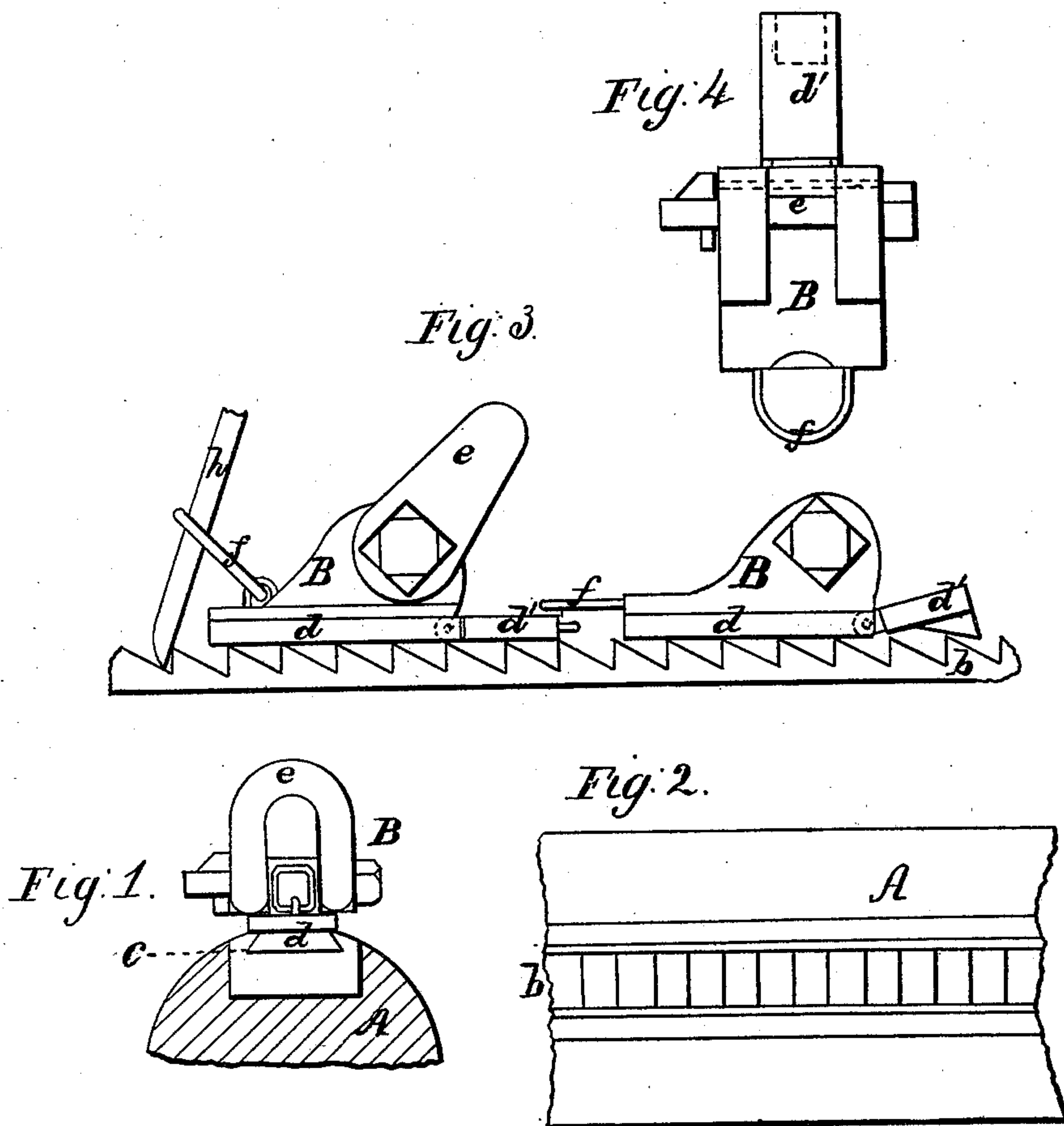


Leighton & Cole.

Outhaul for Booms.

No 82,133.

Patented Sept. 15, 1868.



Witnesses

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GEORGE W. LEIGHTON AND C. O. COLE. OF PORTLAND, MAINE.

