# T. JOHNSON & H. HANSON.

## DRILL-ROD GRAPPLING-HOOKS.

No. 195,612. Patented Sept. 25, 1877.

Fig. 1

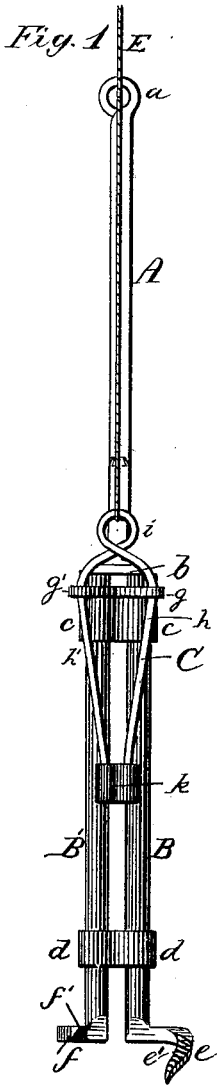



Fig. 2

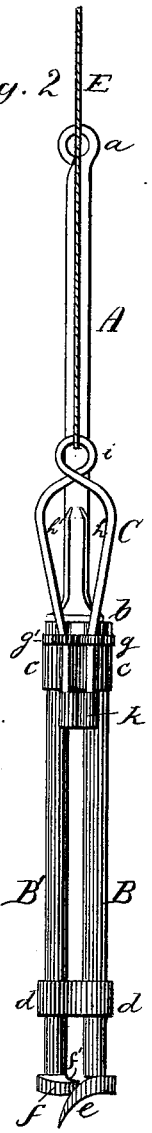
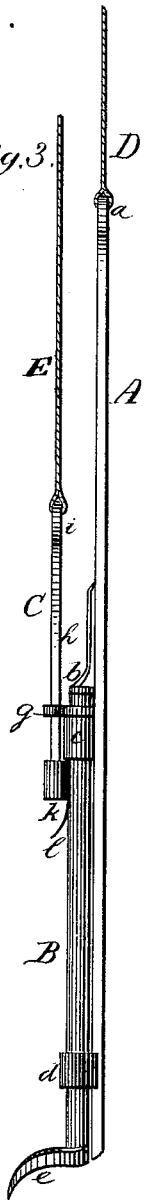



Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN DRILL-ROD GRAPPLING-HOOKS.

Specification forming part of Letters Patent No. **195,612**, dated September 25, 1877; application filed June 4, 1877.

*To all whom it may concern:*

Be it known that we, THOMAS JOHNSON and HENDRIK HANSON, both of Highland, in the county of Fillmore and State of Minnesota, have invented certain new and useful Improvements in Grappling-Hooks for Well-Borers; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a front elevation, showing the tongs open. Fig. 2 is a similar view, showing them closed; and Fig. 3 is a side elevation.

Similar letters of reference indicate corresponding parts in all the figures.

Our invention consists in the construction and arrangement of a device for grappling broken well-augurs, drills, and other articles or implements which by accident or otherwise have been left at the bottom of drill-holes or wells, substantially as hereinafter more fully described, and pointed out in the claims.

In the drawing, A is a flat bar of iron, having a loop or eye, *a*, at the top, and an offset or shoulder, *b*, about midway.

B B′ are two parallel iron rods, pivoted in keepers *c c d d*, secured upon the front part of the bar A, as shown, so as to enable them to oscillate freely. Rod B terminates in a curved spiral-twisted jaw, *e*, having a serrated rim or edge, *e′*; and rod B′ terminates in a corresponding but shorter jaw, *f*, having a sharp edge, *f′*, curved against and facing the serrated edge *e′* of rod B.

At the upper ends of rods B B′, between the keepers *c c* and offset *h*, are two projecting perforated arms, *g g′*, *g* projecting laterally, at right angles, from B, and *g′* secured in a similar manner upon the top of B′.

Through the perforations in arms *g g′* passes a wedge-shaped slide, C, consisting of two converging arms, *h h′*, and a loop or eye, *i*, the arms *h h′* being united at the bottom by a keeper, *k*, projecting from which, at right angles, so as to fit into the space between the oscillating rods B B′, is a piece, *l*, the edge of which rests against and slides upon the inner side of bar A, thereby serving to keep the bottom of slide C at a suitable distance from this, so that the ends of the two arms *h h′* forming said slide will project out from bar A, and be just about over the center of the open space between the jaws *e* and *f*.

The operation of this device is as follows: If a drill has been broken in a well-hole, or if it is desired to remove any object from the bottom of a finished well, the implement is lowered down into it by means of a rope or chain, D, secured in the eye *a* of bar A. After the object to be grappled and pulled out has been reached, the jaws *e f* are brought together around it, so as to grasp and hold it firmly, by pulling a cord, E, secured in the eye or loop *i* of slide C, which, in its upward travel, causes the rods B B′ to partly rotate, by being drawn together by the slanting arms *h h′* passing through the projecting perforated arms *g g′*, thereby bringing their jaws together and grasping firmly anything that happens to be between them. If, while the implement is being lowered, it should strike the top of a broken drill or auger left in the hole, then the broken top of this, by striking against the projecting sliding piece *l* and pushing slide C up, will cause the jaws *e f* to come together automatically, and without the necessity of pulling cord E.

When the object has been grappled in this manner it may readily be pulled out by a windlass at the top of the well, around which the elevating rope or chain D is wound.

This apparatus is simple in construction, consisting, as it does, of few parts, and is not, therefore, liable to break or get out of order. It is certain in its operation if properly managed, and may be used for a variety of purposes besides those for which it is chiefly intended.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

The grappling apparatus herein described, consisting of bar A, oscillating rods B B′, having jaws *e f*, and slide C, having eye *i* and sliding piece *l*, all constructed and combined to operate substantially in the manner and for the purpose hereinbefore set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

THOMAS JOHNSON.
HENDRIK HANSON.

Witnesses:
OLE THOMPSON,
ANTON THOMPSON.