

(No Model.)

2 Sheets—Sheet 1.

F. V. DE BEM.

FOLDING AND REEFING APPARATUS FOR JIBS.

No. 569,601.

Patented Oct. 20, 1896.

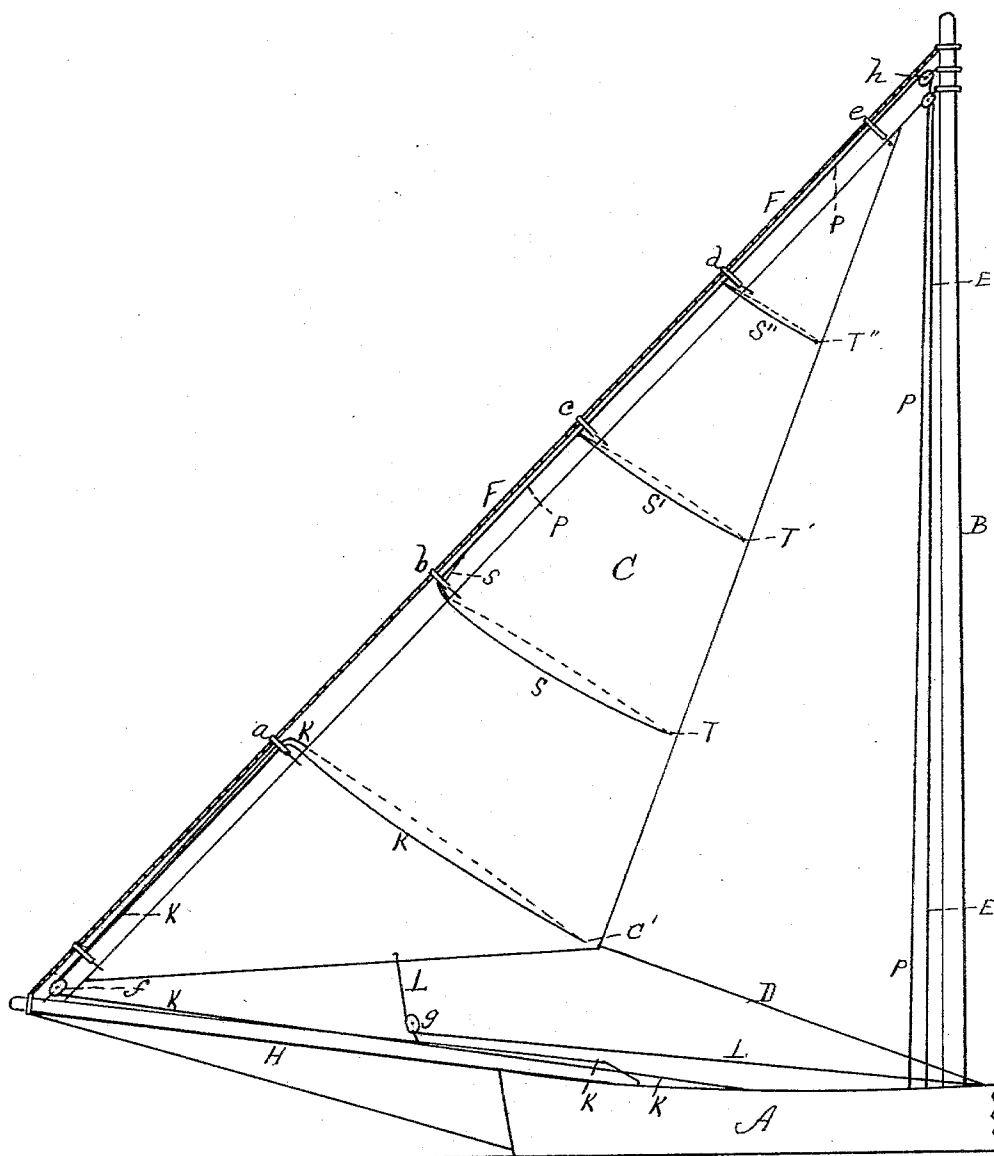


Fig. 1.

