

R. H. VARICLE.

GRAPPLE.

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1,406,704.

Patented Feb. 14, 1922.

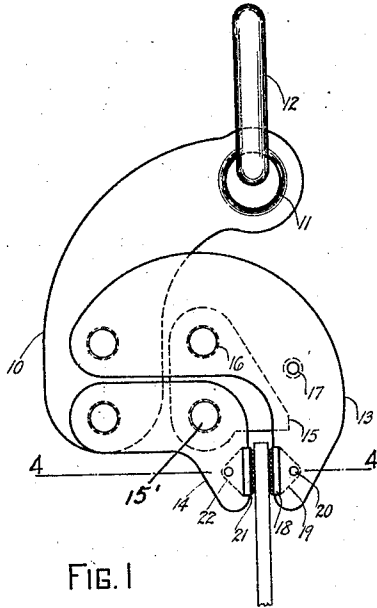


FIG. 1

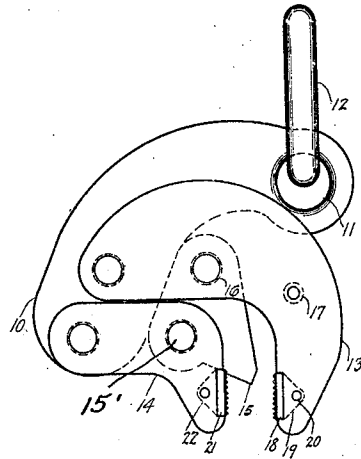


FIG. 2

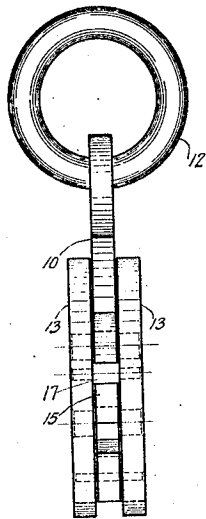


FIG. 3

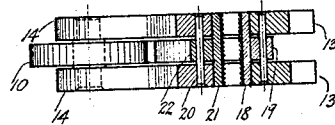


FIG. 4

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To all whom it may concern:

Be it known that I, ROGER H. VARICLE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented certain new and useful Improvements in Grapples; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in lifting devices, and particularly to grapples.

One object of the present invention is to provide a novel and improved construction of grapple which has gripping jaws which move in unison and in parallelism.

Another object is to provide a novel and improved device of this character wherein the weight of an object gripped between the jaws thereof will have a tendency to cause the jaws to move toward each other and more firmly grip the object.

A further object is to provide a novel and improved device of this character wherein upon movement of either of the jaws, in an upward direction, or in a downward direction, the other jaw will be correspondingly moved.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawing.

In the drawing:

Figure 1 is a side elevation of the grapple in position when engaged with an object.

Figure 2 is a side elevation of the device without an object, and the jaws in open position.

Figure 3 is an end view of the device.

Figure 4 is a horizontal sectional view through the operating faces of the jaws, showing the gripping plates thereof.

Referring particularly to the accompanying drawing, 10 represents an arcuate metal plate having an eye 11 in its upper end for the reception of the suspending ring 12, a chain (not shown) being connected to said ring for suspending the device and the object gripped thereby. Pivottally connected to the lower portion of the member 10, at the inner ends, is an L-shaped pair of plates 13, disposed on opposite sides of the said member 10. A similarly shaped, but smaller pair of

metal plates 14 are pivoted at their inner ends to the lower portion of the member 10, but directly below the plates 13. It will be noted that the pivots of the plates 13 and those of the plates 14 are in a vertical line. The upper straight edges of the members 14 are in parallel relation to the lower horizontal and straight edges of the plates 13, while the outer vertical straight edges of the plates 14 are parallel to the inner vertical straight edges of the plates 13. Disposed between the intermediate portions of the pairs of plates 13 and the pairs of plates 14 is a substantially triangular metal plate 15, the upper or apex end of which is connected to the plates 13 and 14 by the pivot pin 16, while the forward or outer lower angle is disposed between the outer portions of the plates 13. The lower portion of the plate 15 is pivotally connected to the plates 14 by the rivet 15'. A rivet 17 is disposed through the said portions of the plates 13, adjacent the said angle of the plate 15, to maintain the plates 13 and 14 in proper and rigid relation to each other, and for simultaneous movement.

A metal plate 18 has a flat stem 19 which is disposed between the bills of the plates 13, a rivet 20 being disposed through said bills and stem to hold the same in proper position. The inner face of the plate 18 rests against the inner vertical straight edge faces of the said bills, while the outer or working face of the plate is scored or otherwise roughened to afford a good gripping action on an object to be lifted. A similar plate 21 has its stem 22 secured between the bills of the plates 14, and the outer face scored and disposed in opposing relation to the plate 18 for cooperation therewith to grip an object placed between the jaws formed thereby.

It will be noted that the intermediate portions of the pivots of the plates 13 and 14, as well as the rivet member 17, are slightly enlarged in diameter to provide efficient bearings for the plates 13 and 14, as well as the member 10.

It will be noted that the eye 11 of the member 10 is disposed in a vertical line above the opening between the jaw faces, whereby when an object is gripped between said jaws, and suspended thereby, the weight of the object will have a tendency to produce a slight cant to the entire device, on the ring

12 as the pivot, with the result that the jaws will lie in a slightly inclined position, and more firmly grip the object.

What is claimed is:

5 1. A grapple comprising a carrying member, a pair of laterally and downwardly directed jaw members movably connected to one end of the carrying member and in a vertical line beneath the other end thereof
10 when carrying a load, and a member movably connecting the jaw members whereby movement of either jaw in either direction will result in the simultaneous and parallel movement of the other jaw, with respect to
15 the jaw moved.

2. A grapple comprising an arcuate carrying member, a pair of L-shaped plates having corresponding arms pivotally connected to the carrying member, a second
20 smaller pair of L-shaped plates having corresponding arms pivoted to the carrying member below the pivot of the first L-shaped

plates and with their other arms directed into parallel relation to the other arms of the first plates, a plate disposed between and 25 pivotally connecting the first and second L-shaped plates, and gripping faces secured between the said other arms of the L-shaped plates in opposing relation.

3. A grapple including a laterally curved 30 and vertical carrying member, a pair of laterally and downwardly extending gripping jaws pivotally carried by the carrying member and simultaneously movable toward and away from each other upon movement of the 35 carrying member, and a link pivotally connecting the jaws for maintaining the parallel relation of the jaws at all times.

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

ROGER H. VARICLE.

Witnesses:

ROGER S. PAGE,
M. HUGGINS.