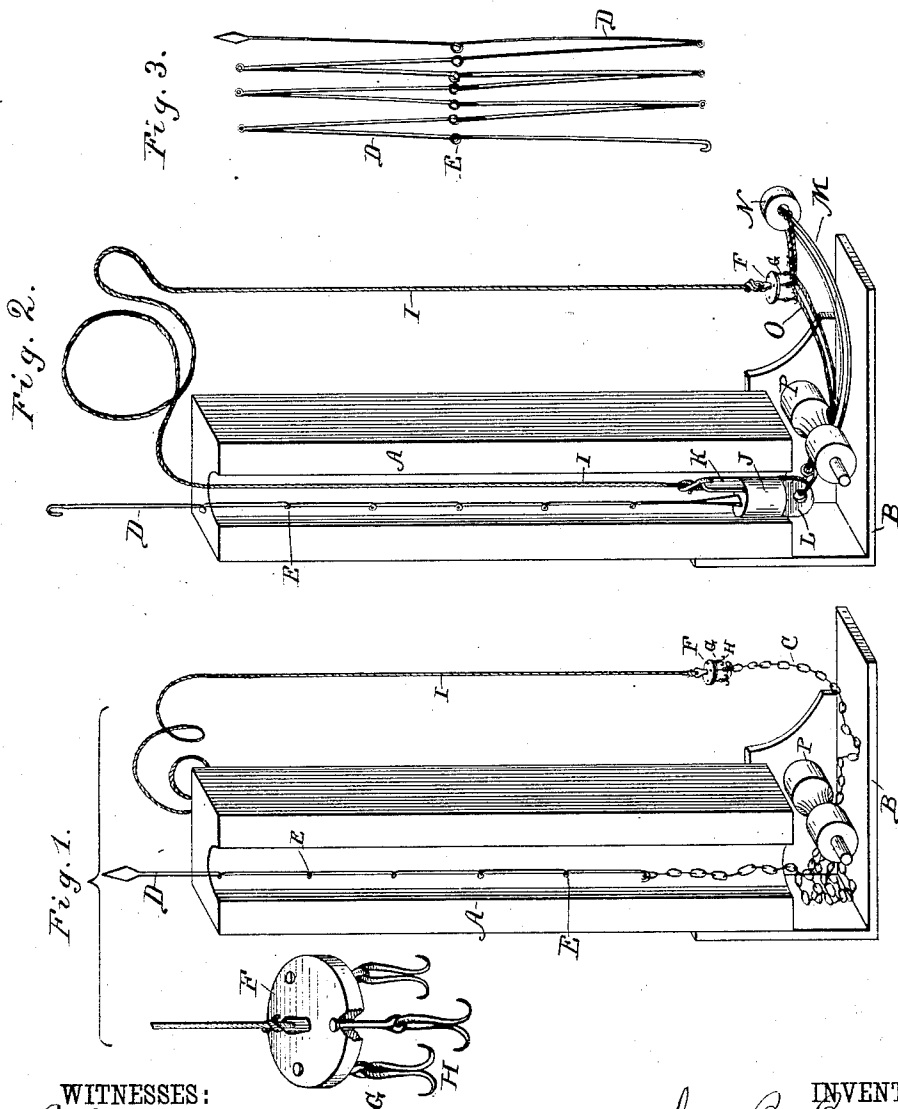


(No Model.)

J. B. BROWN.  
DEVICE FOR REPLACING PUMP CHAINS.

No. 314,913.

Patented Mar. 31, 1885.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

JAMES B. BROWN, OF HANNIBAL, MISSOURI.

## DEVICE FOR REPLACING PUMP-CHAINS.

SPECIFICATION forming part of Letters Patent No. 314,913, dated March 31, 1885.

Application filed December 7, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. BROWN, a citizen of the United States, residing at Hannibal, in the county of Marion and State of Missouri, have invented certain new and useful Improvements in Devices for Replacing Pump-Chains, of which the following is a description.

The object of this invention is to regain chains which have been lost into chain-pumps or into the well or cistern in which the pump is located, and to restore the same to their proper position in the pump. The usual cause of losing the chain is its parting by being broken or unhooked, when both ends are likely to fall into the well.

