Nov. 11, 1930. A. A. MUNN 1,781,518

AUTOMATIC GRAPPLE

Filed March 5, 1930

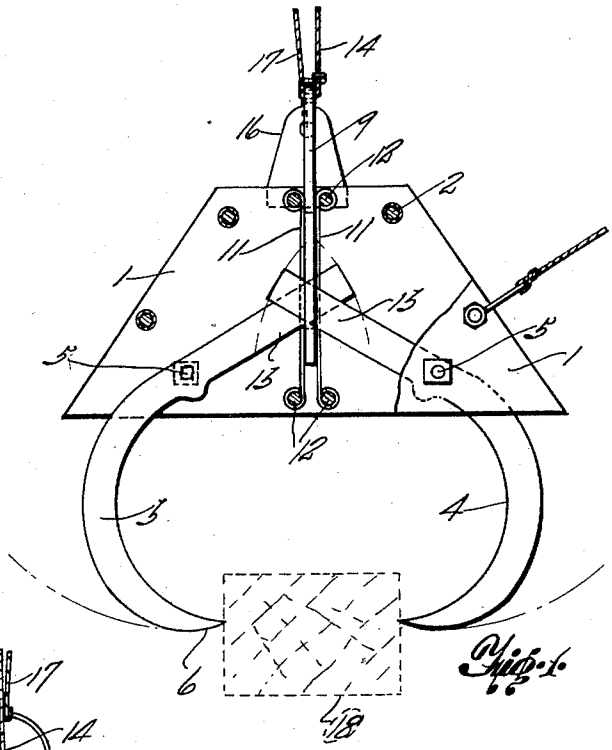


Fig. 1.

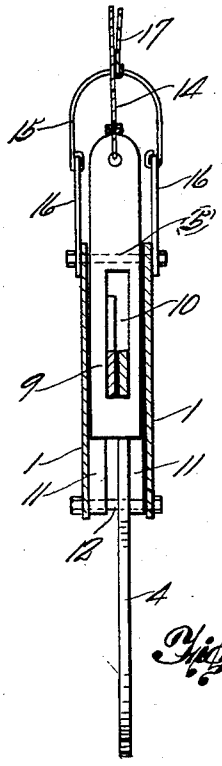


Fig. 2.

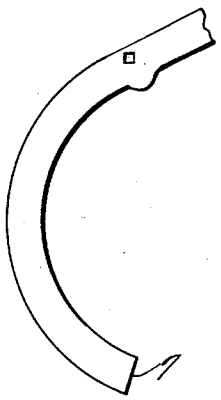


Fig. 3.

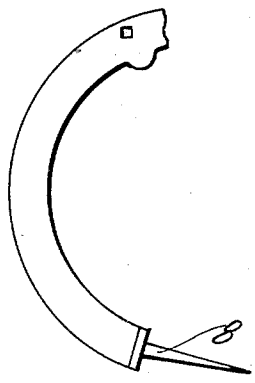


Fig. 4.

Inventor

Andrew A. Munn

By Adam E. Fisher

Attorney

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UNITED STATES PATENT OFFICE

ANDREW ASA MUNN, OF RAPID CITY, SOUTH DAKOTA

AUTOMATIC GRAPPLE

Application filed March 5, 1930. Serial No. 433,199.

This invention is an automatic grapple or grab hook.

The principal object of the invention is to provide a simple, practical, strong and efficient device of this kind which will serve to automatically grip and raise heavy weights and release them as desired, with a positive and certain action.

In the drawing

Figure 1 is a side elevation of the device as engaging a weight, the latter being shown in dotted lines;

Figure 2 is a transverse section;

Figures 3 and 4 are details of two forms of hooks adapted for mounting in the apparatus for use for different purposes.

The invention comprises two similar side plates 1 which are suitably secured in spaced relation by means of bolts 2, and between which two grappling hooks 3 and 4 are pivotally mounted upon strong pins 5 at or near the ends of the plates. These hooks are curved in a conventional manner and may be pointed as shown at 6 in Figure 1 or made blunt as shown at 7 in Figure 3, or the blunt form of Figure 3 may be provided with detachable spurs 8 as shown in Figure 4. An operating link 9, longitudinally slotted as shown at 10, is slidably mounted between the plates 1 and is held against lateral movement by four guide strips 11, secured by pins 12 to the plates 1, two in spaced relation upon each plate as shown, with the link 9 between them. The inner ends 13 of the hooks are passed loosely through the slot 10 of the link 9. An operating cable 14 is secured to the upper end of the link 9. A heavy bail 15 is connected through ears 16 with the side plates 1 and a release cable 17 is connected with this bail.

Normally the weight of the inner ends 13 of the hooks 3 and 4 combined with the weight of the link 9 is sufficient to counterbalance the lower ends of the hooks and so as to force the same open as shown in Figure 1. In use the device is lowered in any conventional manner over the load 18 by the cable 17. An upward pull upon the operating cable 14 then contracts the hooks 3 and 4 upon the load 18, and continued pull upon the cable 14 will, of course, raise the said load. The load is dropped by releasing the cable 14 and pulling upward upon the cable 17. Various forms of grappling hooks may be employed, and the same may be made blunt or sharp, as shown.

While I have herein described a certain specific manner and method of constructing and assembling the elements of my invention, it is understood that I may vary from the same in minor details, not departing from the spirit of my invention, so as best to construct a practical device for the purpose intended, as defined in the appended claim.

I claim:

In a device of the kind described, two side plates secured together in spaced relation, an operating link slidably mounted between the said plates, one end of the said operating link projecting outwardly of the plates, a pair of grappling hooks pivotally mounted between the plates in spaced relation, the inner ends of the hooks being passed loosely through the slot of the operating link, an operating cable secured to the projecting end of the said operating link, and a release cable secured to the said plates adjacent the projecting end of the said operating link.

In testimony whereof I affix my signature.

ANDREW ASA MUNN.