(No Model.)

T. McG. SMITH.

GRAPPLE FOR HANDLING WELL PIPES OR TUBES.

No. 580,737. Patented Apr. 13, 1897.

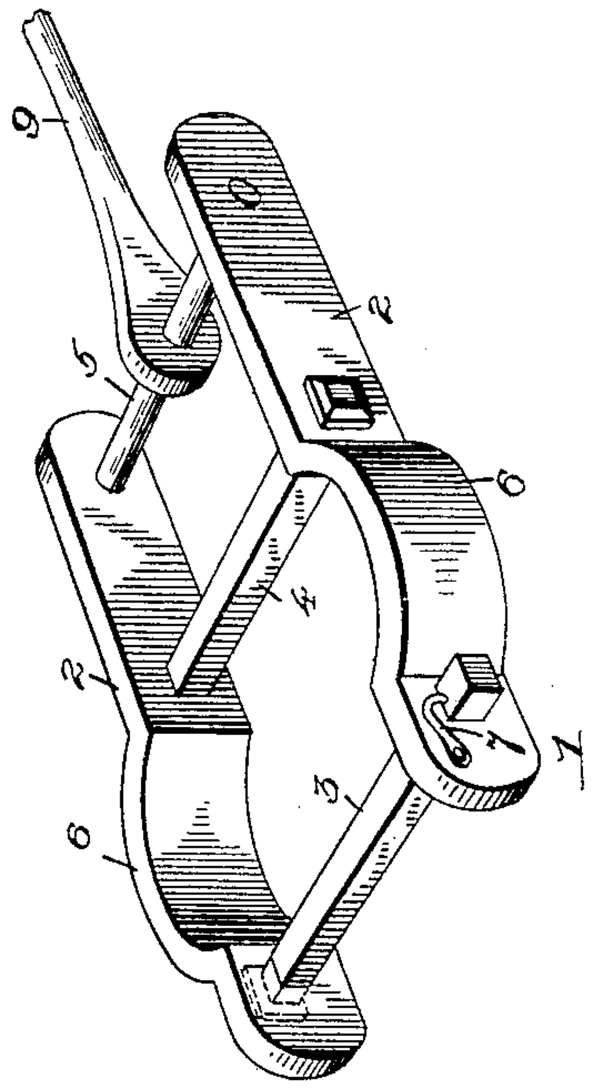

Fig. 2.

