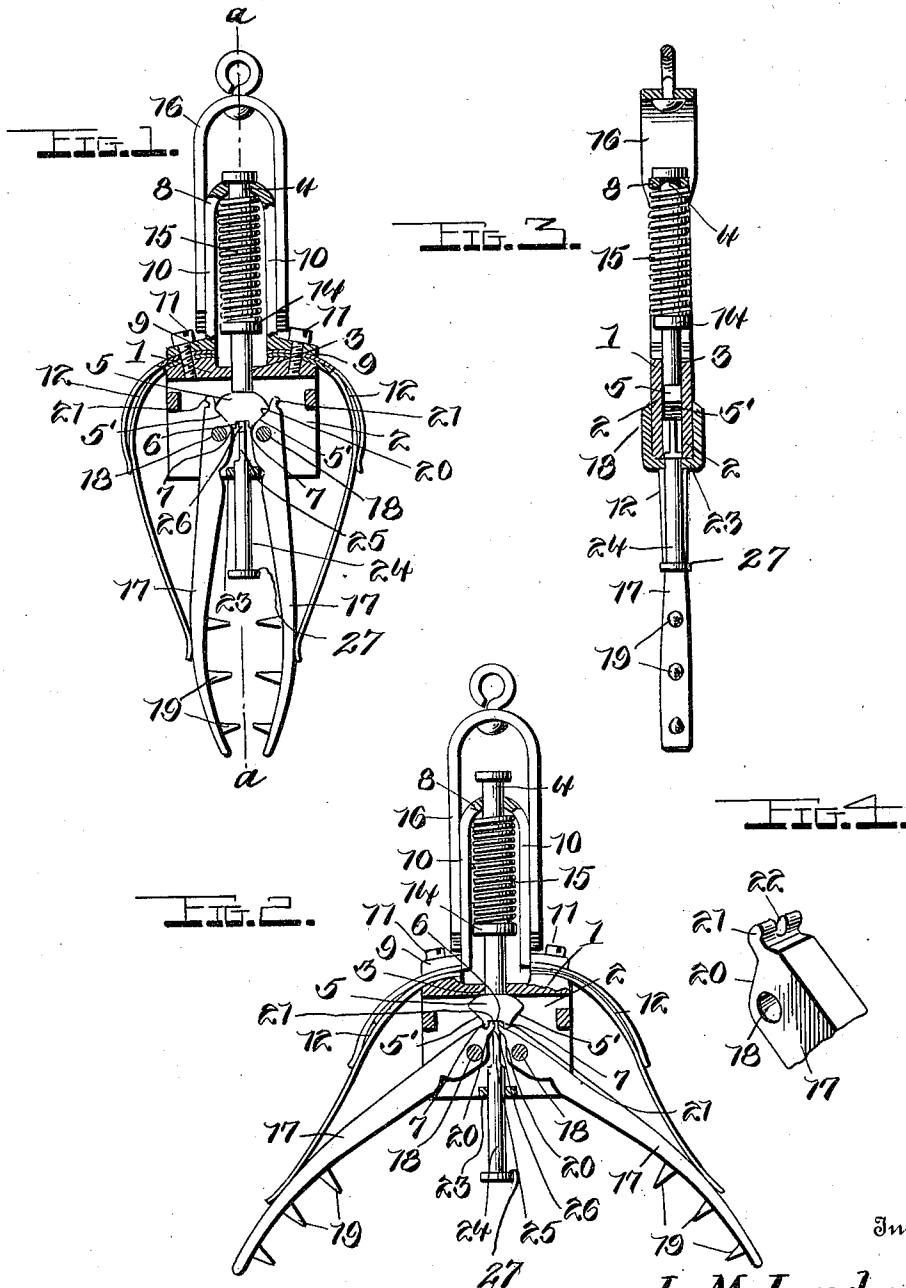


L. M. LENDERMAN.
GRAPPLE.
APPLICATION FILED MAR. 1, 1911.

1,008,724.

Patented Nov. 14, 1911.



Witnesses

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LONNIE M. LENDERMAN, OF ENSLEY, ALABAMA.

GRAPPLE.

1,008,724.

Specification of Letters Patent.

Patented Nov. 14, 1911.

Application filed March 1, 1911. Serial No. 611,600.

To all whom it may concern:

Be it known that I, LONNIE M. LENDERMAN, a citizen of the United States, residing at Ensley, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Grapples, of which the following is a specification, reference being had to the accompanying drawings.

This invention is an improved grapple and consists in the construction, combination and arrangement of devices hereinafter described and claimed.

The object of my invention is to provide an improved grapple comprising pivoted jaws, springs to close the jaws against the object to be grappled, means to lock the jaws in opened position, and a trigger to disengage the locking means from the jaws, and cause the jaws to close against the object when the trigger comes in contact with the object to be grappled, thus closing the jaws automatically on the object to be grappled and enabling it to be readily raised by the grapple.

