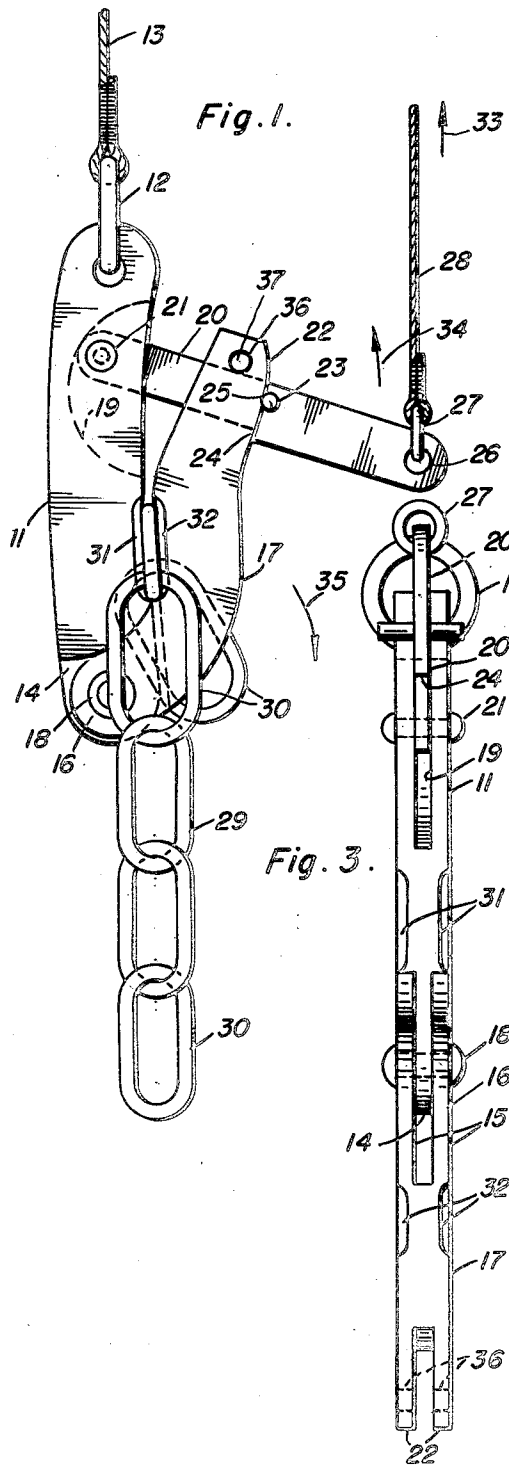
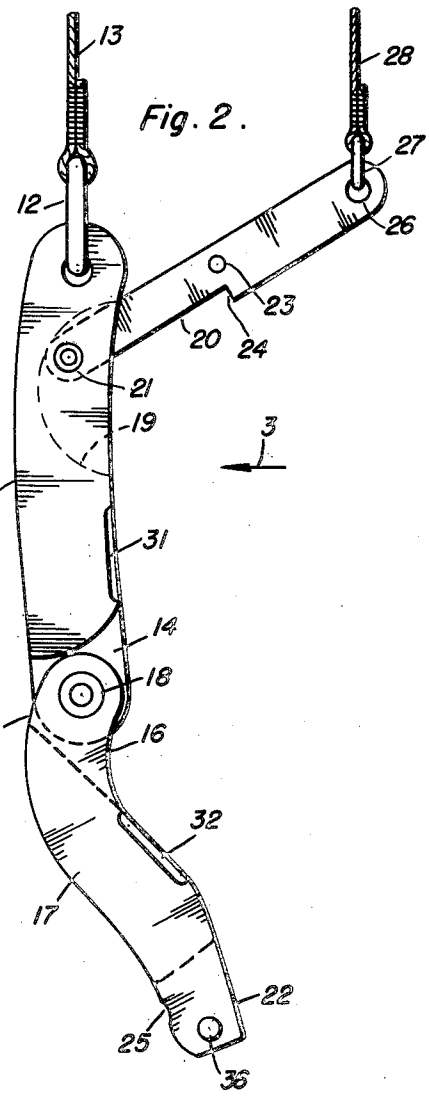
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LIFTING HOOK

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LIFTING HOOK

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1 Claim. (Cl. 294—83)

1

This invention relates to new and useful improvements and structural refinements in lifting hooks, more specifically, hooks such as are commonly employed in association with cranes, or the like, for lifting various types of loads, and the principal object of the invention is to provide a device of the character herein described which will firmly and securely hold the load, yet from which the load may be quickly and easily released.

