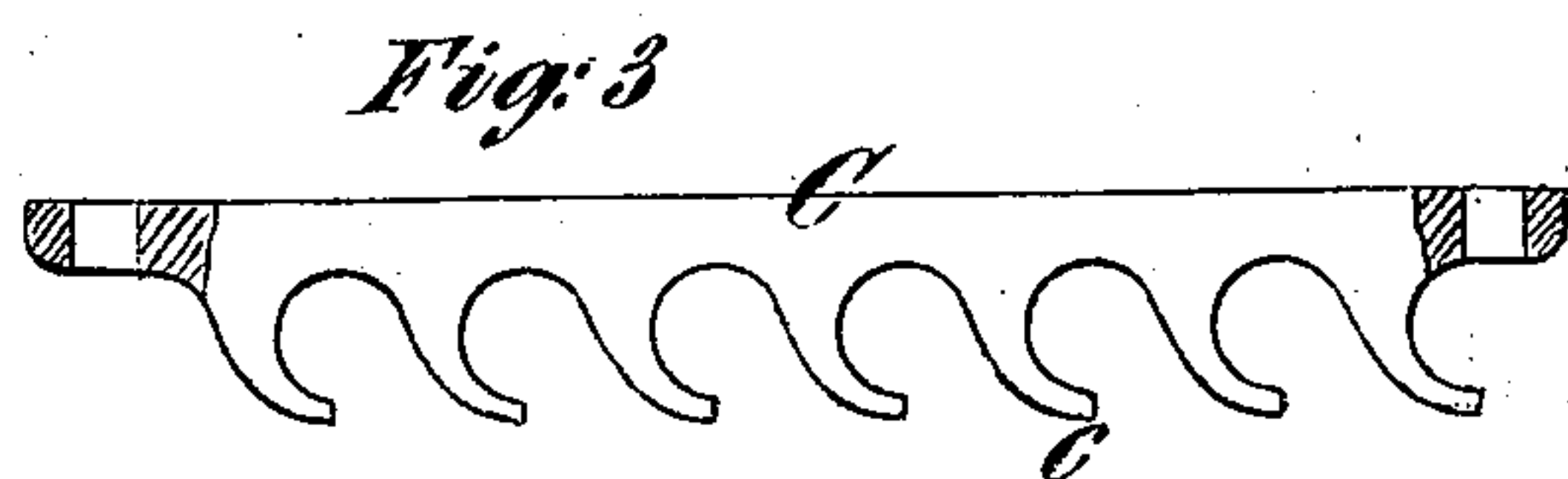
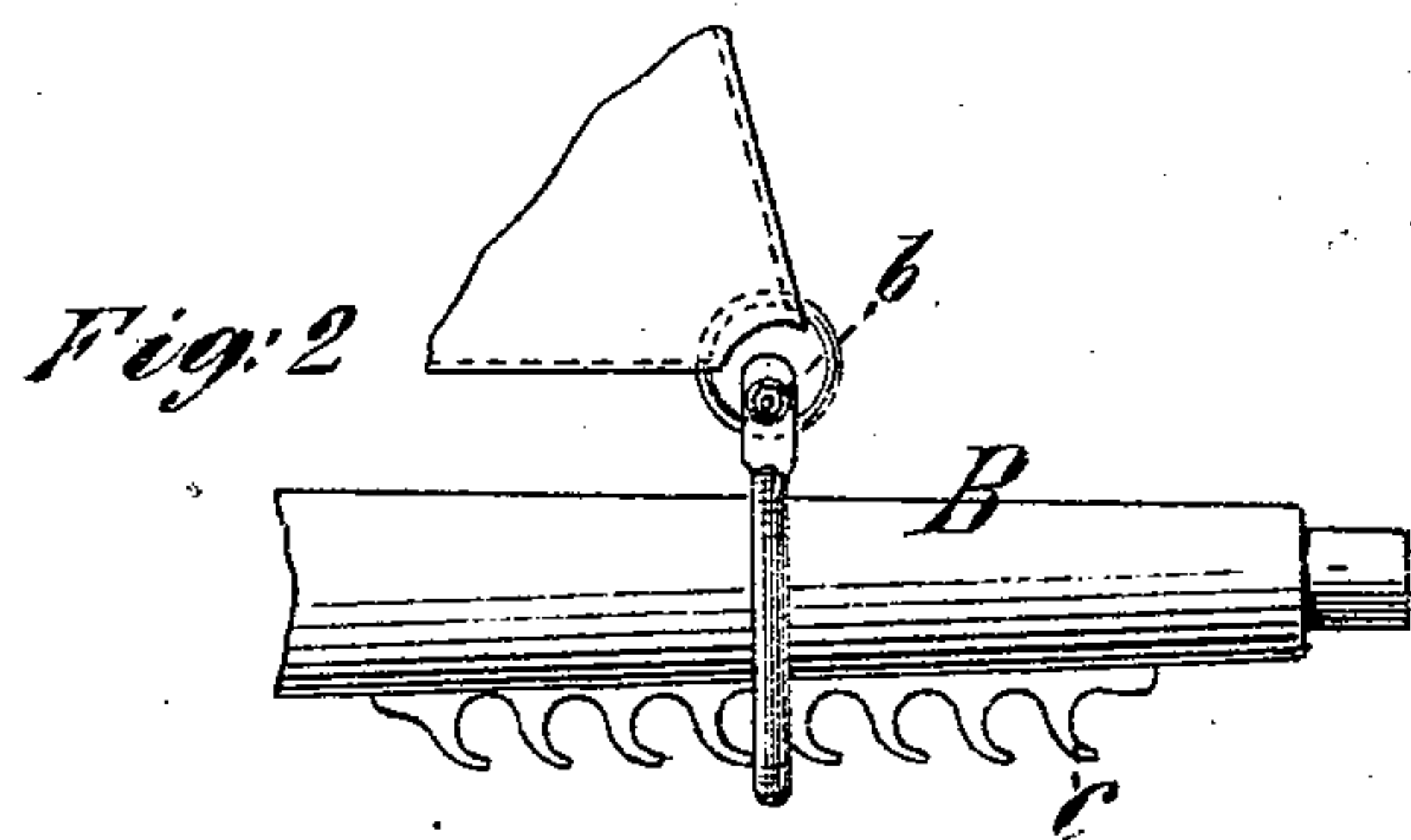
