No. 791,969. PATENTED JUNE 6, 1905.

W. A. WILEY.

GRAPPLE HOOK.

APPLICATION FILED DEC. 22, 1904.

Fig. 1.

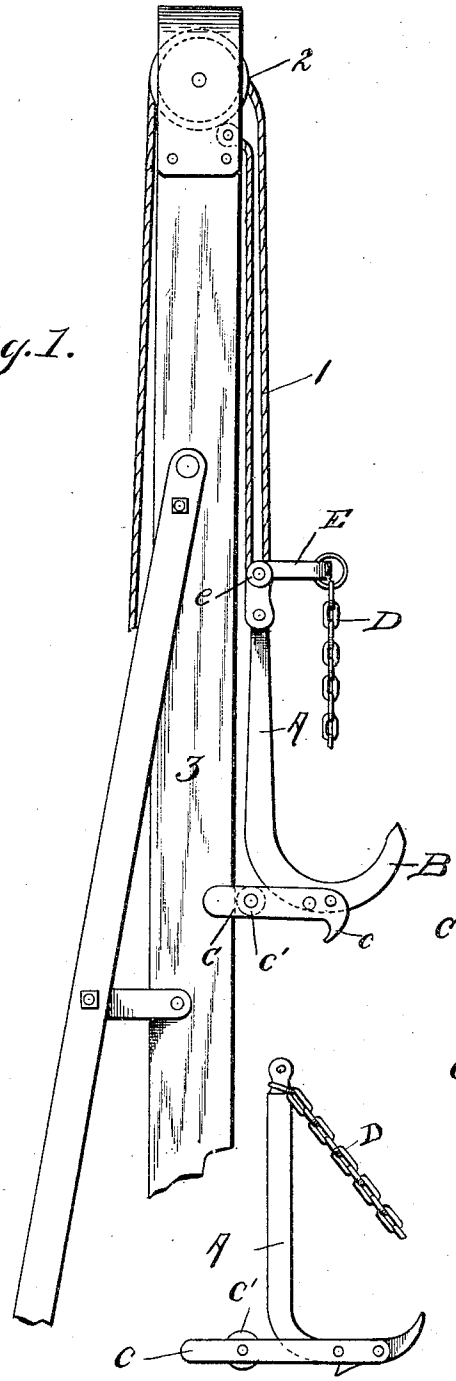
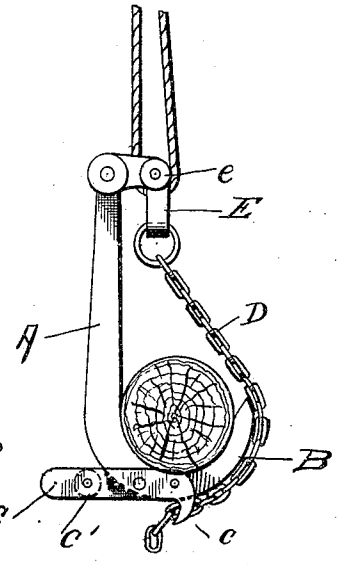


Fig. 2.



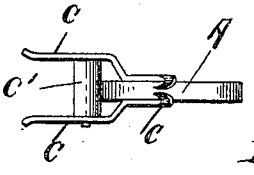


Fig. 3.

Fig. 4.

Witnesses:
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No. 791,969. Patented June 6, 1905.

UNITED STATES PATENT OFFICE.

WALTER A. WILEY, OF SENECA, KANSAS, ASSIGNOR OF ONE-HALF TO RUFUS M. EMERY, OF SENECA, KANSAS.

GRAPPLE-HOOK.

SPECIFICATION forming part of Letters Patent No. 791,969, dated June 6, 1905.

Original application filed October 15, 1904, Serial No. 228,639. Divided and this application filed December 22, 1904. Serial No. 238,023.

To all whom it may concern:

Be it known that I, WALTER A. WILEY, a citizen of the United States, residing at Seneca, in the county of Nemaha and State of Kansas, have invented new and useful Improvements in Grapple-Hooks, of which the following is a specification.

This invention relates to grapple-hooks designed in connection with overhead power to handle telegraph-poles, beams, and other objects of great length and weight.