A further object of the invention is to provide a lifting hook which is particularly adapted for use with a chain attached to the load to be lifted.

Another object of the invention is to provide a lifting hook which is simple in construction and which may be easily and conveniently manipulated.

An additional object of the invention is to provide a lifting hook which will readily lend itself to economical manufacture, which will not easily become damaged, and which is otherwise well adapted for the purpose for which it is intended.

With the above more important objects in view and such other objects as may become apparent as this specification proceeds, the invention consists essentially of the construction and arrangement of parts as shown in the accompanying drawing in which:

Figure 1 is a side elevation of the invention, showing the same in the secured or lifting position;

Figure 2 is a further side elevation thereof, but showing the hook in the released position, and;

Figure 3 is an elevational view, taken in the direction of the arrow 3 in Figure 2.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawing in detail, the invention consists of a lifting hook designated generally by the reference character 10, the same embodying in its construction an elongated body member 11 provided at one end thereof with a suitable eye 12, whereby it may be suspended in a substantially vertical position by means of a suspension rope or cable 13.

The lower end portion of the body member 11 is sectionally reduced to provide a tongue 14 which is disposed between the furcations 15 on a yoke 16 formed at one end of an arcuate bill member 17, the tongue 14 being pivotally attached to the yoke 16 by means of a suitable rivet or pin 18, as will be clearly apparent.

The body member 11 is also formed medially of its length with an arcuate recess 19 adapted to receive one end portion of a lever 20 which

2

is pivotally attached to the body member 11 by means of a rivet or pin 21, the trip lever 20, as it may be called, being receivable in a further yoke 22 formed at the free end of the bill member 17.

The mid portion of the lever 20 is provided with a transversely extending lock pin 23 and with a step 24, the pin 23 being engageable with a depression or notch 25 formed in the yoke 22 of the bill member 17.

The free end portion of the lever 20 is also formed with an aperture 26 provided with an eye 27, the latter, in turn, being connected to one end of a pull-line 28.

The lifting hook 10 is adapted for use in association with the chain 29 including a plurality of links 30, this chain being connected in any suitable manner to the load which is to be lifted, and the length of the chain being selectively securable in a socket formed by a pair of coacting recesses 31, 32 formed in the members 11, 17 respectively.

When the invention is placed in use, one of the links 30 is securely held in the socket formed by the recesses 31, 32 when the hook is in its closed position as shown in Figure 1, in which position the lever 20 is seated in the yoke 22 while the step 24 of the lever engages the bill member 17 and the pin 23 engages the depressions or notches 25 formed in the bill member, as will be clearly apparent. By virtue of this arrangement, the members 11, 17 will be prevented from "spreading" so to speak, and the chain 29 will be firmly and securely held in the hook.

However, when it is desirable to release the chain from the hook, it is only necessary to pull the line 28 upwardly in the direction of the arrow 33, whereby the pin 23 will be disengaged from the notches 25 and the step 24 will be similarly disengaged from the bill member 17, and as a result, the lever 20 will be permitted to swing upwardly in the direction of the arrow 34, thus releasing the bill member 17 and permitting the latter to swing downwardly as at 35, to release the chain 29 from the recesses 31, 32. The released position of the hook is illustrated in the accompanying Figure 2.

It will be observed that by virtue of the step 24 and of the pin 23, the bill member 17 will be firmly and securely locked in the closed or secured position, thereby firmly holding the chain 29 regardless of the load or weight which the chain may carry. However, the hook may be instantly released by simply pulling the line 28, as has been already explained.

Moreover, as an additional safety fastener, the yoke **22** of the bill member may, if desired, be formed with a pair of transversely aligned apertures **36** in which a safety pin **37** may be inserted for the purpose of preventing accidental or unintentional releasing of the hook.

It is believed that the advantages and use of the invention will be clearly understood from the foregoing disclosure and, accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

In a lifting hook, the combination of a vertically elongated body member attached at its upper end to a suspension cable, a bill member pivoted to the lower end of the body member and swingable toward and away from the latter, a fork provided at the free end of said bill member and having its furcations formed with a pair of transversely aligned apertures, outer edges of the furcations of said fork being provided with a pair of transversely aligned notches, a trip lever pivoted at one end thereof to said body member and having its intermediate portion receivable in said fork, a keeper pin provided on said lever and projecting to both sides thereof, said pin being receivable in said notches, and a safety locking pin removably positioned in said apertures for retaining the lever in said fork independently of said keeper pin.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,498,239	Hudgins	June 17, 1924
2,228,060	Lescher et al.	Jan. 7, 1941
2,313,802	Carlsen	Mar. 16, 1943