My invention consists in the construction and combination of parts hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional perspective view of a portion of a chain-pump, showing a lost chain and a portion of my device in service. Fig. 2 is a sectional perspective view of a portion of a chain-pump, showing my whole device in service preparing to replace a chain, and Fig. 3 shows my jointed hooking-rod.

A represents the tube, and B the shoe, of a chain-pump.

C is a chain lost into the pump and into the well.

D represents my hooking-rod, which, for convenience in transportation, and the better to adapt it to enter irregular passages, I make jointed. I provide each joint with a central loop, E, to adapt it to be caught by a grapple-hook in case of emergency. I provide the rod with a hook at one end and a spear-head at the other end.

F is a grapple consisting of a horizontal disk into which a series of vertical eye-rivets, G, are secured loosely to swivel therein, and in the eye of each rivet a double hook, H, is loosely hung. The disk is of a size suitable to slide freely in the pump-tube, and it has an upward-projecting tang into which the rope I is secured. While the hooks H are free to swing in every direction to grapple anything, they are much more controllable by the operator on account of the disk and rivets serving as a guide than if they were attached directly to a rope. To the other end of the

rope I attach my conductor, which consists of a head, J, a spring-wire, M, a roller, N, and a cord, O. The head J has a tang, K, projecting upward at one side of center, into which tang the rope I is secured.

L is a downward tang of the head J, to which an elastic wire or a pair of wires, M, is pivoted to swing freely.

N is a roller journaled at the other end of the wires M.

O is a cord attached at both ends to the wires, to adapt them to be readily caught by the grapple engaging the loops thus formed. In the center of the top of the head J is a hole shaped to receive the spear-head of the rod D and to be held thereby when the rod is driven a little into the hole.

P is the lower roller common to chain-pumps, to guide the chain under the edge of the pipe.

The operation of my device is as follows: Suppose a chain to be lost into the well and pump, as in Fig. 1. First use the hook-rod to catch and haul up the end of the chain in the tube. Then use the grapple to catch the end in the well and haul that up. Now the parts may be joined. But suppose the rod fails to return one end of the chain through the tube, then the chain must be fished bodily out of the well and replaced as follows: The spear-head of rod D is first driven into the tube, and the conductor is lowered into the tube, taking care to hold the guide-rope I taut, so that the head J may not be lost from the rod D. The joints in the rod enable it to be readily entered into the pipe to any depth, while if the rod were without joints it would rise so high in the air that it could not be managed. When the roller N strikes the shoe B, it will spring the wire M to one side, and after a little trial they will pass out under the roller P. Now, the conductor may be caught by the grapple, the rod D be pulled loose, and the grapple be drawn up out of the well. This threads the tube with the rope I, and one end of the chain, being attached to the rope, may be drawn through and secured in place.

By means of the rope I being attached at one end to the conductor and at the other end to the grapple the parts so joined form a complete circuit through the pump and cannot be lost into the well when in service.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the jointed rod D, having a spear-head at one end, of a conductor consisting of the head J, having a hole to receive the head of the rod, the elastic wires M, pivoted in the head J, the roller N, mounted in the wires, the grapple F, and the rope I, connecting the grapple with the conductor, as described.
2. The combination of a series of rods joined together at their ends by close hinge-joints, each rod being coiled midway into a loop, E, one end of the series of rods being hook-shaped and the other end spear-shaped, substantially as shown and described.
3. The grapple consisting of the disk F,

provided with the swivel-hung eye-rivets G, and having an upward-extending tang, in combination with the two-ended hooks H, hung in the said eye-rivets, as shown and described.

4. The conductor consisting of the head J, having a hole in its top, and provided with an upward-projecting tang, K, and a downward-projecting tang, L, in combination with an elastic wire, M, pivoted to the downward tang, a roller, N, journaled to the wire, and a cord, O, attached to the wire, as shown and described.

JAMES B. BROWN.

Witnesses:

W. H. BREWINGTON,  
E. E. RAY.