No. 678,798. Patented July 16, 1901.

D. STRETCH.

TOW HEAD.

(Application filed Feb. 2, 1901.)

(No Model.)

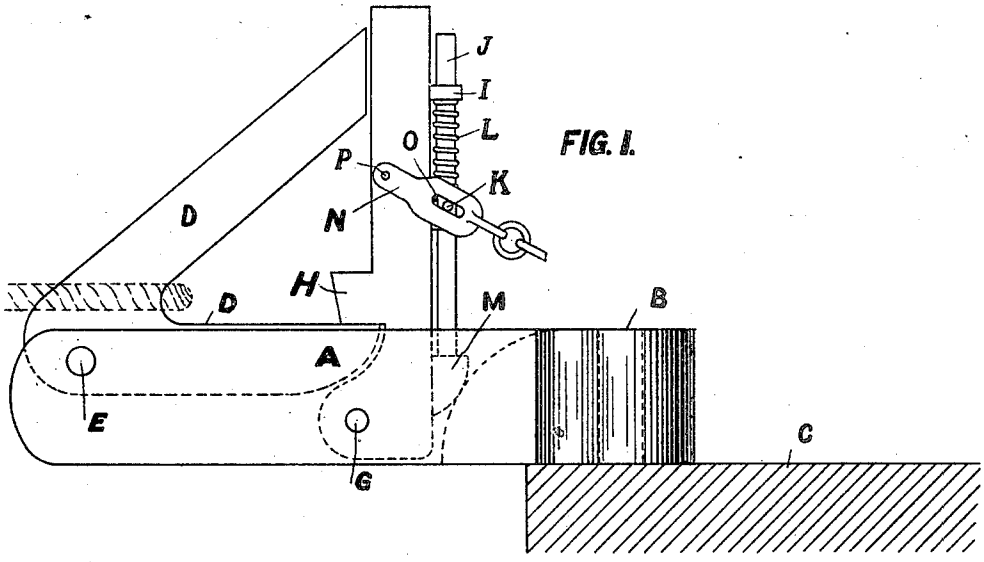


FIG. 1.

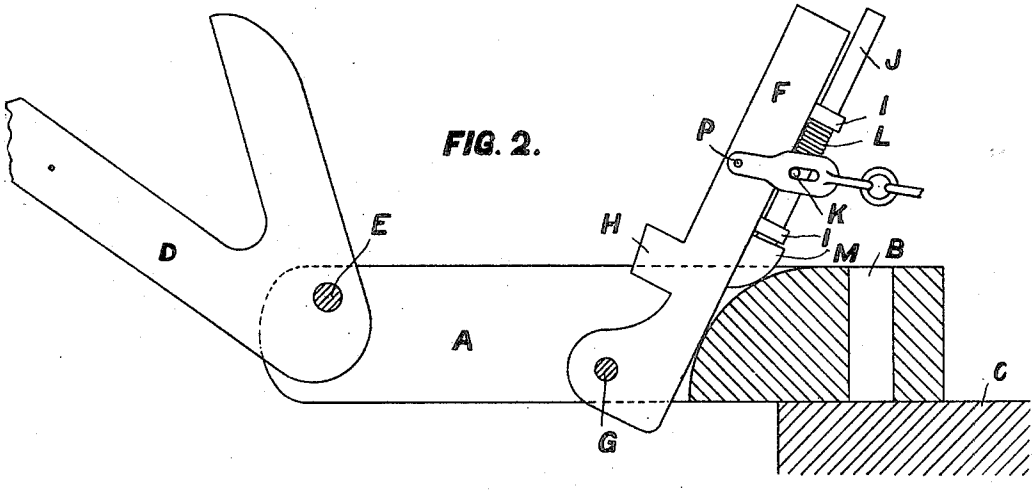


FIG. 2.

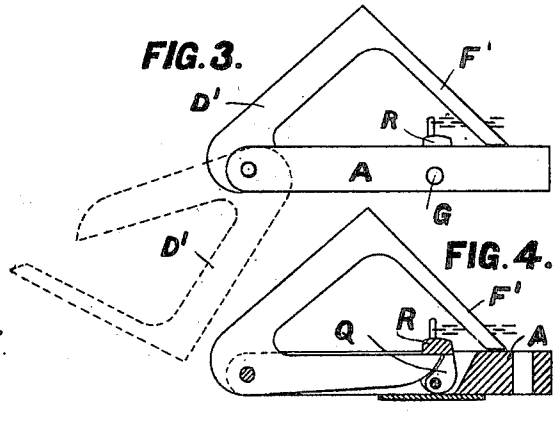


FIG. 3.

FIG. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

DREW STRETCH, OF LIVERPOOL, ENGLAND.

TOW-HEAD.

SPECIFICATION forming part of Letters Patent No. 678,798, dated July 16, 1901.

Application filed February 2, 1901. Serial No. 45,776. (No model.)

To all whom it may concern:

Be it known that I, DREW STRETCH, a subject of the Queen of Great Britain, residing at Litherland, Liverpool, in the county of Lancaster, England, have invented certain new and useful Improvements in Tripping-Hooks for Towing, Hauling, &c., of which the following is a specification.

This invention is designed to form a tripping-hook or holdfast, whereby a loop of a rope can be held in towing, hauling, hoisting, or for other purposes without the possibility of it getting loose until purposely released.

The invention consists, essentially, in hinging to, preferably, the loose end of a pivoted bar or bed-plate a bell-crank lever forming an acute angle. Into this acute angle the loop is inserted and is then locked in place by a spring or adjustable mechanism or lock until such time as it is required to be released, when the spring or other locking mechanism is pulled out or compressed and the bell-crank is free to rotate on its axis, and thus allow the bight to escape.