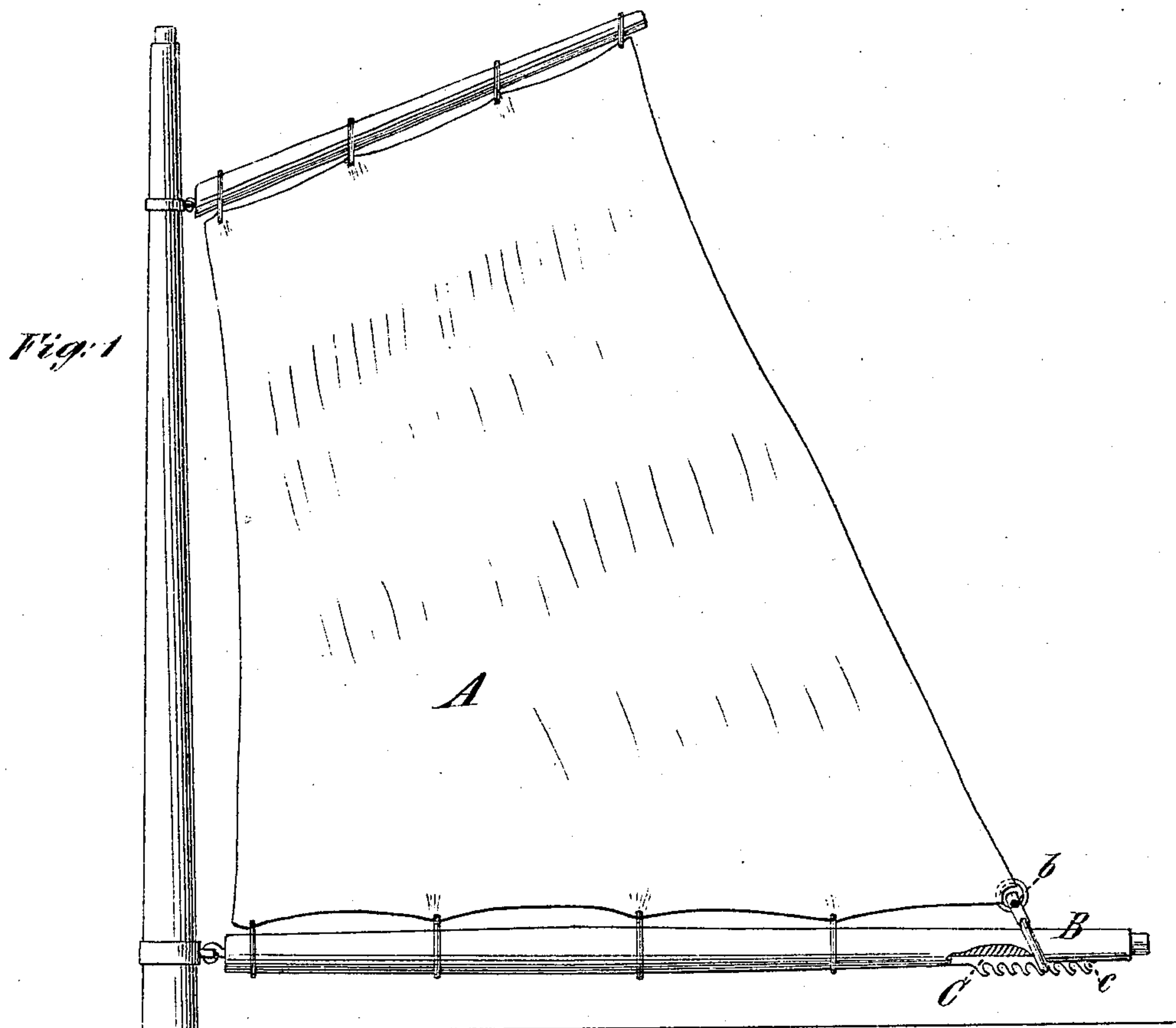


