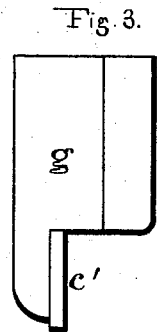
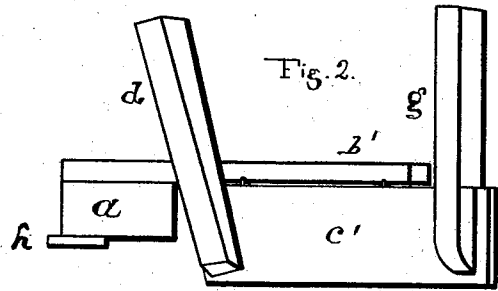
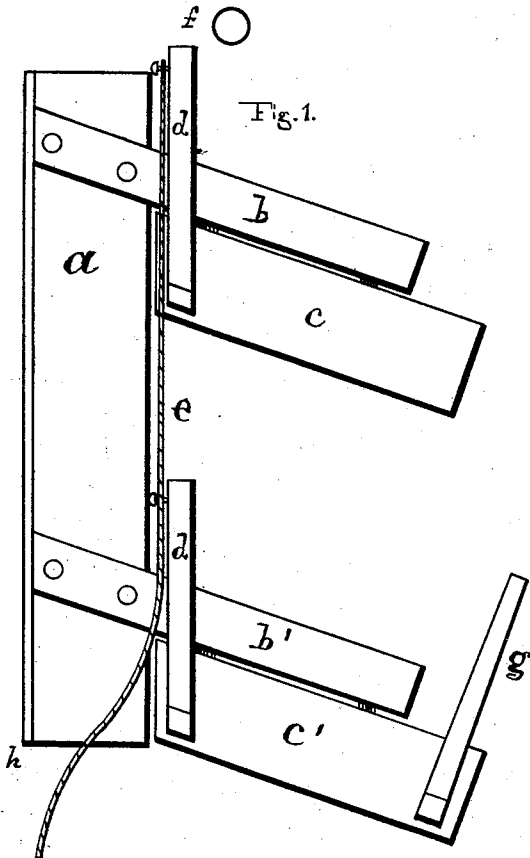


L. W. POND.

Sheer-Rudders for Booms, &c.

No. 155,167.

Patented Sept. 22, 1874.



Witnesses:

E. A. West
L. W. Pond

Inventor:

Levi W. Pond

UNITED STATES PATENT OFFICE.

LEVI W. POND, OF EAU CLAIRE, WISCONSIN, ASSIGNOR OF ONE-HALF HIS RIGHT TO EAU CLAIRE LUMBER COMPANY.

IMPROVEMENT IN SHEER-RUDDERS FOR BOOMS, &c.

Specification forming part of Letters Patent No. 155,167, dated September 22, 1874; application filed January 22, 1874.

To all whom it may concern:

Be it known that I, LEVI W. POND, of Eau Claire, in the county of Eau Claire and State of Wisconsin, have invented new and useful Improvements in Sheer-Rudder Booms, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view; Fig. 2, an end view, and Fig. 3, a detail.

This invention relates to that class of booms which are thrown across a stream, held in position, and returned to the shore, by the action of the current only.

In the drawings, A represents one section of a boom, as many of which as may be desired may be used, the same being properly connected one to the other. The upper end of the boom is to be secured to some stationary object, *f*, upon or near the shore, or upon a pier extending out into the stream. *b b'* are arms or bars secured to the upper side of the boom. *c c'* are rudders hinged to the bars *b b'*. To the inner end of each rudder is secured a post, *d*, extending some distance above the top of the rudder. To the upper end of each post *d* is secured a rope, *e*, by means of which the rudders are operated, which can be done by means of a winch placed at the lower end of the boom, or the rope can be passed through a sheave at the lower end and carried to the upper end of the boom, as may be desired.

To aid in opening the boom, and bring it to the bank, I place upon the outer ends of the rudders or upon a portion of them a secondary rudder, *g*, which will be out of the water when the boom is closed, and will be in the water when the boom is to be opened.

To the under side of the boom A I secure a projecting piece, *h*, to prevent logs from being carried under the boom.

In Fig. 1 the rudders *c c'* are represented as out of the water, and the rudder *g* as in the water. In Fig. 2 *c'* is in the water and *g* is out of it.

In use, when it is desired to close the boom, the operator, by means of the winch and rope *e*, brings the rudders *c c'* into the position

shown in Fig. 2—that is, down into the water—when the action of the current upon these rudders will close the boom. When it is desired to open the boom, by releasing the rope *e* the action of the current and the weight of the posts *d* will bring the rudders *c c'* to the surface, or entirely out of the water, at the same time carrying the rudders *g* down into the water, when the action of the current against the front of the boom, and against the rudders *g*, will open the boom, and after it has been brought into a line with the current, the current will continue to act upon the secondary rudders *g*, and carry the boom around close to the shore.

The secondary rudders *g* are not absolutely essential, because the action of the current, upon the boom will open it partially, bringing the boom into a line with the current without the use of the secondary rudders; but this is done more rapidly with than without them, and by their use the boom can be brought closer to the shore, which in many cases is desirable.

As represented, the rudders are hinged at their upper edge to the bars *b b'*, but they might be hinged at a point some distance below their upper edges, and then that portion above their upper edges will aid in counterbalancing the rudders.

It is desirable to make the posts *d*, of such size and length that the rudders can be held out of the water by them.

What I claim as new is as follows:

1. The combination of the boom *a*, arms *b b'*, and rudders *c c'*, all constructed substantially as and for the purposes specified.
2. The boom *a*, provided with the lip *h*, when constructed and arranged substantially as and for the purpose specified.
3. The secondary rudder *g*, in combination with the rudder *c'*, bar *b'*, and boom *a*, substantially as and for the purpose specified.

LEVI W. POND.

Witnesses:

E. A. WEST,
O. W. BOND.