W. A. BRICE.

Device for Lowering and Detaching Boats.

No. 213,165 Patented Mar. 11, 1879.

Fig. 1.

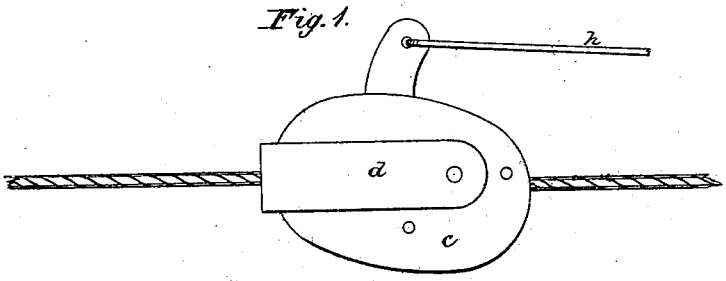


Fig. 2.

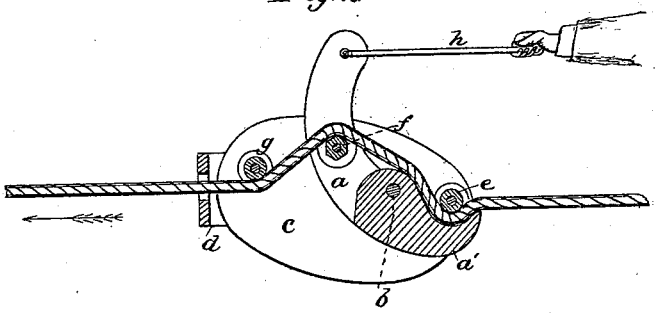
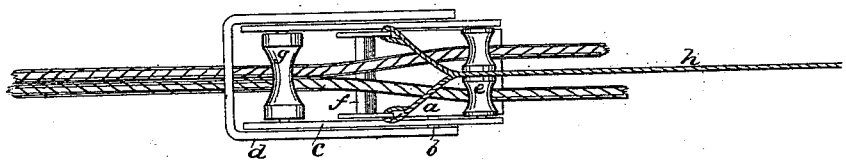


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM A. BRICE, OF PARIS, FRANCE.

IMPROVEMENT IN DEVICES FOR LOWERING AND DETACHING BOATS.

Specification forming part of Letters Patent No. **213,165**, dated March 11, 1879; application filed December 10, 1878.

To all whom it may concern:

Be it known that I, WILLIAM ALEXANDER BRICE, of Paris, France, have invented a new and useful Improvement in Apparatus for Lowering and Detaching Ships' Boats; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to an automatic brake for tackle used in lowering ships' boats and other heavy bodies, for holding the rope taut instead of fastening each time when slack has been overhauled, as for engineering purposes, and for all other purposes for which a self-acting brake can be used for controlling the passage of a rope or ropes.

In order that my invention may be more readily understood, I have illustrated it on the annexed drawings, and will proceed to describe it with reference thereto.

Figure 1 is a side view, Fig. 2 a longitudinal section, and Fig. 3 a top view, of the improved brake to be applied to the "falls" of the davit or other tackle to control the descent of a ship's boat or other heavy body.

The brake, which is actuated by the strain on the ropes to which it is applied, consists of a curved or bent lever, *a*, working on a pin, *b*, in a frame, *c*, which is also pivoted on the same pin *b* in a stirrup-piece, *d*. *e* is a sheave having one, two, or more grooves corresponding to the number of ropes the brake is intended to control. It is mounted to rotate freely between the plates of the frame *c*, near one end thereof.

The short arm of lever *a* is formed with a jaw, *a'*, which bears against the sheave *e*, is curved to correspond thereto, roughened, and slightly grooved to receive the rope or ropes and avoid flattening them too much. The falls or other part of the tackle to be controlled by the brake pass between the jaw *a'* and the sheave *e*, and are forcibly griped by the former against the latter, the gripe becoming stronger as the tension on the ropes is greater, this result being produced by the ropes acting on the lever *a* as follows: The long arm of the lever *a* is slotted, and a sheave, *f*, is mounted therein, over which the falls or other ropes pass from sheave *e*, and thence under another sheave, *g*, mounted in the frame *c* at the opposite side of the lever-axis *b* to the sheave *e*, and about in line with *b* and *c*. The ropes pass thence through an eye or eyes in the end of the stirrup-piece *d* to the davit-head or other blocks.

The stirrup-piece *d* may be fixed or retained in any suitable position against the rail of a ship or other suitable support to prevent the brake being carried along by the ropes as they run out.

The sheave *f* is preferably of a square, hexagonal, or other polygonal form, so as to present a number of salient angles around its periphery, to prevent either of the ropes (in the case of two or more) slipping upon it independently of the others, and insure the ropes being payed out simultaneously and equally when the pressure of the jaw *a'* is relaxed, even should the strains on the ropes be unequal.

The sheaves *f* and *g* may have separate grooves, one for each rope, or a single groove only, or they may not be grooved at all.

The lever *a* being bent, the ropes in passing over the sheave *f* are diverted from the straight line between the sheaves *e* and *g*, the result of which is that the strain on the rope or ropes tends to oscillate lever *a* and press the jaw *a'* forcibly against sheave *e*, the pressure being greater the greater the strain.

To release the brake a cord, *h*, is attached to the extremity of the lever *a*, as shown, by pulling on which the effect of the strain on the tackle is overcome and the pressure of the jaw *a'* partially or wholly relieved, as required.

I would observe that although *e f g* are described as sheaves, they might be simply fixed cross-pins, or their equivalent; but sheaves are preferable to avoid chafing the ropes.

Having thus described my invention, what I claim as new is—

1. In a self-acting brake for ropes or tackle, the combination of a bent lever, *a*, having on its short arm a jaw and on its long arm a sheave, or its equivalent, and of two other

sheaves, or their equivalent, *e g*, arranged relatively to the lever and applied to the ropes or tackle to be controlled, substantially as and for the purpose herein specified.

2. In a self-acting brake for ropes or tackle, the bent lever *a*, with jaw *a'*, and sheave, or its equivalent, *f*, and the sheaves, or their equivalent, *e g*, all mounted in a pivoted frame, substantially as specified, so as to readily adapt themselves to the direction of the ropes.

The above specification of my invention signed by me the 20th day of July, 1878.

WILLIAM ALEXANDER BRICE.

Witnesses:

JOSEPH A. FLYNN,

P. BRICE.