No. 710,334. Patented Sept. 30, 1902.

F. V. NIELSEN.

BOOM RIGGING.

(Application filed Mar. 18, 1902.)

(No Model.)

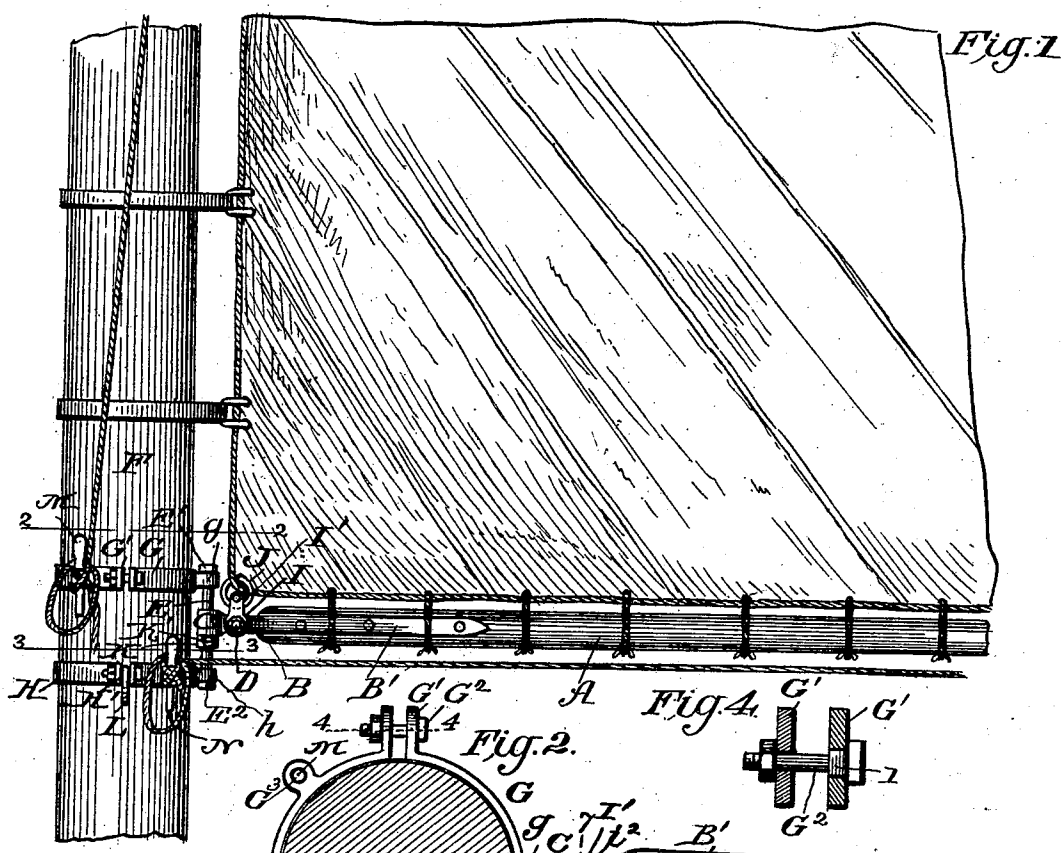


Fig. 1

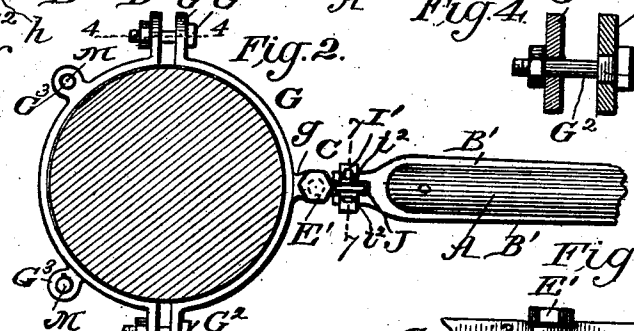


Fig. 2.

Fig. 4.

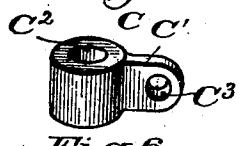


Fig. 5.



Fig. 6.

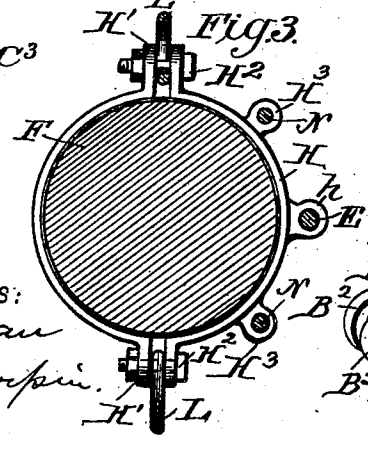


Fig. 3.

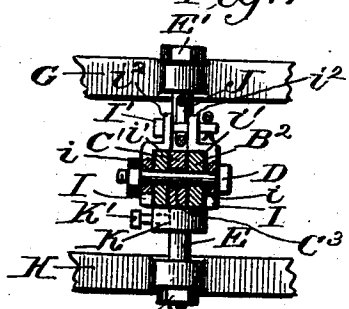


Fig. 7.

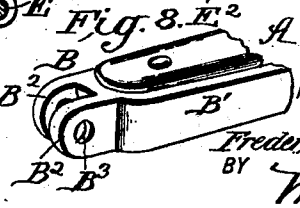


Fig. 8.

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BOOM-RIGGING.

SPECIFICATION forming part of Letters Patent No. 710,334, dated September 30, 1902.

