

(No Model.)

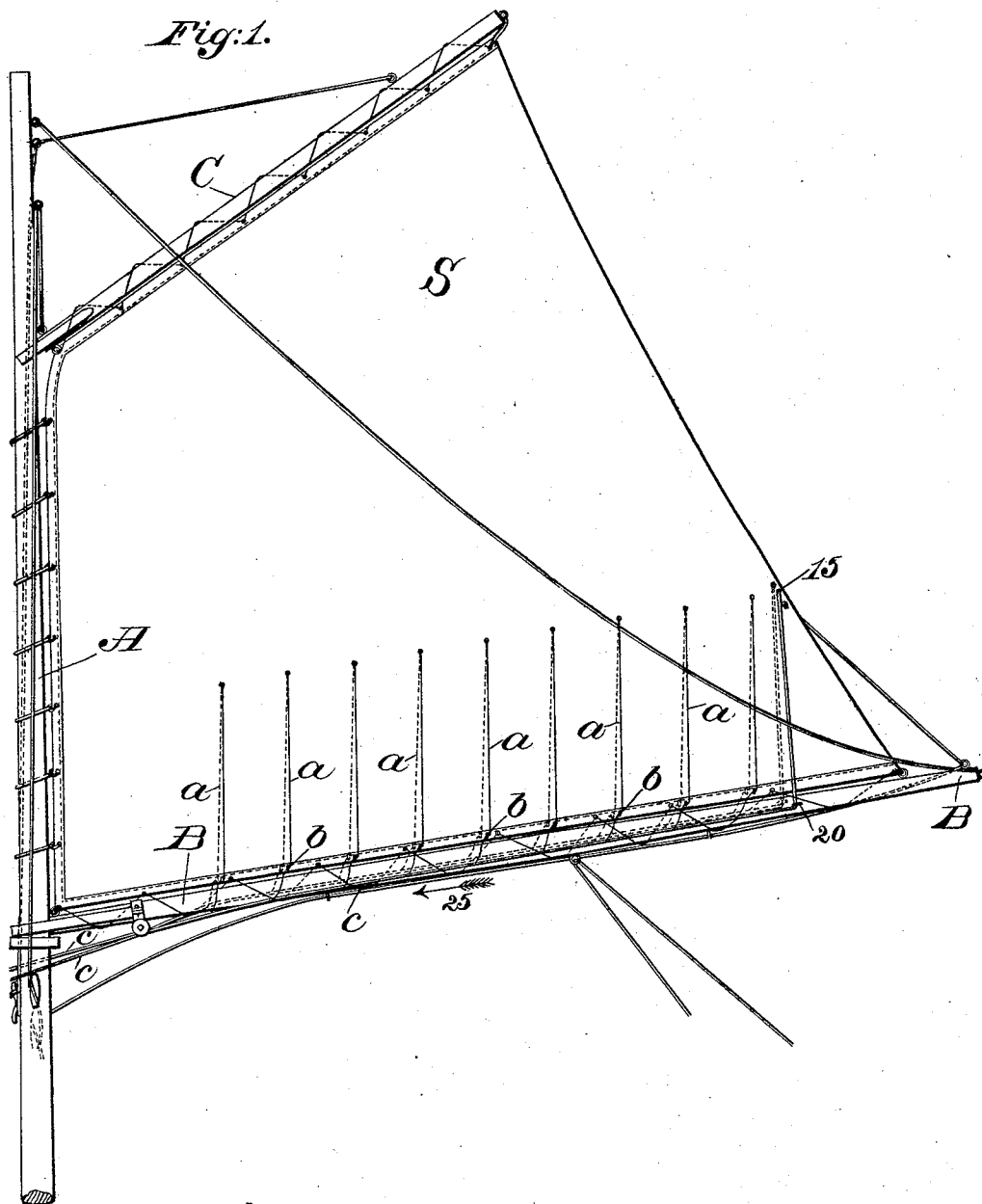
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T. W. NEWCOMB & D. F. WILEY.
SAIL REEFING.

