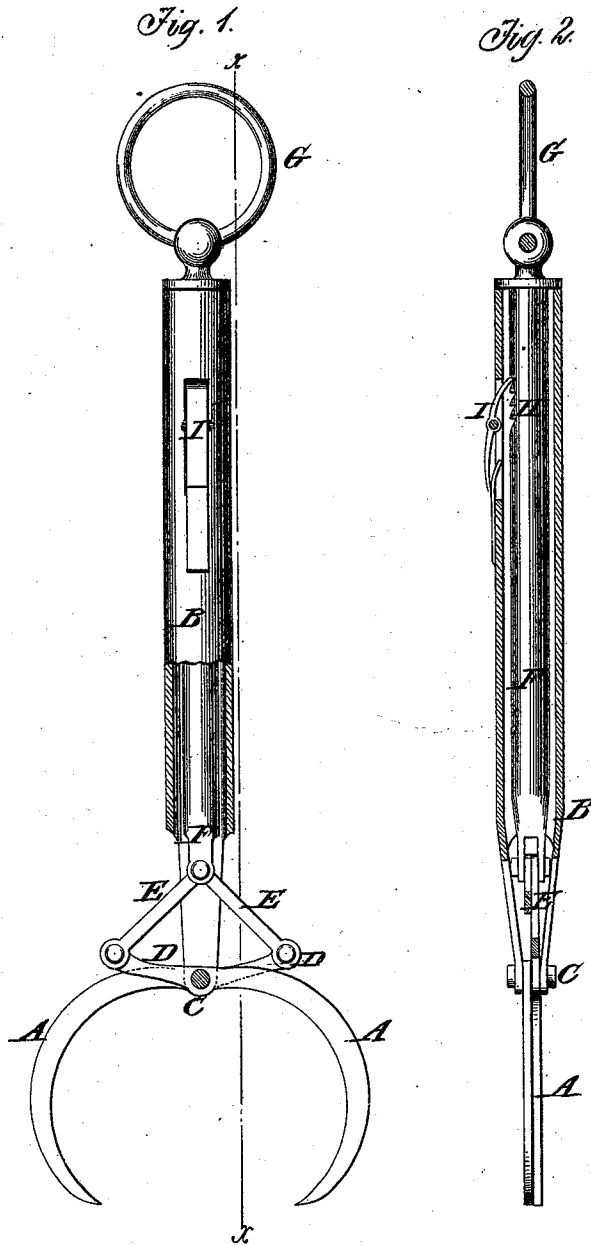


G. BEEMAN & G. A. PHIFER.

GRAPPLING-HOOK.

No. 172,954.

Patented Feb. 1, 1876.



WITNESSES:
Gustav Schenck
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UNITED STATES PATENT OFFICE.

GAIN BEEMAN AND GEORGE A. PHIFER, OF IRONTON, OHIO.

IMPROVEMENT IN GRAPPLING-HOOKS.

Specification forming part of Letters Patent No. **172,954**, dated February 1, 1876; application filed December 11, 1875.

To all whom it may concern:

Be it known that we, GAIN BEEMAN and GEORGE A. PHIFER, of Ironton, Lawrence county, Ohio, have invented a new and Improved Grappling-Hook, of which the following is a specification:

Our invention is an improvement in grapples having jaws or hooks pivoted to the end of a staff and coupled to a sliding rod. In our invention the hooks are pivoted to the end of a tube, in which the operating-rod is arranged to slide, and a spring-pawl is fixed on the tube, in connection with notches in the lifting-rod, by which to limit the opening of the hooks by the sliding movement of the rod in the tube. The tube may be continuous or sectional, and any form of grappling-hooks or scoops may be used.

Figure 1 is partly a side elevation and partly a sectional elevation of our improved grappling-hooks; and Fig. 2 is a sectional elevation taken on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the hooks, which are pivoted to the tube B at C, and are connected to the sliding rod F by the arms D and links E, so

that they open or close, according as the rod is moved up or down in the tube.

The lifting power is applied to the ring G in the top of the rod, so that it causes the hooks to hold tightly.

The tube serves to hold the hooks in position while being opened by sliding the lifting-rod down.

The rod is provided with notches H, and the tube has a spring pawl, by which to limit the opening of the hooks when desired.

A couple of rings, connected by rods, may be used instead of the tube for the rod to slide on.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The spring-pawl I, attached to the tube B, having hooks A pivoted to it, in combination with notched rod F, having the hooks connected to it, all substantially as specified.

GAIN BEEMAN.
GEO. A. PHIFER.

Witnesses:

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