Jan. 12, 1926. 1,568,984

A. McCOLLUM

GRAPPLE

Filed July 11, 1925

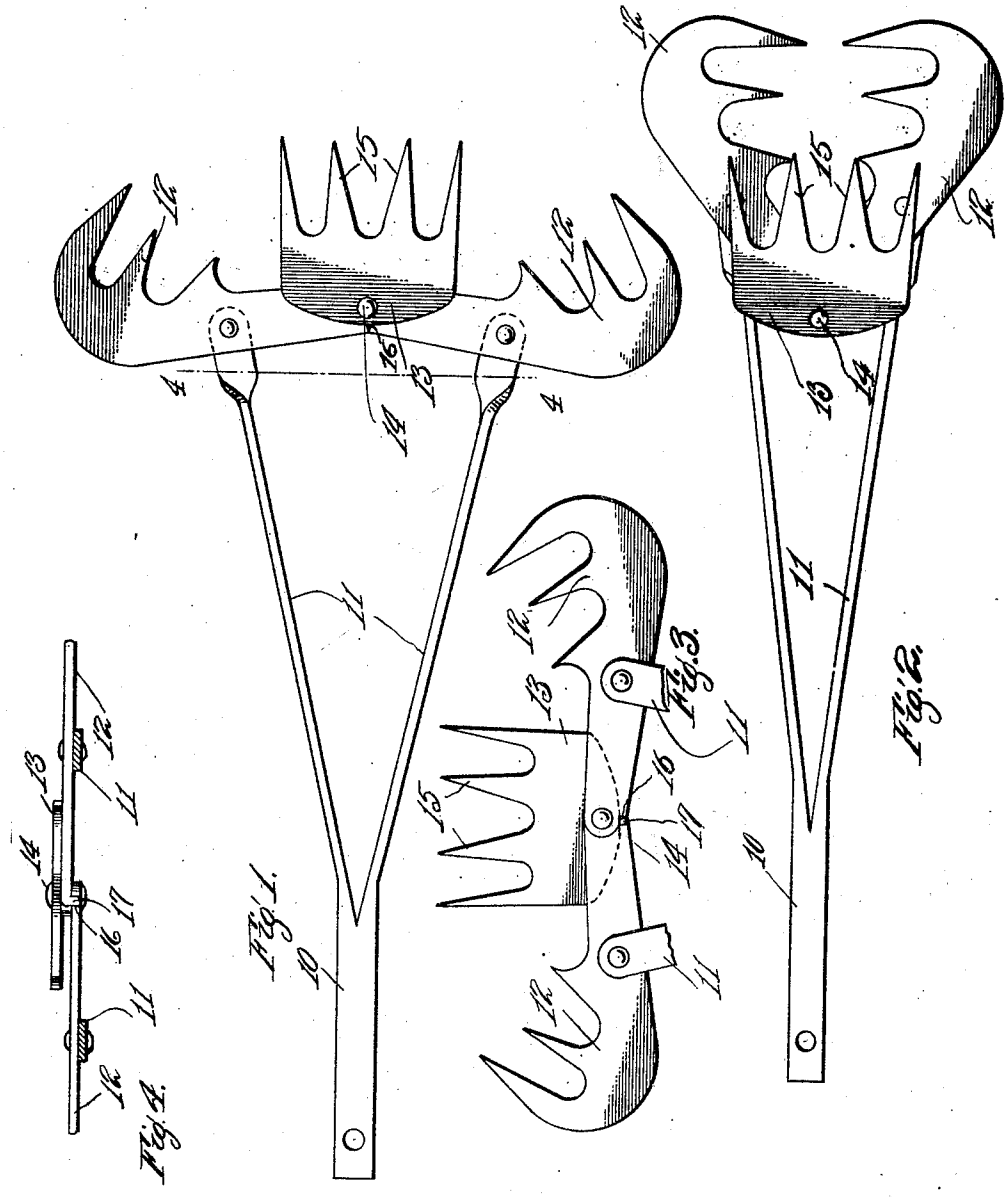


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Inventor
Albert McCollum.

By Horace C. Hudgens

Attorney

Patented Jan. 12, 1926. 1,568,984

UNITED STATES PATENT OFFICE.

ALBERT McCOLLUM, OF ATKINS, ARKANSAS.

GRAPPLE.

Application filed July 11, 1925. Serial No. 42,958.

To all whom it may concern:

Be it known that I, ALBERT McCOLLUM, a citizen of the United States, residing at Atkins, in the county of Pope, State of Arkansas, 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 grapples, and particularly to grapples for removing objects from wells, or like deep excavations.

One object of the invention is to provide a device of this character which, when lowered into a well, and into contact with the object to be removed, said device will automatically close about said object, thus rendering the removal thereof easy.

Another object is to provide a device of this character which includes object engaging jaws, and a trip device which when contacting with an object will release the jaws, and permit same to close about the object.

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 an elevation of a grapple made in accordance with the present invention, with the jaws in open position.

Figure 2 is an elevation of the device with the jaws in closed position.

Figure 3 is a rear elevation of the device in the position of Figure 1, the arms 11 being broken.

Figure 4 is a horizontal sectional view on the line 4—4 of Figure 1.

Referring particularly to the accompanying drawing, 10 represents a shank to one end of which is adapted to be secured a cable or chain, while the other end is longitudinally split to provide the flexible arms 11. Pivotally connected to each of these arms is a toothed jaw 12, such pivot point lying a short distance from the inner end of said jaw, while the inner ends of the jaw are pivotally connected to the trip 13, by means of the common pivot 14. This member 13 has the longitudinal teeth 15, which are adapted to contact with the object to be moved from the well.

Figure 2 shows the device in closed position, and when it is desired to open the same, to assume the position of Figure 1, the operator grasps the jaws 12 and swings them outwardly away from each other, until the central pivot 14 is slightly forward of a line drawn through the pivotal connections between said jaws and the spring arms 11. The normal tendency of the arms 11 is to close or flex inwardly toward each other, but when the jaws have been swung into open position, above described, the inward pressure of said arms will hold the jaws in open position, and the trip 13 projected forward.

The pivoted end of one of the jaw members 12 is cut out to form a shoulder 16, while the corresponding portion of the other jaw member is formed with a laterally extending stop lug 17, which engages with the shoulder 16, when the jaws are swung into open position, whereby to prevent or limit the forward pivotal movement of the connected ends of said jaw members, such position being maintained by the inward flexing action of the arms 11.

In the practice of the invention, the parts being set, as shown in Figure 1, the operator lowers the device into a well until the trip member 13 engages with the object to be removed, when such contact will force the trip member inwardly, and swing the jaws on their pivot so that such pivot will move rearwardly of the line of the pivots of arms and jaws, with the result that the spring arms will move the jaws forwardly into embracing engagement with the object. The operator then pulls the object from the well.

What is claimed is:

A grapple including a member having flexible arms, a jaw member intermediately pivoted on one end of each arm, and extending transversely thereof, the inner ends of the arms being pivotally connected, the inner end of one arm being formed with a notch, the corresponding end of the other arm being formed with a lateral projection for engagement in said notch whereby to permit pivotal movement of the inner ends

of the arms outwardly beyond the ends of the flexible arms and thereby maintain the jaw members in open position, and a member mounted on the pivot of the inner ends of the jaw members and arranged to be moved by contact with an object whereby to move the pivotal connection of the jaws inwardly of the ends of the flexible arms and thereby permit said arms to close the jaws on the object.

In testimony whereof, I affix my signature.

ALBERT McCOLLUM.