No. 471,847.

Patented Mar. 29, 1892.

Fig. 1.



Witnesses.
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Thomas W. Newcomb.
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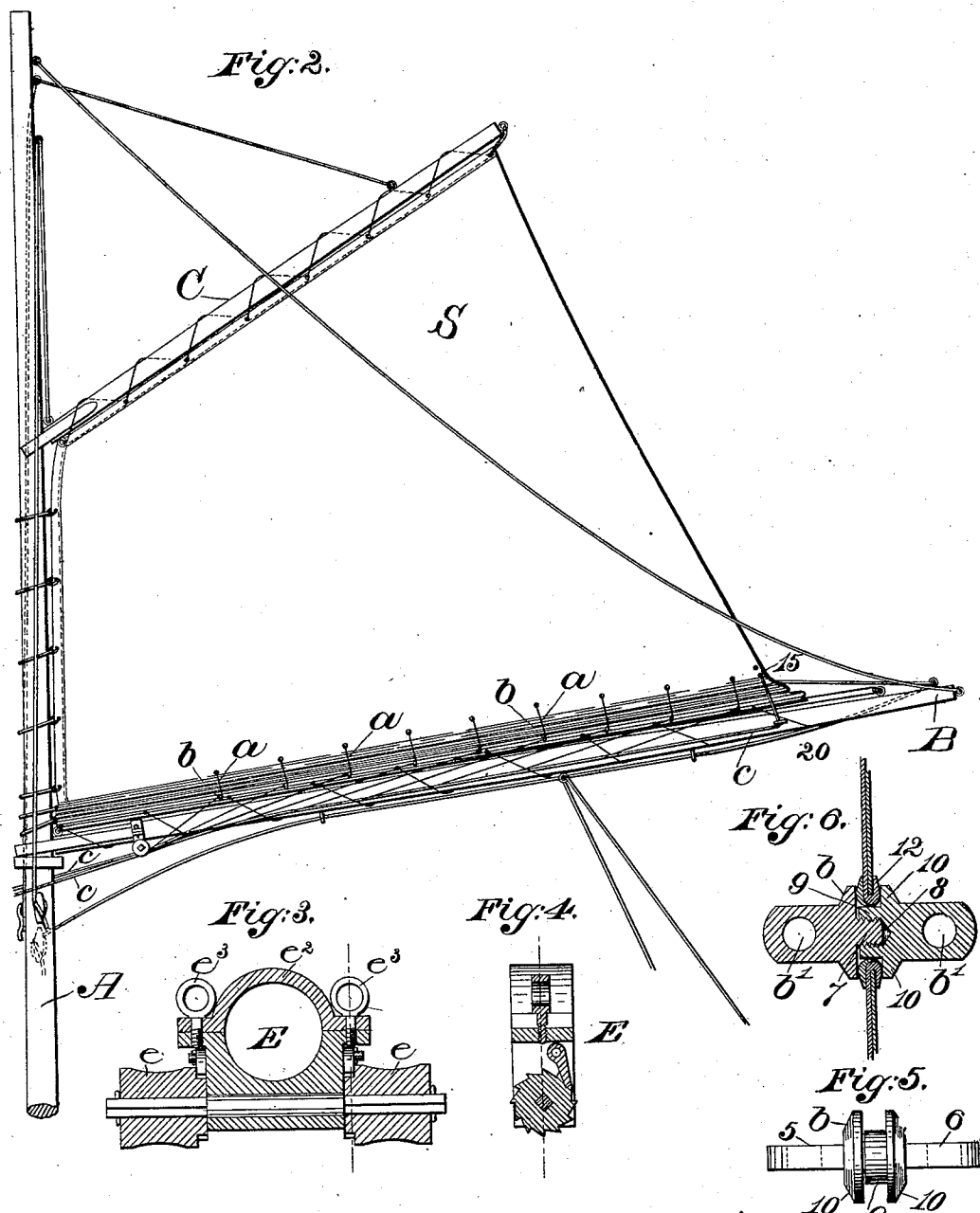
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2 Sheets—Sheet 2.

