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TRIP GRAB-HOOK.

958,978.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MAJOR V. SPENCER, a citizen of the United States, residing at Deer River, in the county of Itasca and State of Minnesota, have invented certain new and useful Improvements in Trip Grab-Hooks, of which the following is a specification.

This invention relates to improvements in trip grab hooks, and is especially adapted for a quick and efficient release of a load from a hook of this character; the construction of the hook being such, that there is no apparent leverage or strain upon the tripping mechanism. The mouth of the hook is especially constructed to allow the weight of a load to dwell upon a supporting link which is almost over the center of gravity of the mouth of said hook.

Another feature of this invention is the right angled slot near the top of the neck of said hook, which is adapted to support a tripping link for retaining the tripping lever.

This invention further relates to a link for supporting the hook, and the tripping lever.

With the foregoing and other objects in view, the invention consists in the details of construction and in the arrangement and combination of the parts to be hereinafter more fully set forth and claimed.

In describing this invention in detail, reference will be had to the accompanying drawings forming part of this specification, wherein like characters denote corresponding parts in the several views, in which:

Figure 1, illustrates in a perspective view the improved tripping hook. Fig. 2, illustrates the device after being tripped. Fig. 3, illustrates in elevation the link detached from the hook. Fig. 4, illustrates the hook in side elevation removed from the link. Fig. 5, illustrates the tripping lever in elevation. Fig. 6, illustrates a modified form of tripping lever. Fig. 7, illustrates a modified link with open ends.

This invention consists of a link A, having projections A', thereon, which are provided with bearings A². The extreme ends of said link are as indicated at A³. Secured in the bearings A², is a trip lever B, through the medium of trunnions B³. Centrally located in said tripping lever is a mortise B², for the reception of a rounded extension C³. Integral with said tripping

lever B, is a tongue B', which is adapted to engage the free ends of a link G, to be hereinafter more fully set forth. Attached to said link A, at the bottom thereof is a hook C, by means of an aperture C⁵, in said hook. Said hook is provided with a deep mouth C', with opposing parallel sides. The neck C², of said hook, is provided with a right angled slot, having vertical and horizontal portions D, and D', respectively. Secured in said right-angled slot is a link G, previously referred to. Said neck C², terminates in a rounded extension C³, and adjacent thereto is a shoulder C⁴, for supporting the aforesaid tripping link B. Attached to the top of said link A, is a rope or chain F, for hoisting said device for the object in view.

When operating my improved device the hook is supposed at first to be disengaged as indicated in Fig. 2; when the hook C, is raised with the neck C², uppermost, the tripping link B, is then swung over the rounded extension C³, and resting on the shoulder C⁴, when the link G, is raised and slid upward into the vertical portion D, of the right-angled slot, after which the free ends of said tripping link G, is pushed over the tongue B', of the tripping lever. As the operator releases his hand from the said tripping link G, the lower end thereof drops down the vertical slot D, into the horizontal slot D', thus preventing said link from becoming disengaged when the load is put in the mouth C', of the hook C. It will be observed that the mouth C', of said hook, is slightly to the right of the aperture C⁵, so as to afford a slight leverage when the tripping link G, is disengaged, so that the hook will roll around its link connections C⁵, in the direction of arrow J. When the hook C, is released it will assume the position indicated in Fig. 2, of the accompanying drawings.

The modified tripping lever illustrated in Fig. 6, will produce the same results as the tripping lever shown in Fig. 5. In place of trunnions B³, a single bar B⁴, is employed, having its sides B, located on the outside of the link A, by this construction said modified lever will prevent said link from spreading from any unusual strain.

In Fig. 7, a modified form of link is indicated, which has open ends A⁴, and provided with a bolt A⁵.

I do not limit this device to the exact construction herein shown and described, as de-

vices of a similar character may be employed and come within the scope of my invention.

That which I desire to secure by Letters Patent, is:

- 5 In a trip grab hook, a supporting member having opposite portions, a hook member pivotally connected to the lower ends of the opposite portions, said hook member having an arm provided with a terminal offset and
10 with an angular slot, a trip member pivoted to the supporting member and formed with a slot to receive the offset terminal of the

hook arm and with a projecting portion, and a link member pivoted in said angular slot adapted to engage the projecting portion of the trip member whereby the hook member is held in a holding position on the supporting member. 15

In testimony whereof I affix my signature in presence of two witnesses.

MAJOR V. SPENCER.

Witnesses:

O. E. HULEHAN,

THEO. M. KLEMENT.