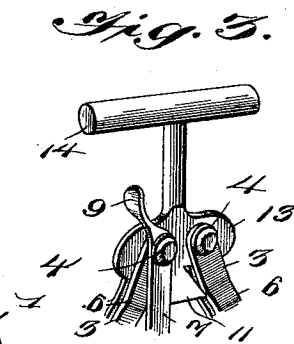
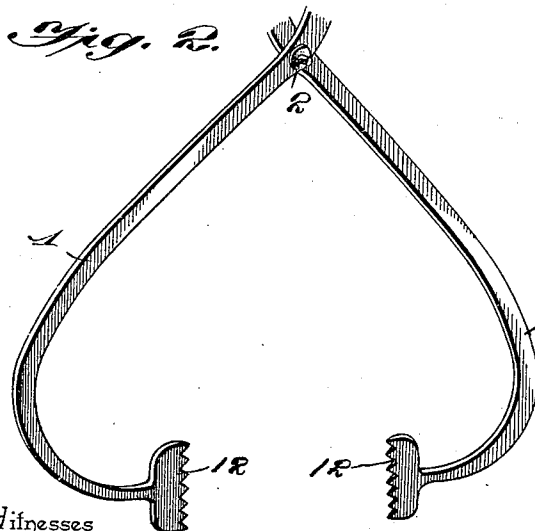
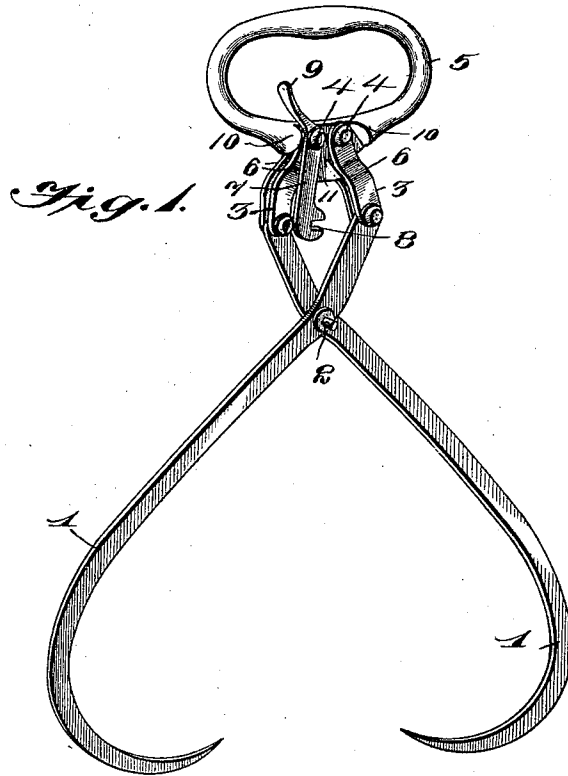


(No Model.)

W. COULTER.
GRAPPLE.

No. 578,215.

Patented Mar. 2, 1897.



Witnesses

Wm. North
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By his Attorneys,

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UNITED STATES PATENT OFFICE.

WILLIAM COULTER, OF LORAIN, OHIO.

GRAPPLE.

SPECIFICATION forming part of Letters Patent No. 578,215, dated March 2, 1897.

Application filed July 14, 1896. Serial No. 599,184. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM COULTER, a citizen of the United States, residing at Lorain, in the county of Lorain and State of Ohio, have invented a new and useful Grapple, of which the following is a specification.

This invention relates to grapples; and it aims to provide a device of this character which shall be easily operated and adapted to securely hold an object upon which the same is placed, and also to embody in the construction of the grapple simple and efficient means for retaining the jaws thereof in open position.

To this end the invention consists substantially in the construction, combination, and arrangement of parts, as will be hereinafter fully illustrated, described, and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a grapple constructed in accordance with the present invention. Fig. 2 is a detail perspective view illustrating a modification of the grapple-jaws. Fig. 3 is a similar view of a modified form of handle.

Similar numerals of reference indicate corresponding parts throughout the figures.

Referring to the drawings, 1 1 designate two correspondingly-shaped jaws the lower ends of which are curved, and said ends are pointed to enable the same readily to engage with an object.

The upper ends of the jaws 1 1 cross each other and at their meeting-point are pivoted together by a pintle 2, one end of which projects a short distance beyond the adjacent side of the jaws for a purpose to be hereinafter stated. Pivoted to the extremity of each of said upper ends is a pair of oppositely-disposed links 3, said pairs being also pivotally connected at the upper end thereof by pins 4 or their equivalent to the flattened lower side of a handle-loop 5, and said links form a toggle connection between said handle and the jaws 1 1. It is to be noted that the flattened lower side of the handle 5 is secured between the links constituting each pair, thereby placing said handle centrally above the jaws 1 1, and each of the links is provided with an inclined offset 6, equal to the thickness of said jaws, the offsets of one pair of links corresponding, but being oppositely inclined, to the

offsets of the other pair. By reason of the offsets 6 it will be seen that free movement of the links and the jaws is positively insured.