WITNESSES

A. N. Pomeroy
C. H. Crawford.

INVENTOR

Francis V. de Bem
By his Atty.
Henry Williams

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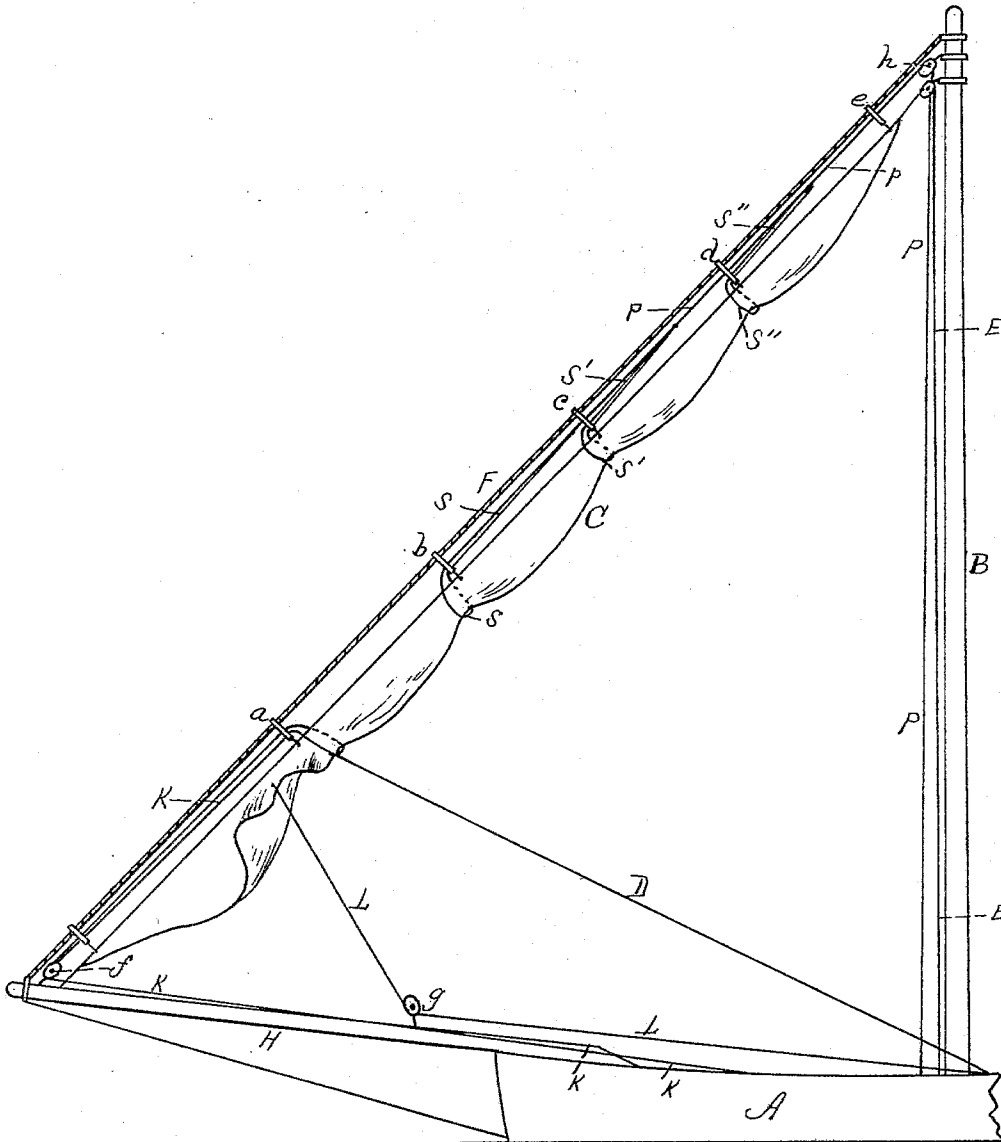


FIG. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

FRANCISCO V. DE BEM, OF GLOUCESTER, MASSACHUSETTS.