T. W. NEWCOMB & D. F. WILEY.
SAIL REEFING.

No. 471,847.

Patented Mar. 29, 1892.



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UNITED STATES PATENT OFFICE.

THOMAS W. NEWCOMB AND DANIEL F. WILEY, OF WELLFLEET, MASSACHUSETTS.

SAIL-REEFING.

SPECIFICATION forming part of Letters Patent No. 471,847, dated March 29, 1892.

Application filed October 27, 1891. Serial No. 410,030. (No model.)

To all whom it may concern:

Be it known that we, THOMAS W. NEWCOMB and DANIEL F. WILEY, of Wellfleet, county of Barnstable, State of Massachusetts, have invented an Improvement in Sail-reefing, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object to provide a reefing attachment for sails, and the particular features of which the invention consists will be hereinafter described, and pointed out in the claims.

Figure 1 of the drawings represents a ship's mast carrying a sail fitted with a reefing attachment in accordance with this invention; Fig. 2, a similar view showing the sail reefed; Figs. 3 and 4, longitudinal and cross sections, respectively, of the reefing-winch. Fig. 5 shows one of the foot-leaders detached, and Fig. 6 a sectional view of the same in position in the sail.

Referring to the drawings, A represents a mast of a vessel, it supporting in usual manner the boom B and gaff C, to which is secured the sail S. The reef points or nettles *aa* are secured to the sail in the usual manner, and in accordance with the present invention extend down at either side of the sail, as represented in dotted lines, Fig. 1, and pass through the eyes *b'* in the foot-leaders *b*, herein represented as formed in two parts or members 5 6, each having a flanged shoulder 10, the member 5 having a threaded stud 7, which is screwed into the threaded recess 8 in the boss 9 on the member 6, the two members being screwed together from opposite sides of the sail, as represented in Fig. 6, the opening in the sail to receive the boss 9 being preferably protected by a suitable eye 12. The ends of the reef points or nettles, after being passed through the eyes in the foot-leaders *b*, are attached in suitable manner to the pennants *c* (two in number) and arranged upon opposite sides of the boom B, the said pennants at the outer end of the boom passing about suitable eyes 20 and are secured to the leach of the sail at or about the point 15, while the said pennants at their

opposite ends are passed about the winding drums or rolls *e* on the winch E, which may be of usual construction (see Figs. 3 and 4) and clamped to the boom by a clamping-bar *e*² and screws *e*³. In reefing, as the gaff C is lowered in the usual manner the winch E will be operated to draw the pennants *c* in the direction of arrow 25 toward the mast, thereby drawing the nettles *a* down through the eyes in the foot-leaders and taking up the slack in the sail as fast as the gaff is lowered, the sail being confined and shirred between the nettles upon its opposite sides, as represented in Fig. 2. As all the nettles are drawn down at once and equally a true reef is insured, and it is evident that the sail may be reefed to any degree desired, the reefing not being restricted to a few fixed points.

This invention is not limited to the particular arrangement and construction herein shown and described, as the same may be varied without departing from the spirit and scope of the invention.

We claim—

1. The combination, with a sail, of a series of independent nettles, a common pennant by which they are moved, and a series of two-part foot-leaders on the sail, through which said nettles are passed, the parts of said leaders having each an eye on opposite sides of the sail, to operate substantially as described.

2. The combination, with a sail, of a foot-leader consisting of two members, each provided with an eye screwed together from opposite sides of the sail, substantially as described.

3. The combination, with a sail, of a foot-leader consisting of two members 5 6, each provided with an eye screwed together from opposite sides of the sail, said members 5 6 having shoulders 10, the screw-stud 7, and recess 8, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

THOMAS W. NEWCOMB.
DANIEL F. WILEY.

Witnesses:

FREDERICK L. EMERY,
EMMA J. BENNETT.