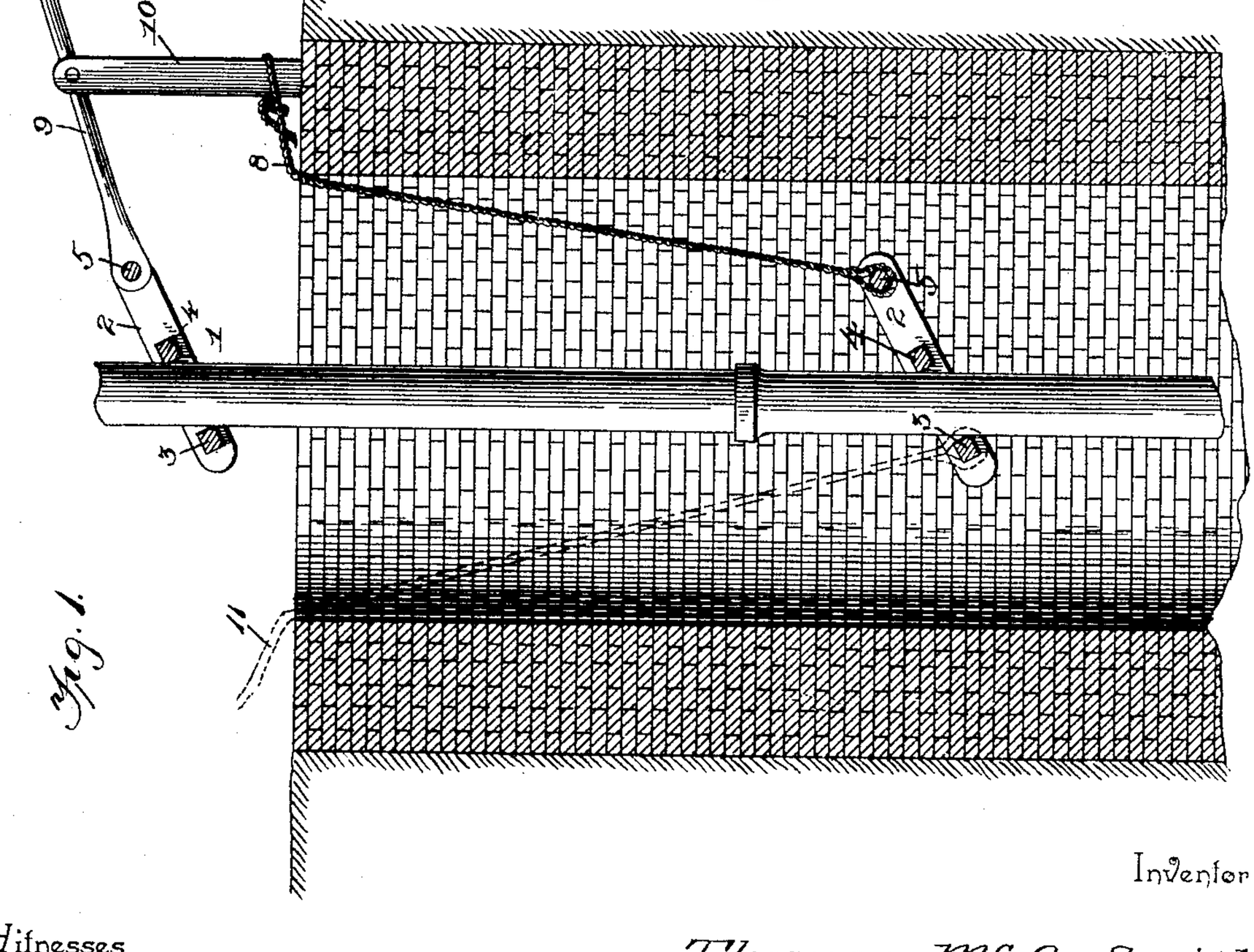

Fig. 1.

Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS McGLOTHLIN SMITH, OF STANTON, TEXAS.

GRAPPLE FOR HANDLING WELL PIPES OR TUBES.

SPECIFICATION forming part of Letters Patent No. 580,737, dated April 13, 1897.

Application filed December 26, 1896. Serial No. 617,048. (No model.)

To all whom it may concern:

Be it known that I, THOMAS MCGLOTHLIN SMITH, a citizen of the United States, residing at Stanton, in the county of Martin and State of Texas, have invented a new and useful Grapple for Handling Well Pipes or Tubing, of which the following is a specification.

The invention relates to improvements in grapples for handling well tubing or pipes.

The object of the present invention is to provide a simple and inexpensive device adapted for readily gripping a well pipe or tubing to enable the same to be readily removed from a well or lowered therein.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a sectional view of a pair of grapples constructed in accordance with this invention and shown applied in position for removing well pipes or tubing. Fig. 2 is a detail perspective view of one of the grapples.

Like numerals of reference designate corresponding parts in both figures of the drawings.

1 designates a grapple consisting of a frame composed of similar side bars 2, a pair of transverse angular bars 3 and 4, and a round transverse bearing 5. The round transverse bearing 5 connects the sides of the frame at one end thereof, and the transverse bars 3 and 4, which are adapted to engage a pipe or tubing at opposite sides thereof, are located, respectively, at one end of the frame and at a point between the ends thereof. The transverse bars 3 and 4 are separated a sufficient distance to permit the grappling-frame to slide readily down a well pipe or tubing, and when the frame assumes an inclined position, as illustrated in Fig. 1 of the accompanying drawings, the angular bars 3 and 4 are brought into contact with and their edges are adapted to bite and securely clamp a pipe. The side bars between the transverse bars 3 and 4 are preferably provided with outwardly-curved portions 6 to enable the grappling or clamping frame to pass a pipe-coupling readily. The bars 4 and 5 are permanently secured to the side bars of the frame, and the end transverse bar 3 is preferably removable to enable the device to be readily placed around a well pipe or tubing. One end of the bar 3 is provided with a head and the other end is engaged by a suitable fastening device 7, mounted on the other side of the frame. A key or any suitable fastening device may be employed, but, as illustrated in Fig. 2 of the accompanying drawings, a pivoted latch may be advantageously used.

In removing well-tubing two clamping-frames are preferably employed, as illustrated in Fig. 1 of the accompanying drawings. The lower one, which serves as a clutch to prevent the well pipe or tubing from slipping backward after it has been lifted by the upper clamping frame or clutch, has a rope 8 or other suitable flexible connection attached to it and anchored to the tube of the well, and the upper grappling or clamping frame is operated by a lever 9. The lever 9 is pivoted to the frame at one end by the round bearing 5, and it is fulcrumed at a point between its ends on a post 10 or other suitable support. By this arrangement a lever of any desired length may be employed, so that one man may conveniently remove the piping or tubing from a well. As the pipe or tubing is lifted by the grappling or clamping frame the rope slackens and the lower grappling or clamping frame slides downward on the piping or tubing, and as soon as the latter starts to move downward by reason of lowering the upper grappling or clamping frame the lower grappling or clamping frame will bite the piping or tubing and check such backward movement.

When it is desired to lower piping or tubing to a well, a rope 11, as illustrated in dotted lines in Fig. 1 of the accompanying drawings, is attached to the frame at the end bar 3, in order that the lower grappling or clamping frame may be moved upward on the piping or tubing without engaging the same after such piping or tubing has been lowered to the desired extent. The two ropes 8 and 11 will enable the lower frame to be maintained in a horizontal position to clear the piping or tubing.

It will be seen that the grappling device is exceedingly simple and inexpensive in construction; that it possesses great strength and

durability, and that it will enable the piping or tubing of a well to be readily removed therefrom or lowered therein by one man.

What I claim is—

In a device of the class described, a grappling or clamping frame comprising a pair of side bars having outwardly-curved portions to enable the frame to clear the pipe-coupling, the transversely-disposed angular bars connecting the side bars at the ends of the curved portions thereof, one of the angular bars being removable and located at one end of the frame, and provided at one end with a head and having a fastening device at the other end, and a transverse bar connecting the sides of the frame at the other end thereof, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS McGLOTHLIN SMITH.

Witnesses:

F. W. FLANAGAN,

PAUL KONZ.