Letters Patent No. 82,133, dated September 15, 1868.

IMPROVED OUT-HAUL FOR BOOMS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, GEORGE W. LEIGHTON and C. O. COLE, both of Portland, in the county of Cumberland, and State of Maine, have invented a new and useful Improved Out-Haul for Booms; and we hereby declare the following to be a full, clear, and exact description thereof, which will enable others to make and use our invention, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an end view of a portion of a boom with our invention.

Figure 2, a top view of the boom, showing the rack.

Figure 3, a side sectional elevation of the rack, and side view of the dogs.

Figure 4, a top view of the dog.

It is well known to persons acquainted with shipping that the present manner of holding the clew or corners of sails on booms, as fast as they stretch, or when they are being bent on, is an operation attended with considerable labor, and also inconveniently arranged for the purpose designed. This results from the want of a convenient purchase, so as to afford an advantageous leverage. Our invention is designed to obviate this difficulty.

It is also the case that sails when wet will shrink, and thus strain upon their attachment to the boom. This is often allowed to go on, from the reason of its being considerable labor to slack up, so as to relieve this strain, and the consequence of the repeated shrinking and expanding of the sail is that it becomes injured and weakened. Our invention is also intended to obviate this by reason of its furnishing an easy and speedy device for slacking up.

Reference to the drawings will illustrate more clearly the construction of our invention, which we will now proceed to describe in detail, first observing that although shown and described as attached to a boom, we do not propose to limit ourselves to this use of our invention, but also to operate the same in any position where it may be conveniently used, either on a yard or boom, to draw taut a vessel's sail.

The description of the figures is as follows:

A, figs. 1 and 2, represents a boom, upon the upper end of which we construct the rack *b*, sunk in a channel made in the boom.

The rack *b* is detailed in fig. 3. It will be most convenient, probably, to construct this rack of metal, as is usual.

This rack and channel are designed to receive a device which we have termed a dog and which we will now proceed to describe.

It will be observed from fig. 1 that in the boom, A is bevelled or flaring downward, (see *c*.) The foot of the dog is shaped to correspond to this peculiar formation of the channel in the boom, that is, the foot is so formed as to be larger at the bottom than at the top. (For illustration of this, see also *c*.)

It can only be inserted at the ends of the channel *c* on the boom, when it is to be used, as is apparent from the shape of the channel, but the dog will slide backward and forward on the boom, when not prevented, as hereinafter set forth. The dog is shown at B.

Two forms are seen in the drawings, and it is evident that the shape can be varied to suit the taste or other circumstances.

The dog has the loop, staple, or other device, *e*, to receive the clew of the sail. In fig. 4, *e* shows simply a bolt, to which the sheet is to be attached.

One portion of the foot *d* is hinged to the other, or jointed, (see *d'*.) The use of this hinged part is illustrated at fig. 3, where it is seen lifted out of the teeth of the rack in one instance, and fitting down into the same in another.

From this it will be understood that as the dog B is hauled out on the boom, and thus the sail made more taut, the hinged part *d'* passes over and drops into the spaces behind the teeth of the rack; and so holds the dog and the sail wherever drawn.

f shows a ring, or other equivalent device, and *h* a lever, by which the dog can be gradually drawn along the boom, the lever working in the teeth of the rack, and the operator either being on the boom or standing on the foot-ropes, but in either case obtaining a powerful leverage on the dog and the sheet. By raising up the pivoted part *d'*, the dog will move back and loosen the sheet and sail.

It is obvious that a variety of forms can be easily devised for a loop to hold the sheet, and for the dog itself, and we do not propose to limit ourselves to the form shown in the drawing.

We do not claim a rack, or a pawl, or dog to catch therein. These are old devices. We do not claim their application to curtain-fixtures, but for the purpose of drawing sails taut, as herein set forth.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination and arrangement of the rack *b* and vessel's boom, dog *B*, ring *f*, and loop *e*, or their equivalents, as and for the purposes set forth.

GEO. W. LEIGHTON,
C. O. COLE.

Witnesses:

WM. HENRY CLIFFORD,
HENRY C. HOUSTON.