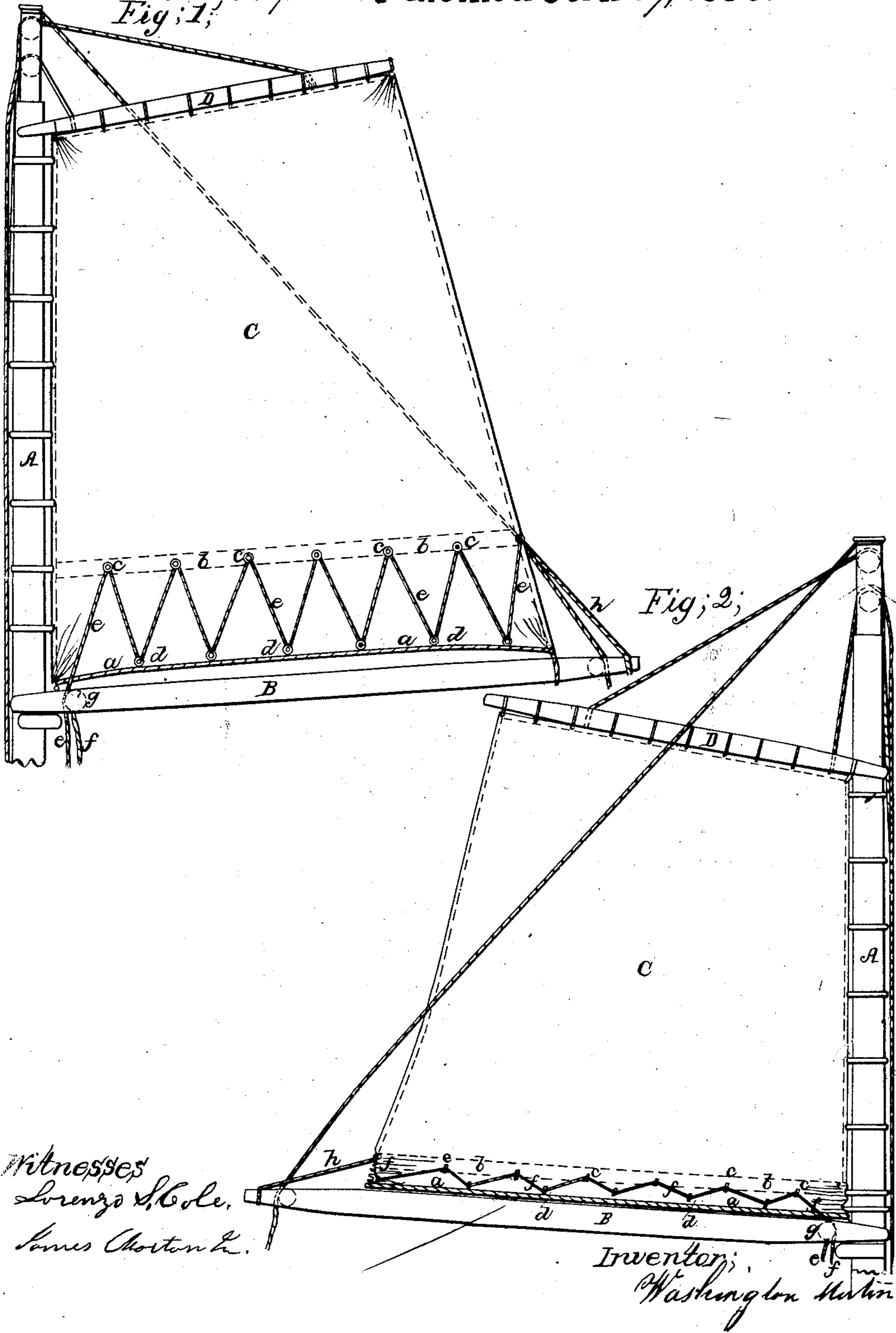


W. Morton.

Sails & Rigging.

N<sup>o</sup> 26,857.  
Fig: 1;

Patented Jan. 17, 1860.



Witnesses  
Lorenzo S. Cole.  
James Morton Jr.

Inventor;  
Washington Morton



# UNITED STATES PATENT OFFICE.

WASHINGTON MORTON, OF FRIENDSHIP, MAINE.

## REEFING FORE-AND-AFT SAILS.

Specification of Letters Patent No. 26,857, dated January 17, 1860.

