J. M. BELL.

CRANE HOOK.

APPLICATION FILED MAY 10, 1918.

1,272,359.

Patented July 16, 1918.

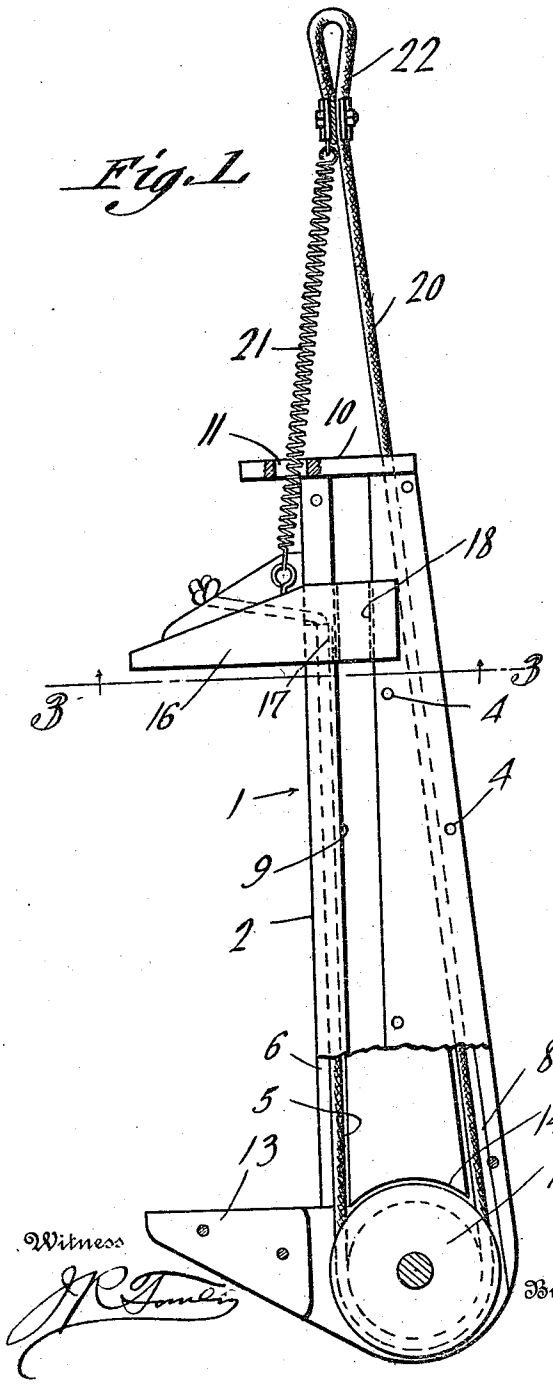



Fig. 1.

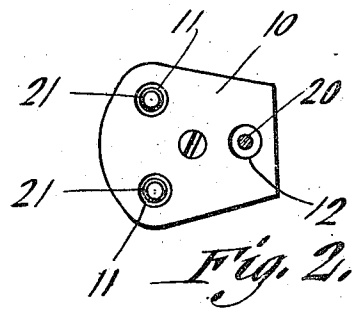



Fig. 2.

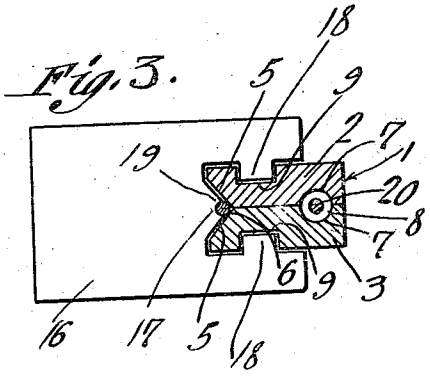



Fig. 3.

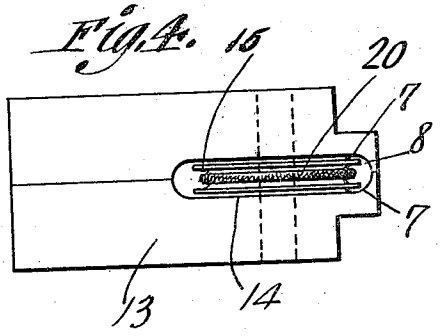



Fig. 4.

Witness

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# UNITED STATES PATENT OFFICE.

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## CRANE-HOOK.

1,272,359. Specification of Letters Patent. Patented July 16, 1918.

Application filed May 10, 1918. Serial No. 233,717.