The subject-matter of my present invention, while particularly designed for use in connection with the derrick forming the subject-matter of my pending application for United States Letters Patent, filed October 15, 1904, Serial No. 228,639, of which this application for patent is a division, is applicable for use in connection with other overhead hoists, as will be readily understood.

The object of the invention is to provide a light portable grapple-hook to grasp and hold a long heavy pole or beam intermediate its ends while power is applied from overhead to move said pole or beam to a desired position.

With this object in view the invention will be described in detail in the ensuing specification and claimed in the clauses at the close.

In the accompanying drawings, Figure 1 is a side elevation of my hook shown in position against a derrick-mast. Fig. 2 is a similar view, the parts being in another position. Fig. 3 is a bottom plan view of the hook. Fig. 4 is a plan showing a modified form of hook.

The hook comprises a shank A and curved beak B to receive the telegraph-pole, beam, or other object to be handled.

At the base or heel of the bill B of the hook are arms C, one on either side of the bill, their forward ends—that is to say, the ends nearest the point of the bill—being carried below the body of the bill and shaped to form hooks *c*, curving rearwardly from the point of the bill, the two constituting jaws to engage the links of a chain to be presently further referred to. The rear ends of the arms C are spread apart and provided with bearings in which is journaled the shaft of a roll C′. The shank at its upper end is adapted for connection with a hoist-cable 1, which may be actuated from any source, but in the instance shown is trained over pulley 2 at the top of the mast 3 of the derrick of my pending application, hereinbefore referred to. To the upper end of the shank A is also secured one end of a chain D, the free end being of a length and designed to embrace a pole or beam lodged on the bill of the hook, and passing beneath the same, engage the jaws formed by the downward hooked projections *c* of the arms C, thus securely confining the post or beam and relieving both the bill and shank of the hook from strain.

The rear ends of the arms C extend somewhat beyond the roll C′, the purpose being to form guides to embrace the sides of the mast 3 while the roll C′ travels in contact with the face thereof to reduce friction. The preferred form of hook is shown in Figs. 1 and 2, wherein an L-shaped bracket E is pivoted to the upper end of the shank of the hook. At the angle of the bracket is journaled a pulley *e* for the cable 1 of the hoist, said cable being secured in the instance shown near the top of the mast 3, thus reducing resistance between weight and power. In this form also the chain D is attached to the free end of the bracket E, the purpose being to shift the pulley *e* from the axial line of the shank A, Fig. 1, to approximately more near the center of gravity of the device when the hook is loaded, the chain of course sustaining a part of the weight that would otherwise be carried by the shank and bill of the hook. This arrangement enables me to use much lighter hooks for the given load and has the further advantage that the cable (usually rope) is held out of frictional contact with the mast 3, thus increasing the life or usefulness of a given cable.

In the instance shown the arms C, for convenience of manufacture, are separate parts bolted to the heel of the bill B of the hook; but it will be understood that these parts may be made integral and that other changes in

structure familiar to mechanics are within the scope of my invention.

I claim—

1. A grapple-hook for pole-raising and similar machines, comprising a shank adapted for connection at its upper end with a hoist, a bill having arms forming jaws, and a chain secured at one end to the top of the shank and adapted to engage the jaws.

2. A grapple-hook for pole-raising and similar machines, comprising a shank adapted for connection at its upper end with a hoist, a bill having arms forming jaws at the forward end and carrying a friction-roll at rear, and a chain secured at one end to the top of the shank and adapted to engage the jaws.

3. A grapple-hook for pole-raising machines, comprising a shank and a bill carrying jaws, an L-shaped bracket pivoted at the upper end of the shank and carrying a pulley at its angle, and a chain attached to the free end of the bracket and adapted to engage the jaws of the bill.

4. A grapple-hook for pole-raising machines, comprising a shank and a bill having arms carrying a friction-roll and jaws, an L-shaped bracket pivoted at the upper end of the shank and carrying a pulley at its angle, and a chain attached to the free end of the bracket and adapted to engage the jaws of the bill.

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

WALTER A. WILEY.

Witnesses:
PETER P. STEIN,
JAMES H. GLEASON.