Application filed March 18, 1902. Serial No. 98,729. (No model.)

To all whom it may concern:

Be it known that I, FREDERIK V. NIELSEN, a citizen of the United States, and a resident of San Francisco, in the county of San Francisco and State of California, have made certain new and useful Improvements in Boom-Rigging, of which the following is a specification.

My invention is an improvement in boom-rigging, having for an object to provide a novel construction by which to secure the boom to the mast, and is especially designed for vessels of the schooner class or vessels rigged with fore-and-aft sails. Ordinarily the booms swing at their inner ends against the mast, and iron or other metal sheets are secured on the masts to take the wear, and water getting beneath the plate rots the mast. By my invention I seek to avoid this injury to the mast and provide a construction which will be simple, easily applied, and will efficiently support the boom and permit the movements thereof in various directions as may be desired.

The invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a side view of my invention, parts of the mast and boom being broken away. Fig. 2 is a cross-sectional view on about line 2 2 of Fig. 1. Fig. 3 is a cross-section on about line 3 3 of Fig. 1. Fig. 4 is a detail cross-section on about line 4 4 of Fig. 2. Fig. 5 is a detail perspective view of the sliding boom-carrier. Fig. 6 is a detail view illustrating the supporting-collar and the clamp by which the boom-carrier may be held at different heights. Fig. 7 is a detail cross-sectional view on about line 7 7 of Fig. 2, and Fig. 8 is a detail perspective view of the clasp for the inner end of the boom.

The boom A, which may in general respects be of ordinary construction, is provided at its inner end with a clasp B, having the side plates B′, which lap on opposite sides of the boom, and the end lugs B^2, which project at the inner end of the clasp and lap on opposite sides of the lug C′ on the carrier C, such lug C′ being provided with a bolt-hole C^3 and the lugs B^2 having bolt-holes B^3, the bolt D being passed through the coincident holes B^3 and C^3 to secure the boom-clasp pivotally to the lug C′ of the carrier C. This carrier C has an opening C^2, which fits and slides on the upright bolt or rod E, which is secured to the mast F by means of the collars G and H, as shown in Fig. 1, as will be presently described. The clasp C may turn on the rod E, so the boom is capable of a swinging movement in a horizontal plane by the turning of the carrier C on the rod E and also of a vertically-swinging movement on the bolt D as a pivot. The bolt D also secures the side plates I for the clue-line ring J, said plates I being provided near their lower ends with bolt-holes *i* for the bolt D and being shouldered at *i*′ to rest upon the upper edges of the lugs B^2 and being provided at their upper ends with ears i^2, between which the ring J is secured by means of the bolt I′, as best shown in Figs. 1, 2, and 7. This provides a convenient construction for securing the tack or clue in connection with the pivot-bolt on which the boom swings, as will be understood from Figs. 1, 2, and 7. A collar K fits on the rod E below the carrier C and may be secured in any desired adjustment by the clamping-screw K′, as will be understood from Figs. 1 and 6. The collars G and H are fitted around the mast F and are provided with eyes *g* and *h* for the rod E, which rod may be in the form of a bolt having a head E′ at one end and a nut E^2 at the other, the said head and nut being arranged, respectively, above the eye *g* and below the eye *h*, as shown in Fig. 1. These bands G and H are preferably made in two sections, each section being provided at its end with lugs G′ and H′, connected by the bolts G^2 and H^2, the said bolts being provided with angular portions *l*, adjacent to their heads, (see Fig. 4,) fitting in corresponding openings in one of the ears, so the bolts will be held from turning. Between the ears or lugs H′ of the lower collar I support on the bolts H^2 the rings L, which will be useful in adjusting the deck-load lashings. I also provide the upper and lower collars G and H with eyes G^3 and H^3 to receive belaying-pins M and N, as will be understood from Figs. 1, 2, and 3, for boom-tackle and for the gaff-topsail, sheet, and the like.

As will be understood from the drawings, a boom can swing freely up and down and

sidewise, and when the sail is set and the boom hangs with its weight on the sail the boom can rise or fall as the sail shrinks or expands. By means of the adjusting-collar K (shown in Fig. 6) the boom can be raised or lowered at its inner end as may be desired.

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

1. The combination substantially as herein described of the mast, the collars thereon, the rod extending between and supported by said collars and spaced away from the mast, the boom-carrier sliding on said rod and provided with a projecting lug, the boom, the boom-clasp, a bolt by which the inner end of the boom-clasp is pivoted in connection with the lug of the boom-carrier, the clue-line ring, the bolt securing said ring and the opposite plates fitted at their upper ends on opposite sides of the clue-line ring and secured at their lower ends by the pivot-bolt of the boom substantially as set forth.

2. In a boom-rigging substantially as described the combination with the mast and the boom, of the upper and lower collars, and guide-rod extending between the said collars, a carrier for the boom supported on said rod, and rings on the lower collar for the deck-load lashing, substantially as set forth.

3. The combination with the upright guide-rod and means for securing the same to the mast, of the carrier sliding on said rod and provided with a lug, the boom, the boom-clasp provided at its inner end with lugs fitting on opposite sides of the lug of the carrier, the clue-ring, the plates fitting at their upper ends alongside the ring and provided with a bolt for securing said ring and fitting at their lower ends along the outer sides of the opposite lugs of the boom-clasp, and the bolt passed through said plates and the lapped lugs of the boom clasp and carrier, substantially as and for the purposes set forth.

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