*To all whom it may concern:*

Be it known that I, JOHN M. BELL, a citizen of the United States, residing at Portsmouth, in the county of Scioto and State of Ohio, have invented a new and useful Crane-Hook, of which the following is a specification.

This invention relates to a crane hook, one of its objects being to provide a device of this character which will operate automatically to clamp the load, the grip upon the load increasing in proportion to the weight.

A further object is to provide a structure of this character which is simple in construction, will not readily get out of order and can be manipulated readily.

With the foregoing and other objects in view which will appear as the description proceeds the invention consists of certain novel details of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims, it being understood that various changes may be made within the scope of the claims without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings—

Figure 1 is a side elevation partly broken away.

Fig. 2 a plan view of the top plate of the device.

Fig. 3 is a section on line 3—3, Fig. 1.

Fig. 4 is a bottom plan view.

Referring to the figures by characters of reference, 1 designates a shank formed of two opposed similar bars 2 and 3 which are held together by rivets 4 or the like. The inner faces of the members 2 and 3 are beveled along one edge, as shown at 5 so as thus to coöperate to form an angular channel or groove 6 extending longitudinally of the shank. Registering grooves 7 extend longitudinally along the inner faces of the two bars and form a passage 8 extending throughout the length of the shank. Guide grooves 9 are provided in the outer sides of the bars.

A top plate or cap 10 is bolted or otherwise fastened to the top of the shank 1 and projects beyond the channel 6, the projecting portion of the plate being formed with openings 11 located beyond the shank and with an opening 12 which registers with the passage 8.

A jaw 13 is provided at the lower end of the shank and is made of two like sections, each section being integral with the lower end of one of the bars 2 and 3 and the two sections being held together with rivets or the like, as shown. An opening 14 is provided between the lower portions of the bars and back of the jaw, and within this opening is journaled a sheave 15.

Straddling the shank 1 and slidably mounted thereon is a jaw 16 having a central guide lug 17 projecting into the channel 6 and inwardly extending side lugs 18 projecting into the grooves 9. The lug 16 is preferably formed with a recess 19 in the end thereof to provide a clearance for the purpose hereinafter described.

A cable 20 or the like works freely within the passage 8 and is provided at its upper end, above the plate 10, with a loop for engaging a hook or the like, not shown, and which constitutes part of the hoisting mechanism. The cable 20 is extended under the sheave 15 and upwardly within the channel 6 and through the recess 19, the upper end of this portion of the cable being secured in any desired manner to the jaw 16. Coiled springs 21 are secured to the jaw 16 close to the shank 1 and extend loosely through the openings 11, their upper ends being attached to the loop 22 at the upper end of the cable 20.

Under normal conditions the springs support the jaws in the relative positions shown in Fig. 1. When the jaw 13 is placed under a load to be lifted and the loop 22 is pulled upwardly, the cable 20 will pull the jaw 16 downwardly against the action of the springs 21 until said jaw 16 is brought against the top of the load whereupon the load will be gripped tightly and further elevation of the loop will result in the elevation of the load. Obviously the grip upon the load will increase in proportion to the weight. When the load is deposited, the springs 21 will pull the jaw 16 upwardly, thus releasing the load.

What is claimed is:—

1. A device of the class described including a shank, a fixed jaw at one end thereof, a sliding jaw upon the shank, means for engaging a hoisting apparatus, a connection between said means and the movable jaw for shifting the movable jaw toward the fixed jaw during the upward movement of said means relative to the shank,

a spring connected to said means for returning the parts to their initial relative positions when relieved of a load.

2. The combination with a shank, a fixed jaw and a slidable jaw, of support engaging means, a flexible operative connection between the movable jaw and said means to shift the jaw downwardly toward the fixed jaw during the upward movement of said means relative to the shank, and an elastic connection between said means and the movable jaw placed under increasing tension during such relative movement of the jaws.

3. The combination with a shank having a fixed jaw at its lower end, there being a passage extending longitudinally within the shank, of a sheave journaled in the shank and back of said jaw, a slidable jaw upon the shank, a support engaging element, a flexible connection between said element and the slidable jaw, said connection extending through the passage and into engagement with the sheave, and elastic connections between said element and the slidable jaw.

4. The combination with a shank, a fixed jaw and a slidable jaw, of support engaging means, a flexible operative connection between the movable jaw and said means to shift the jaw downwardly toward the fixed jaw during the upward movement of said means relative to the shank, and an elastic member connected to the slidable jaw and adapted to be placed under increasing tension during the movement of said jaw toward the fixed jaw.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN M. BELL.

Witnesses:
E. A. EYNON,
F. H. HOLBROOK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."