In the accompanying drawings—Figure 1 is partly an elevation and partly a sectional view of a grapple constructed in accordance with my invention, and showing the jaws closed. Fig. 2 is a similar view showing the jaws open. Fig. 3 is a transverse sectional view taken on the plane indicated by the line *a-a* of Fig. 1. Fig. 4 is a detail perspective view showing the upper end of one of the jaws.

The head 1 of my improved grapple is provided with side plates 2 which are spaced appropriately apart. A central opening 3 is provided in the head in which operates the outwardly extending arm 4 of a locking head 5, which is substantially triangular in form, and presents two oppositely inclined cam faces 5', which converge downwardly and in the angle between which is a notch 6, the opposite sides of which form shoulders 7. This locking head is movable across the head 1 in the space between the side plates 2. An inverted U-shaped yoke 8 has the ends 9 of its arms 10 secured to the back of the head 1, at opposite sides thereof by bolts 11, which also secure leaf springs 12 to the head 1. A stop 14 is secured to the arm 4, which by engagement with the back of the head limits the inward movement of the locking head, and a coil spring 15 which is arranged on the arm 4,

bears against the said stop and also against the outer end of the yoke 10. An outer yoke or handle loop 16 which is also U-shaped has its arms secured to those of the yoke 10. In practice a rope, chain or rod is attached to the outer yoke 16, to operate the grapple.

The jaws 17 of the grapple are pivoted between side plates 2 of the head 1, as at 18, at points on opposite sides of the locking head. These jaws are engaged and operated by the springs 12 which serve to close them against the object to be grappled, and the jaws are provided on their concave opposing sides with spurs or teeth 19 to engage the object. Each jaw is provided at its pivotal end with an inclined cam face 20 to bear against one of the cam faces 5 of the locking head when the jaws are in closed position, and each jaw is also provided at its pivotal end with a tooth 21 to engage one of the shoulders 7 of the locking head when the jaws are in open position. Each tooth 21 is provided with a centrally located notch 22.

A U-shaped clip 23 is bolted to the side plates 2 of the head 1, and extends across the space between the said side plates and between the jaws 17. A trigger pin 24 is movable and guided in an opening in the said clip. The inner portion 25 of the trigger pin is flat and thereby adapted to enter the space between the pivotal ends of the jaws, the extreme inner end of the trigger pin being reduced to form a stud 26 to enter the notch 6 of the locking head, through the notches 22 of the teeth 21 of the jaws. When the jaws are opened against the tension of the springs 12, their teeth 21 pass down the inclined sides 5 of the locking head and become engaged with the shoulders 7, and the spring 15 holds the locking head in engagement with the teeth of the jaws, so that the latter are held in open position. The trigger pin is extended outwardly from the head 1, being provided with a stop shoulder 27 which engages the clip 23. When the grapple is lowered on an object to be grappled thereby, and the jaws are disposed at opposite sides of the object, the trigger pin comes in contact with the object and is moved upwardly, hence causing its stud 26 by engagement with the bottom of the notch 6, in the locking head to move the locking head upwardly, against the tension of the spring 15, and thereby cause the shoulders of the locking head to disengage the teeth 21 of

the jaws, whereupon the springs 12 act to close the jaws against the object and firmly grapple the same.

While I have herein shown and described a preferred embodiment of my invention, I would have it understood that minor changes in the form, proportion and construction of the several parts may be made within the scope of my invention, as defined by the appended claims.

I claim:—

1. In a grapple of the class described, the combination of a head, jaws pivotally mounted in the head, and having locking teeth at their inner ends, springs to close the jaws, a spring pressed locking head movable in the space between the inner ends of the jaws and having shoulders to engage the teeth of the jaws, and a notch between the said shoulders, and a trigger pin carried by the first named head, movable toward and from the locking head and disposed in the space between the jaws, the inner end of the said trigger pin when the same is moved inwardly, engaging the notch of the locking head, and moving the latter so as to cause its shoulders to disengage the teeth of the

jaws, thereby enabling the springs to close the jaws.

2. The herein described grapple comprising a head having side plates spaced apart, a locking head movable in the space between the side plates, and having an arm extending upwardly through and beyond the head, a guide element for the said arm, a spring to move the locking head downwardly, a pair of jaws having their upper ends pivotally mounted between the plates of the first named head, said jaws and said locking head having co-engaging means to cause the locking head to hold the jaws in open position, springs to close the jaws, and a trigger element carried by the first named head and disposed between the jaws, said trigger element serving by engagement with an object to be grappled, to move the locking head out of engagement with the jaw, and enable the springs of the latter to close them.

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

LONNIE M. LENDERMAN.

Witnesses:

FRED H. BURCHFIELD,

ROBT. M. STOREY.