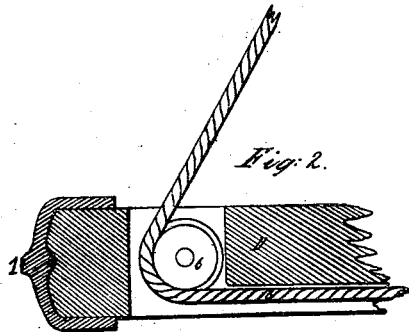
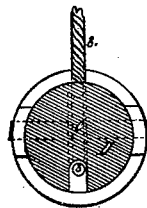


*W. A. Ross*  
*Sails & Rigging*  
*Patented Oct. 30, 1849.*

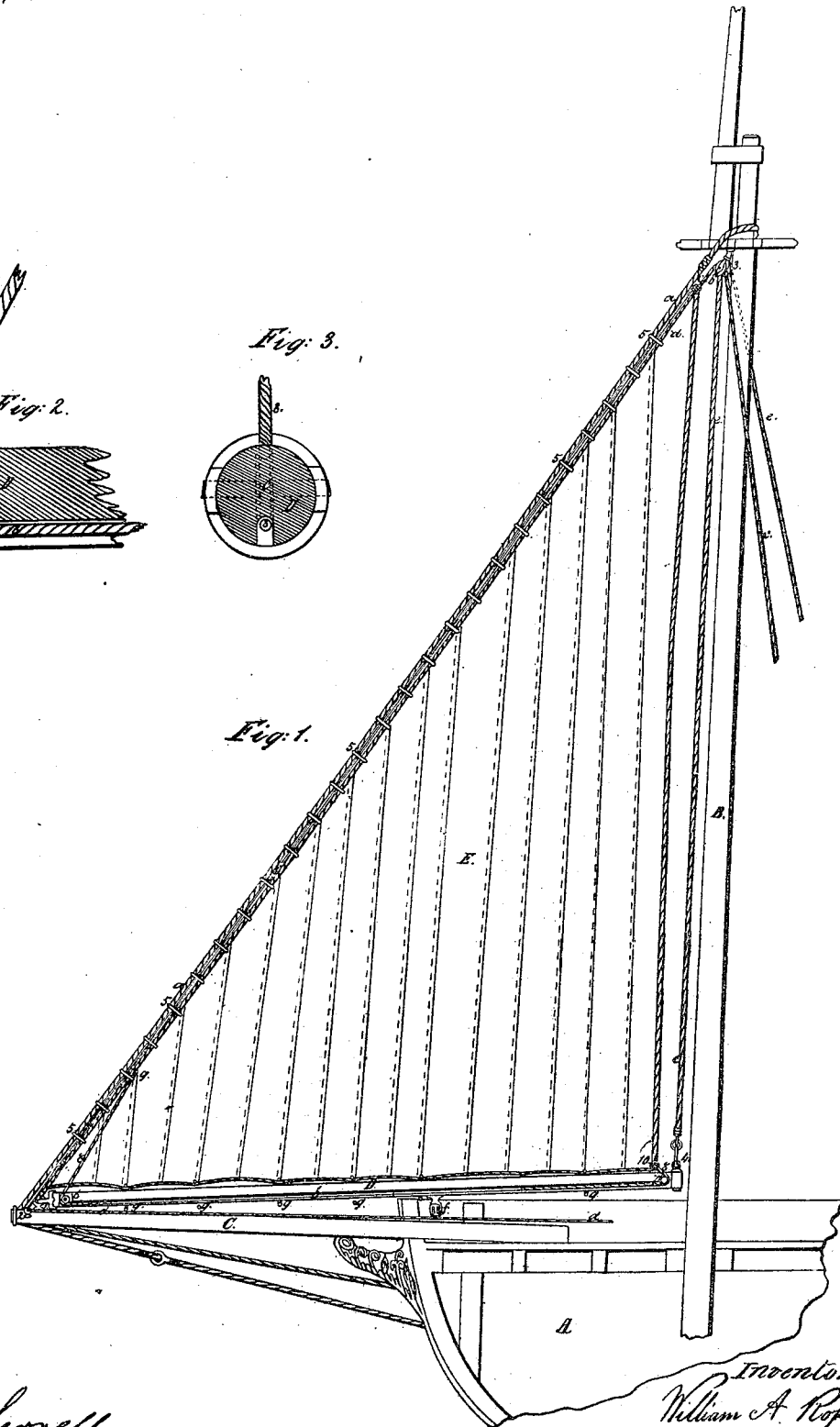
*Nº 6,836.*



*Fig. 2.*



*Fig. 3.*



*Fig. 1.*

*Witnesses:*  
*W. Serrell.*  
*Edu. W. Serrell.*

*Inventor*  
*William A. Ross.*

# UNITED STATES PATENT OFFICE.

WILLIAM A. ROSS, OF PORT RICHMOND, NEW YORK.

## IMPROVED MEANS FOR WORKING SAILS.

Specification forming part of Letters Patent No. 6,836, dated October 30, 1849.

*To all whom it may concern:*

Be it known that I, WILLIAM A. ROSS, of Port Richmond, Richmond county, in the State of New York, sail-maker, have invented and made and applied to use a new and useful improvement in or addition to the parts employed about the foresails of sloops or schooners, or the jibs of these or other vessels, or any other fore-and-aft sail when the foot of the sail is stretched flat or straight by a boom, such improvement consisting in the addition of a rope so fitted that it prevents the sail from sticking or stretching so as to tear at the diagonal line or point of shortest distance between the after end of the boom and the bolt-rope of the sail, thereby facilitating the furling or stowing of the sail when lowered, and aiding in setting the sail when hoisted, for which improvements I seek Letters Patent of United States; and that the said improvement, with the construction, use, and effect thereof, are fully and substantially set forth in the following description, and shown in the drawings annexed to and making part of this specification, wherein—

Figure 1 is a side elevation of a sail fitted with this improvement, the boom being drawn in section, so as to show the mode of fitting the same.

