast may be hinged, so that it may also be lowered with the falling mast and sail, if desired.

We are aware that hinged masts for raising and lowering the sails are not new of themselves. We do not, therefore, claim this; but,

What we do claim as new, and desire to secure by Letters Patent, is—

1. The falling mast C, stayed, as shown, to the sail F, in combination with the standing mast B, substantially as shown and described.

2. The standing mast B, hinged, as shown, in combination with the falling mast C and halliard G, when the mast C, gaff D, boom E, and sail F are made permanently in one, as shown and specified.

In testimony that we claim the foregoing as our own we herewith affix our signatures in presence of two witnesses.

C. E. DAVENPORT.
WM. M. PORTER.

Witnesses:

C. W. SHELTON,
WM. N. PECK.