

G. A. Ford.
Sails & Rigging
No 91,927. Patented Jun. 29, 1869.

Fig:1.

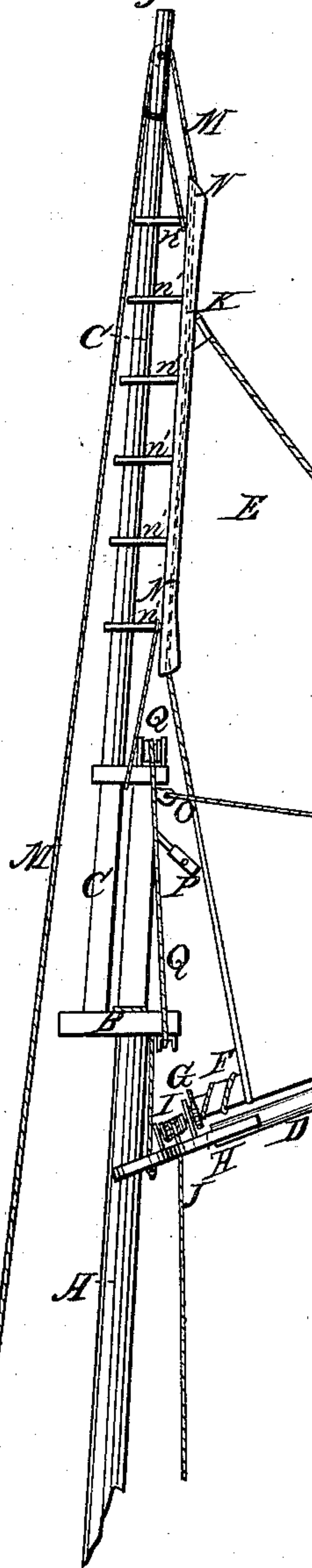


Fig:2.

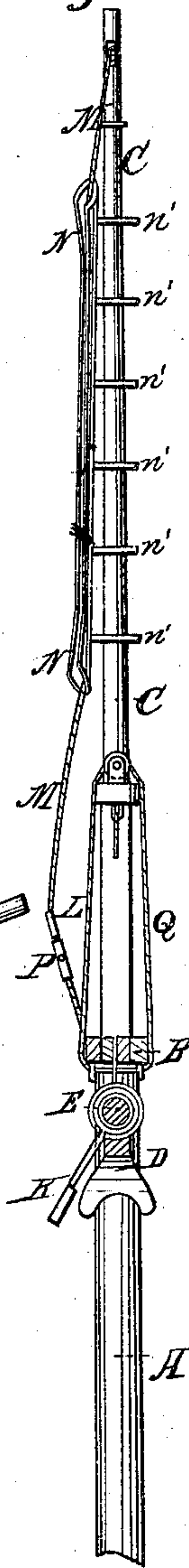
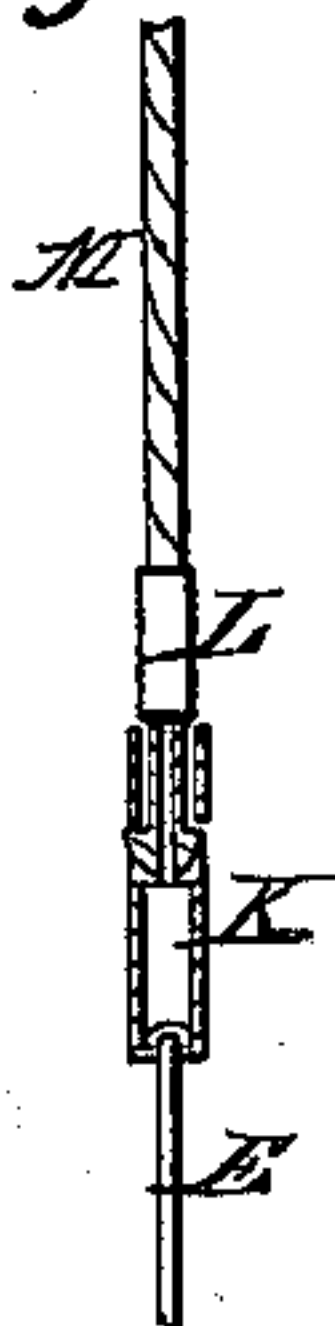


Fig: 3.