The smaller figures are separately referred to, but the same letters and other marks of reference apply to the like parts in all the figures.

A is a portion of the forward part of a sloop or schooner; B, the mast on which the sail is hoisted. C is the bowsprit over which it is set. D is the boom beneath the sail, with the forward end attached to the outer end of the bowsprit by an eyebolt. E is the foresail or jib. *a* is the forestay, with the collar at the mast-head and lanyards beneath the bowsprit. *b* is the block passing the halyards *c*. 1 is the jib-tack eyebolt. *d* is the ordinary down-haul leading through an eye, 2, or a block on the eye. *e* is the topping lift or rope, to take the weight of the boom from the sail, passing through the block 3 to the eye 4 in the boom D. *f* is the jib-sheet block, and 5 are the hanks to hold the sail to the stay *g*; and *g* are rings, hoops, hanks, or grommets, whichever may be employed, to keep the foot-rope of the sail down to the boom, all these parts being

represented as fitted for work in the manner now in use.

A sheave, 6, is placed in or on the forward end of the boom D, as seen in larger size in Fig. 2; and a similar sheave, 7, is placed in or on the after end of the boom, or a pair of small blocks may be placed on the boom, in either case so fitted as conveniently to reeve rope 8, the forward end of which is spliced to the bolt-rope at 9 on the forward edge of the sail, so as to be as much above the end of the boom as is required by the difference between the length of the lower edge of the sail and the shortest distance across from the bolt-rope to the clew-cringle 10, this difference varying with the angles of the sail, the rope 8 passing under through a groove in the boom, as shown in cross-section in Fig. 3, and has the after end reeved upward through the sheave 7 and hauled taut and fastened to the clew-cringle 10 in the after clew or sheet-angle of the sail E. The effects this rope 8 produce are, first, that on lowering the sail as the down-haul *d* is hauled on, so soon as the sail is lowered enough to slacken the rope 8 at the point 9, the rope 8 renders through the sheaves 6 and 7, and at once permits the clew-cringle 10 and sheet-angle of the sail to pass forward on the boom, so that the sail can be hauled down entirely without the sail binding on the forestay, which would be the case were the cringle 10 a fixture to the boom, because the shortness of the perpendicular between the cringle 10 and bolt-rope will not allow it to come entirely down, while the cringle 10 remains a fixture. The rope 8, descending with the sail, slackens upon the cringle 10 and allows that to come forward, so that the rings on the stay *a* slide easily, and the sail can then be conveniently furled or stowed. On hoisting the sail the reverse operation takes place, because so soon as the point 9 begins to lift on the stay *a* the rope 8 begins to draw the cringle 10 aft upon the boom D; so that by then the head of the sail is hoisted up, the cringle 10 is sheeted home, and the sail fairly stretched on the boom by the act of hoisting it.

Although I have described the rope 8 as being continuous, it may be connected to a metallic rod running in the groove in the under side of the boom, or a chain may be used instead.

The advantages of the construction herein shown are, that the rope or chain running in a groove in the boom is out of the way of ropes or bolts, and, as the rope is never loose, it cannot get caught in any portion of the rigging or the vessel as the sail swings across in tacking.

It will be evident that the rope 8 need not run in a groove, but may be connected in any other convenient manner that will produce the same effects—namely, the slackening up of the after angle of the sail—by the operation of lowering, so that the sail descends freely, and also the entire setting of the sail, by merely hoisting the same, as before described.

In sails of this shape attached to a boom in order to furl them, the boom has itself heretofore been made movable at its outer end, as without this the sail could not be furled when lowered, and will not set fair when hoisted, as the part of the sail before the boom will not be in the same line as the part immediately above the boom.

It will also be understood that the after end of the rope 8 may be made as a pendant, taking the cringle 10 at the after end, and a single block at the fore end, with a fall going to a double block on the fore end of the pendant beneath the boom, and the fall itself ending above the point 9 in the bolt-rope, and that the fall and pendant so fitted will give a double purchase to sheet home a large sail when setting it in a strong wind, the length of the pendant and fall being properly proportioned to work fair at each end of the boom. This mode is not represented in the drawings because it is so mere a matter of nautical practice that it is easily understood.

I am aware that a down-hauler acted on by a force other than that applied to the hal-

yards has been used to the sail when lowering, and a like separate force has been applied to sheet the sail home when hoisting; but by my particular attachment the sticking or tearing while lowering the sail is prevented, and the same effect is obtained in hoisting, and the sail is also sheeted home, and all the effects are produced by this one attachment through the action of the halyards independent of any separate action or force, so that on sails hoisting at the upper angle of a triangle on a stay the rope I use might go through the hanks to the halyard-block at the upper angle if this extra length of rope did not interfere with stowing the sail. This is avoided by attaching the rope in the manner described.

I do not claim to have invented any of the parts herein described as separately from the manner in which it is employed. No one part is new; but

I do claim as new and of my own invention, and desire to secure by Letters Patent of the United States—

The attachment of a rope, 8, to the bolt-rope of a sail to act as a down-haul in lowering and to sheet the sail home when hoisting, such rope passing by sheaves or blocks, or in any convenient manner, from one end of the boom to the other, so that it operates to release the cringle and relieve the sail when lowering, and replace the cringle and sheet home the sail when hoisting, substantially as described and shown.

In witness whereof I have hereunto set my signature this 27th day of August, 1849.

WILLIAM A. ROSS.

Witnesses:

W. SERRELL,

EDWD. W. SERRELL.