FOLDING AND REEFING APPARATUS FOR JIBS.

SPECIFICATION forming part of Letters Patent No. 569,601, dated October 20, 1896.

Application filed June 12, 1896. Serial No. 595,279. (No model.)

To all whom it may concern:

Be it known that I, FRANCISCO V. DE BEM, a subject of the King of Portugal, residing in Gloucester, in the county of Essex and State of Massachusetts, have invented a new and Improved Folding and Reefing Apparatus for Jibs, of which the following is a specification.

This is an improved apparatus for folding and reefing jibs, and it has for its object to enable the reefing process to be accomplished very quickly, and thus reduce the danger, which in reefing jibs is often very great, to a minimum.

The nature of the invention is fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the bow of the vessel provided with my folding and reefing apparatus and with the jib raised and drawing to its full extent. Fig. 2 is a similar view with the jib reefed and folded.

Similar letters of reference indicate corresponding parts.

A represents the hull; B, the foremast; C, the jib; D, the jib-sheet, and E the jib-halyard or hoisting-rope.

a, *b*, *c*, *d*, and *e* are hanks securing the jib to the jib-stay F, which extends from the bowsprit H to the foremast.

K K are reefing-ropes secured to the lower inner corner C' of the jib on opposite sides thereof and extending down through the hank *a* and around the blocks *f* to any suitable position on the deck.

L is an additional sheet secured to a central portion of the lower edge of the jib and extending therefrom around the block *g* and secured to the deck. It will readily be seen that by loosening the main sheet D and drawing on the reefing-rope K the jib can be half-reefed, that is to say, it can be drawn and folded until its rear edge is practically on a line which would extend from the point at which the sheet L is secured to the jib to the upper end of the jib; but if both the sheets D and L were loosened then the jib could be fully reefed in almost an instant, as the reefing-ropes K would pull the corner C' up to the hank *a*, as in Fig. 2. It is desirable, however, not only that the jib should be reefed but folded up into the position indicated in Fig. 2. I accomplish this in the following manner: A clue-rope P extends from

the deck up over the block *h*, secured to the mast near its upper end, and thence down through the hanks *e*, *d*, and *c* to a point a trifle above the hank *b*. At that point two short clue-ropes S extend one on each side of the sail and have their opposite ends secured at T to the jib near its rear edge. Just below the hanks *c* and *d* two other pairs of clue-ropes S' and S'' extend from the main clue-rope P and have their opposite ends secured at opposite sides of the jib at T' and T''. Thus as soon as the jib is reefed by loosening the sheets D and L and drawing on the reefing-ropes K the clue-rope P is pulled upon with the effect of drawing the minor clue-ropes S S' S'' up through the hanks *b*, *c*, and *d* and folding up the jib into the position indicated in Fig. 2. As will be seen, the two reefing-ropes K serve also as clue-ropes by being drawn down through the hank *a*.

As many of the minor clue-ropes S S' S'' may be applied to the jib as deemed desirable. By this means the jib can be reefed and folded up almost instantaneously from the deck without sending any one upon the bowsprit.

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

The herein-described improved folding and reefing apparatus for jibs, consisting of the combination with the mast, jib, jib-stay and hanks; of the reefing-ropes K secured at one end to the lower, inner corner C' of the jib on the opposite sides thereof, extending therefrom directly across the jib to and through the lower hank *a* and thence to the bowsprit and deck; the half-reefing sheet L extending centrally from the lower end of the jib to the deck; the clue-rope P extending from the deck to the upper portion of the mast and thence through the hanks *e*, *d* and *c*; the pair of clue-ropes S extending from the inner edge of the jib on opposite sides thereof to the lower end of the clue-rope P; and other pairs of clue-ropes similarly secured to the inner edge of the jib and extending to the clue-rope P, substantially as described.

FRANCISCO V. DE BEM.

Witnesses:

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A. N. BONNEY.