The invention is best described by aid of the accompanying drawings, in which—

Figure 1 is a side view of one form of my apparatus when in position for towing; Fig. 2, the same device when the bell-crank has been released and the lever has been put back as far as it is possible when compressing the spring; Fig. 3, a side view showing a modification of my invention, and Fig. 4 a side view of same with part of the upper lever and one side bar of the bed-plate removed.

Referring first to Figs. 1 and 2, A is the bed-plate, pivoted at B to the deck C. D is the bell-crank lever, pivoted at E to the bed-plate; F, a post pivoted at G and having a projecting catch H, which when the post is forcibly bent back will allow the lower arm of bell-crank lever D to pass it, but when in the vertical position holds the lower arm of the lever D down. J is a pin sliding in bearings I on the post F; K, a pin or cross-head fixed on the pin J; L, a spring pressing the pin K down until the beveled foot M of the pin J drops into the slot in the bed-plate A, as shown in dotted lines in Fig. 1; N, a pair of brackets linked together through slots O, in which the pin K passes. This pair of brackets or stirrup is pivoted to the main post at P and is supplied with a ring or shackle to which a rope or other device is attached, whereby it can be pulled forcibly in the direction of its length or upward.

The mode of action is as follows: The loop of the tow-rope is passed around the upper arm of the bell-crank D. The latter is now forcibly pressed down until the beak of the lower arm of the lever passes below the catch H, where it is held tight. During this operation the post having been pressed back the spring has been tightly compressed for a time, and thus has allowed the post to move. The moment, however, the lower portion of the bell-crank D passes below catch H the spring would cause the post to fly back, and thus lock the loop of the rope in the space between the two arms of the bell-crank and the post. The moment, however, it is required to loose the rope the stirrup N is forcibly pulled up by the rope, thus compressing the spring, when the post is pulled back till the lower arm of the bell-crank D is free from the catch H, when the pull of the tow-rope at once causes the bell-crank to rotate and liberate it.

Referring now to Figs. 3 and 4, D′ is the bell-crank, and F′ the post fixed to the upper portion of the bell-crank. R is a cap or spring-catch provided with a spring Q, normally pressing the cap over the lower arm of the bell-crank, but capable of releasing the bell-crank the moment this cap is pulled back against the force of the spring by means of the rope. The other portions of this device are the same as in Fig. 1.

In thus describing my invention I wish to point out that the exact shape of the bell-crank is immaterial—in fact, the lower arm could be entirely removed, if desirable, and the spring-catch attached to the upper arm in any convenient manner, so as to hold the upper arm until forcibly released.

While I have described and illustrated my invention as a tow-head, I would have it understood that I do not limit myself to this application of the invention. The device may be used for towing, hauling, hoisting, or for

any other purpose where a detachable connection is desired between an object and a line or cable.

I claim as my invention—

1. In a tripping-hook for towing or hauling, the combination of a bed-plate, an acute-angled bell-crank lever rounded in the inside of said acute angle and pivoted about its angle to said bed-plate, a post adapted to form with the acute-angled lever a closed loop, a catch adapted to engage the end of the lower arm of said bell-crank lever, and means for pulling back said catch to release said bell-crank lever and the hauling connection held therein, substantially as described.

2. In a tripping-hook for towing or hauling the combination of a bed-plate, an acute-angled bell-crank lever pivoted about its angle to said bed-plate, a post pivoted to said bed-plate, a catch formed in said post and adapted to engage the end of the lower arm of said bell-crank lever, and means for pulling back said post to release said bell-crank lever and the hauling connection held therein, substantially as described.

3. In a tripping-hook for towing or hauling, the combination of a bed-plate, an acute-angled bell-crank lever pivoted about its angle to said bed-plate, a post pivoted to said bed-plate, means for causing said post to normally stand vertically to said bed-plate, a catch on said post adapted to catch over an arm of said lever when the latter is forced past said catch, and means for pulling back said post to release the lever and hauling connection, substantially as described.

4. In a tripping-hook for towing or hauling, the combination of a bed-plate, an acute-angled bell-crank lever pivoted about its angle to said bed-plate, a post pivoted to said bed-plate, a catch on said post adapted to catch and hold said elbow-lever, a spring-foot mounted upon said post, an inclined surface in said bed-plate upon which the spring-foot bears, and means for simultaneously raising said spring-foot and drawing back said post to release the bell-crank lever, substantially as and for the purpose set forth.

5. In a tripping-hook for towing or hauling, the combination of a bed-plate, an acute-angled bell-crank lever pivoted about its angle to said bed-plate, a catch adapted to engage the end of the lower arm of said bell-crank lever, and means for pulling said catch to release the bell-crank lever and hauling connection, substantially as described.

6. In a tripping-hook for towing or hauling, the combination of a bed-plate A a bell-crank lever D pivoted at E to said bed-plate, a post F pivoted to said bed-plate, a catch H on said post adapted to normally lock the bell-crank lever in position to hold the rope, a spring-held pin J a foot M on said pin, an inclined surface in said bed-plate upon which said foot bears, a link N, and means for pulling said link to raise said foot M, draw back said post F and release said bell-crank lever and hauling connection, substantially as described.

In witness whereof I have hereunto signed my name, this 21st day of January, 1901, in the presence of two subscribing witnesses.

DREW STRETCH.

Witnesses:
G. C. DYMOND,
W. H. BEESTON.