Witnesses:

Idrichman
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Inventor:

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 per *Wm H*
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United States Patent Office.

GEORGE A. FORD, OF OSWEGO, NEW YORK.

Letters Patent No. 91,927, dated June 29, 1869.

IMPROVEMENT IN FURLING GAFF-TOPSAILS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE A. FORD, of Oswego, in the county of Oswego, and State of New York, have invented a new and useful Improvement in Furling Gaff-Topsails; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 illustrates my improvement, showing the sail partly furled.

Figure 2 is a detail view, illustrating the same, the gaff and sail being removed.

Figure 3 is a detail sectional view, showing the manner in which the hoisting-rope is attached to the sail.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improvement in furling gaff-topsails, and other triangular sails, which shall be so constructed and arranged that the sails may be furled and unfurled from the deck, quickly and conveniently, even when a strong wind is blowing; and

It consists in the construction and combination of various parts of the furling-apparatus, as hereinafter more fully described.

A is the mast, B is the top, C is the top-mast, and D is the gaff, about the construction of which parts there is nothing new.

E is the topsail, the lower edge of which is securely attached to a roller, F, extending along the upper side of the gaff D, and the ends of which revolve in or are pivoted to bearings attached to the said gaff D, as shown in fig. 1.

To the inner end of the roller F is attached a gear-wheel, G, the teeth of which mesh into the teeth of a small gear-wheel, H, attached to the spool or drum I, to which is attached, and around which is wound the rope J, so that, by pulling upon the said rope J, the roller F will be revolved, winding the sail E around the said roller F, and furling it.

As the sail is unfurled or unwound from the roller F, the rope J will be again wound upon the spool I, ready for use in again furling the sail.

The edges of the sail are strengthened with stay-ropes in the ordinary manner.

To the upper angle-head or top of the sail is attached a strengthening metallic piece, K, having sockets, to receive the upper ends of the stay or strengthening-ropes.

The socket which receives the end of the inner or vertical rope, is made a little longer than the other one, so that its upper part may be left open, to receive the spring-catch L, attached to the end of the hoisting or unfurling-rope M, which passes up along the

top-mast C, and over a pulley pivoted to the upper part of said top-mast, and thence down to the deck.

N is a guide-groove or pipe, slotted longitudinally, to the rear or closed side of which are attached rings or hoops *n'*, passing around the top-mast C, and which is connected with the mast, and held in its proper position, by ropes at its upper and lower ends, as shown in fig. 1.

The mouths or ends of the grooved guide N are made flaring or trumpet-shaped, to guide the metallic socket K conveniently into said groove.

The slot or groove of the guide N is made of such a breadth that the rope M cannot be drawn out through it.

O is a rope, extending from the mast-head to the outer end of the gaff D, to support said gaff, and also to assist in supporting the sail E when filled.

To pass the sail from one side of the rope O to the other, the sail is furled. The catch L is then detached from the socket K, and inserted in the socket P, attached to the rope Q, which passes, on guides or rollers, over the mast-head, and under the top, B, so that, by hauling the rope Q, the catch L may be carried over the mast-head, and down upon the other side of the mast. The catch L is then detached from the socket P, and again attached to the socket K, so that, when the sail is again unfurled, it may pass up upon the other side of the rope O.

By this construction, the sail may be easily and conveniently furled and unfurled from the deck of the vessel, without its being in the least necessary to go aloft.

The same device can be applied to other triangular sails with equal facility and advantage.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The grooved guide N *n'*, constructed and operating substantially as herein shown and described, and for the purpose set forth.

2. The combination of the metallic socket and strengthening-piece K, detachable catch L, and hoisting-rope M, with the sail E and guide-groove N, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the rope J, spool I, gear-wheels H G, and roller F, with each other, and with the gaff or arm D and sail E, substantially as herein shown and described, and for the purpose set forth.

4. Transferring the sail from one side of the rope O to the other, by means of the detachable catch L, socket P, and rope Q, substantially in the manner herein shown and described.

Witnesses:

O. M. BOND,

J. H. McCOLLOW.

GEO. A. FORD.