*To all whom it may concern:*

Be it known that I, WASHINGTON MORTON, of Friendship, in the county of Lincoln and State of Maine, have invented an Improvement in Reefing and Furling Fore-and-Aft Sails; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1, denotes a side view of a mast, sail and boom with my invention applied thereto. Fig. 2, is a view of the opposite side thereof.

The nature of the said invention consists in a mode of arranging and applying a single reef line and its leading carriers together and with respect to the reef band, the foot rope of the sail, and the boom; also, in combining therewith a straining rope, arranged and applied to the reef band and the boom so as to relieve the outer carriers or leaders and their reef lines from the strain and wear of the sail while the latter is reefed.

In the drawings, A, is the mast; B, the boom; C, the sail, and D the gaff of such sail, the whole being applied together in the ordinary manner.

The foot rope of the sail is shown at *a*. At a proper distance above the said foot rope, and parallel or about parallel thereto, I apply to the sail on either or both sides of it, a reef band, *b*, and at suitable distances apart on each side of the sail and along the reef band, I affix a set, or series of thimbles, leaders, or carriers, *c, c, c*, the same being disposed as shown in the drawings. Each of said leaders consists of a round wooden or metallic block provided with an eye or hole for reception of the reefing line. Furthermore, I arrange on each side of the sail and affix to the foot rope, *a*, another series, *d, d, d*, of such leaders or carriers each of which may be disposed between two of the leaders, *c, c*, as shown in the drawings. Furthermore I attach to the outer edge of the sail or leech thereof, and at the reef band, two reefing lines *e, f*; these lines I extend downward on opposite sides of the sail and respectively through the two outermost leaders, *c, c*, as shown in the drawings. From each of the said leaders each line is to be laced or carried to and through the other leaders on one side of the sail in manner as shown in Figs. 1 and 2; and, finally, each line is to

be carried downward through the boom, near its heel and against a sheave, placed therein, as shown at *g*. Furthermore, above the point of attachment of each reefing line to the outer leech of the sail, I connect to the said leech, a stay or straining rope, *h*, and lead the same forward toward the nose of the boom and thence downward through the boom or against a sheave placed therein or thereon. Such line, after the sail may have been reefed should be drawn taut and belayed either to the boom or some other proper part of the vessel. The line, *h*, acting or straining the reef band in a direction outwardly, prevents the sail while reefed from being drawn back and puckered by the reef line.

In order to reef and furl the sail, both reef lines are to be pulled on in a manner to draw them through their carriers and cause the upper rows of carriers and that part of the sail above them to descend toward the foot rope of the sail.

By means of the two reef lines applied and operating as described, the sail will not only be reefed, but will be furled, which would not be the case were one reefing line only employed on one side of the sail, as in such case, the sail might be reefed but the reefed portion would not be furled or taken in.

By my mode of lacing reef lines on opposite sides of the sail, the operations of reefing and furling can be effected by two lines only, and can be done very effectively and with great despatch.

I am aware, that for confining in the wake of the reef bands and quarters, the slack of a top-sail when reefed, by a series of vertical reefing lines, a series of small ropes or gaskets have been used, such being rove occasionally, in separate pieces through eyelet holes under the reef band. Therefore, I do not claim such, for each of such ropes or gaskets is carried through the sail (which is very objectionable) whereas, I do not carry any rope through the sail, and I accomplish the entire reefing and furling of the sail by two ropes only and not by a set of two or more reefing lines and a series of small ropes or gaskets. I am also aware, that for reefing a sail, several short lines have been affixed at intervals along a sail and led downward through leading eyes at the bottom of the sail and thence along the bottom and finally united to a single line.

Therefore I do not claim such, as I employ two sets of leaders or eyes for each reef line, they being applied on one side of the sail and I use but one reefing line on either  
5 side of the sail whereas, only one set of leaders and several lines are used for such reef in the other mode of reefing.

What I claim is—

1. Combining substantially as described  
10 a single reefing line, and two sets of leading eyes together with one side of the sail its

reef band and foot rope, the rope in such case not being carried through the sail.

2. And in combination or connection with the same I claim the straining rope ar- 15 ranged and applied to the reef band and the boom substantially as and for the purpose as specified.

WASHINGTON MORTON.

Witnesses:

LORENZO S. COLE,  
JAMES MORTON, Jr.