

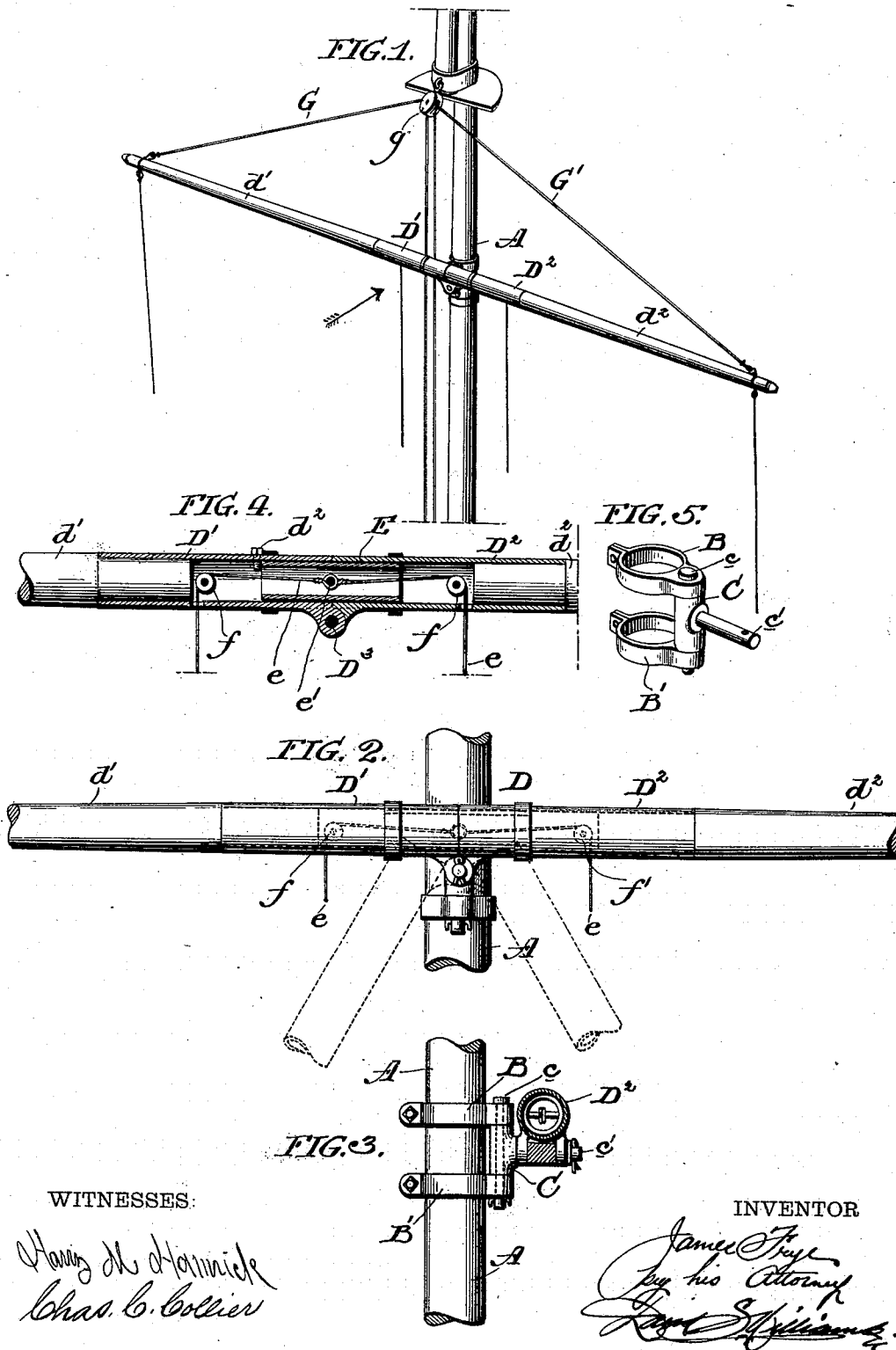
No Model.)

J. FRYE.

TOPSAIL YARD FOR SAILING VESSELS.

No. 552,113.

Patented Dec. 31, 1895.



# UNITED STATES PATENT OFFICE.

JAMES FRYE, OF PHILADELPHIA, PENNSYLVANIA.

## TOPSAIL-YARD FOR SAILING-VESSELS.

SPECIFICATION forming part of Letters Patent No. 552,113, dated December 31, 1895.

Application filed April 25, 1895. Serial No. 547,095. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES FRYE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Topsail-Yards for Sailing-Vessels; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains 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.

My invention relates to new and useful improvements in topsail-yards for sailing-vessels; and it consists more particularly in so constructing and arranging the several parts as to enable the topsail-yards to be readily folded against the masts in stormy weather from the deck without requiring the assistance of seamen in the rigging.

In reference to the accompanying drawings, Figure 1 shows a perspective view of a portion of a vessel's mast with the topsail yard-arm in position. Fig. 2 is an enlarged front elevation looking in the direction of the arrow, Fig. 1. Fig. 3 is a side elevation of that portion shown in Fig. 2. Fig. 4 is a sectional view of one side of a topsail-yard, showing the manner of operating the draw-bolt, and Fig. 5 is a detached perspective view of the mast-braces for holding the topsail-yard in position.

A designates the mast to which are secured the braces B and B'.

C is a swivel-bolt interposed between said braces and being pivotally secured thereto by a pin c. The swivel-bolt C has a projecting pin c' which engages the hinged portion of the topsail-yard D, the latter consisting of two steel tubes D' and D<sup>2</sup>, having forged thereon the hinge portions D<sup>3</sup>, which are

mounted upon the pin c'. The outer portions d' and d<sup>2</sup> are of wood, but may be constructed of the same material as the portions D' and D<sup>2</sup>. Within said portions D' and D<sup>2</sup> is snugly fitted a draw-bolt E, operated by a wire rope or chain e, which passes over pulleys f and f' and thence to the deck. The draw-bolt E is made of steel tubing and has a rod e' to which the wire rope or chain is attached. When the topsail-yards are folded against the mast, as shown by dotted lines in Fig. 2 of the drawings, the draw-bolt E rests in the portion D<sup>2</sup> of the topsail-yard. When it is desired to set the topsail-yards, as shown in Fig. 1, the outer ends are elevated by ropes G and G', which pass over wheels in the pulley-block g and thence to the deck. The draw-bar E is then drawn across until it strikes the stop d<sup>2</sup>, in which position it is firmly held by securing the wire rope or chain e at any convenient position on the deck.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a topsail yard the combination of the parts D' and D<sup>2</sup>, a portion C to which said parts are hinged, and braces B and B' hinged to and supporting said portion C, substantially as described.

2. In a topsail yard the combination of the parts D' and D<sup>2</sup>, a portion C to which said parts are hinged, braces B and B' hinged to and supporting said portion C, a draw bolt E to reinforce said parts D' and D<sup>2</sup> and means for operating said draw bolt, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES FRYE.

Witnesses:

ROBERT W. LLOYD,  
HERBERT I. LLOYD.