T. L. LAW.
Out-Hauls for Booms.

No. 148,470.

Patented March 10, 1874.



Witnesses:
Michael Ryan
Fred. Adams

Thomas L. Law
by his Attorney
Brown & Allen

UNITED STATES PATENT OFFICE.

THOMAS L. LAW, OF NEW YORK, N. Y., ASSIGNOR TO CHARLES EDWARD BAKER, OF SAME PLACE.

IMPROVEMENT IN OUTHAULS FOR BOOMS.

Specification forming part of Letters Patent No. **148,470**, dated March 10, 1874; application filed February 26, 1874.

To all whom it may concern:

Be it known that I, THOMAS L. LAW, of New York, in the county and State of New York, have invented a Self-Fastening Clew-Holder, of which the following is a specification:

My invention relates to certain improvements whereby the clew of the sail is automatically held in place on the boom when extended thereto in spreading the sail, and whereby, also, it may be adjusted to the desired positions without its being necessary for a man to go out on the boom for the purpose of manipulating it. The invention consists in the combination of a ring attached to the clew of the sail with a ratchet or notched bar attached to the boom, as hereinafter particularly described.

In the accompanying drawing, Figure 1 is a side elevation, showing my invention applied to a fore-and-aft sail. Figs. 2 and 3 are enlarged views of the ratchet or notched bar.

The sail A has attached to its foot or clew a ring, B, by means of a bolt, *b*, passing through its ends in the usual manner. Instead of fitting tightly around the boom, so as to be stationary thereon, the ring B is large enough to enable it to slide freely on any part of the boom. In the under side of the boom, near the outer end, is a groove or mortise, in which is fitted a metallic plate or bar, C, which has ratchet or hook-shaped teeth, *c*, formed on its under surface. The ring B works on the boom so as to engage with the teeth *c*. When the sail is to be handled, a tackle is attached to the

end of the boom, and the end of the rope is passed inboard, so that the device can be operated from the deck.

When it becomes necessary to stretch the sail, it is hauled out until the ring is at a point opposite the notch or tooth with which it is desired for it to engage, when the rope is slackened so as to allow the ring to slip into the desired notch. When the sail is stretched too taut, and it is desired to slacken it, the tackle is attached to the clew, and it is hauled out until the ring hangs in about a vertical position, when the rope is gradually slackened until the ring is opposite the desired notch or tooth, when it is allowed to engage therewith.

By means of this invention the sail may be clewed out or slackened from the deck by means of tackle, and may be moved a slight distance at a time in either direction. The apparatus may be operated without any necessity for a man to go out upon the boom, and without regard to the direction of the wind or the vessel's course.

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

The combination of the ring B and ratchet or notched bar C, substantially as and for the purpose shown and described.

THOS. L. LAW.

Witnesses:

MICHAEL RYAN,
FRED. HAYNES.