For retaining the jaws of the grapple locked in open position a pawl 7 is employed. This pawl is pivoted at its upper end to the handle-loop 5 by one of the pins 4, and the lower end of said pawl has formed in one of its sides a notch 8, which notch is adapted to engage with the projecting end of the pintle 2 when said handle-loop is forced into a position to open the jaws 1 1, and thereby retain said jaws in such open position. Extending outwardly from the upper end of the pawl 7 is a finger-tab 9, the latter lying within the outline of the loop 5 and in a position to be readily operated by the hand grasping said loop. An inclined shoulder 10 is formed at each end of the flattened portion of the handle-loop 5 for limiting the lateral swing of the pawl 7, and by reason of said pawl being pivoted at its upper end the same will hang in a position so as to ride over the projecting end of the pintle 2 and permit the notch 8 to engage therewith when the handle is forced toward the jaws.

Depending from the lower edge of the flattened side of the handle 5 is a centrally-arranged stop 11, and said stop is of sufficient thickness to permit all of the links 3 to contact therewith, so as to prevent the jaws of the grapple closing entirely together. The stop 11 will also assist in opening the jaws when the handle is forced toward the same.

In Fig. 2 I have illustrated a modification of the grapple-jaws; but this form differs only from that shown in Fig. 1 by enlarging the lower ends and providing such enlargements with teeth 12, thus adapting the same for use upon boxes, baled hay, straw, and the like, and for other similar purposes where it is desirable not to employ pointed ends.

Fig. 3 also illustrates a modification of the handle of the grapple, which consists of a plate 13, to which are secured the links 3 and also the stop 11, and said plate has a T-shaped handle 14. This construction is designed for use upon grapples of small sizes.

The operation and advantages of the herein-described grapple will be readily under-

stood by those skilled in the art. When it is desired to open the jaws 1 1, the handle-loop, is forced toward the same, and through the medium of the links 3 the lower ends of said jaws are caused to recede from each other. To retain the jaws in the open position, the pawl 7 may be swung into engagement with the projecting end of the pintle 2 either manually or in the manner described and thus securely lock the jaws. By operating the finger-tab 9 the pawl 7 may be released and the jaws returned to their closed position or brought into engagement with an object upon which it is desired to place the grapple without the necessity of employing both hands.

From the foregoing it will be seen that I have provided a grapple which is easily operated and one adapted to securely hold an object upon which the same may be placed. The pawl 7 is located in a position to be conveniently manipulated and will effectually retain the jaws open, and while I have described the invention as employed as a hand device I wish it to be understood that I do not limit myself to such use, as it is evident that the same may be applied to heavier work.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A grapple, comprising a pair of jaws pivoted together, links pivoted to said jaws, a handle connected to the links, the latter forming a toggle connection between the jaws and the handle, and a locking-pawl carried by said handle and adapted to engage the jaws to hold the same in open position, substantially as set forth.

2. A grapple, comprising a pair of jaws pivoted together and having their lower ends enlarged and provided with teeth, links pivoted to said jaws, a handle connected to the links, the latter forming a toggle connection between the jaws and the handle, and a locking-pawl carried by the handle and adapted to engage the jaws to hold the same in open position, substantially as set forth.

3. A grapple, comprising a pair of jaws pivoted together, links pivoted to said jaws, a handle connected to the links, offsets formed in said links and adapted to permit free movement of the jaws, and a locking-pawl carried by the handle and adapted to engage the jaws

to hold the same in open position, substantially as set forth.

4. A grapple, comprising a pair of jaws pivoted together, links pivoted to said jaws, a handle-loop connected to said links, and a locking-pawl pivoted to the handle-loop and having its upper end lying within the outline of the loop, said pawl being adapted to hold the jaws in open position, substantially as set forth.

5. A grapple, comprising a pair of jaws pivoted together, the pintle of said pivot having one of its ends projecting beyond the jaws, a pair of links pivoted to each of said jaws, a handle connected to said links, and a locking-pawl carried by said handle, said pawl being provided with a notch adapted to engage the projecting end of the pintle of the jaws and hold the latter in open position, substantially as set forth.

6. A grapple, comprising a pair of jaws pivoted together, the pintle of said pivot having one of its ends projecting beyond the jaws, a pair of links pivoted to each of said jaws, a handle connected to said links, a stop secured on said handle and adapted to prevent the jaws closing entirely together, shoulders also formed on said handle, and a locking-pawl carried by the handle and adapted to be limited in its movement by said shoulders, said pawl being provided with a notch adapted to engage the projecting end of the pintle of the jaws and hold the latter in open position, substantially as set forth.

7. A grapple, comprising a pair of jaws pivoted together, a pair of links pivoted to each of said jaws and each provided with an offset, the offsets of each pair of said links being oppositely inclined to the offsets of the other pair to permit free movement of the jaws, a handle connected to said links, a stop secured on said handle and adapted to prevent the jaws closing entirely together, and means for holding said jaws in open position, substantially as set forth.

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

WILLIAM COULTER.

Witnesses:

H. S. BURRETT,
J. B. COFFINBERRY.