

M. W. SMITH.
WELL CASING PULLER.
APPLICATION FILED MAY 3, 1918.

1,282,479.

Patented Oct. 22, 1918.

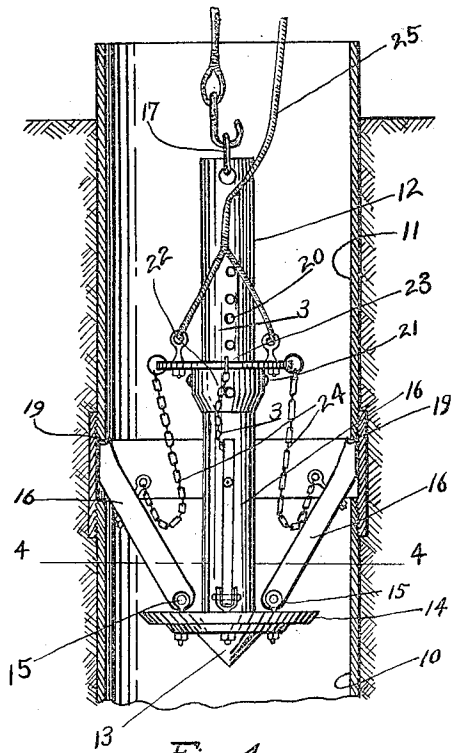


Fig. 1.

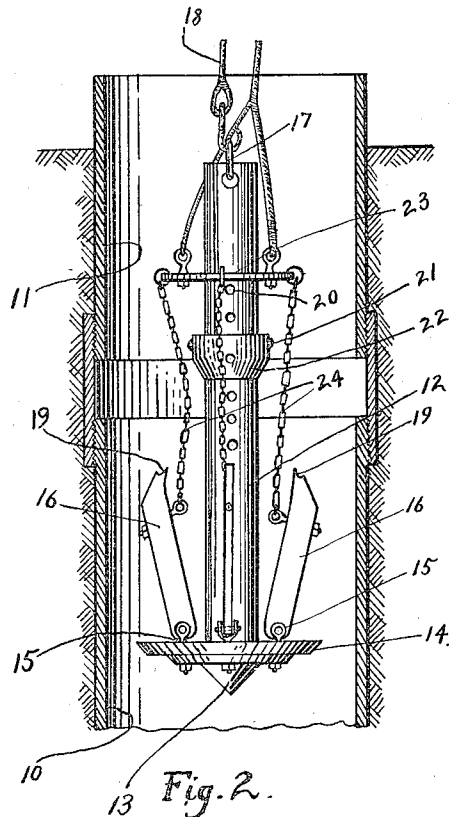


Fig. 2.

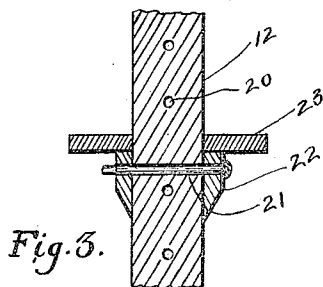


Fig. 3.

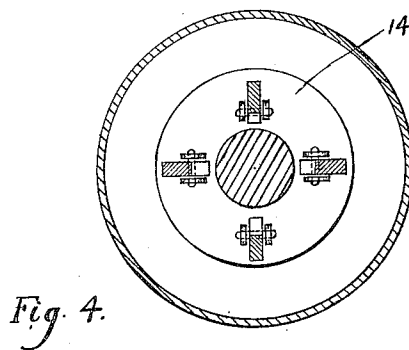


Fig. 4.

Witness
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WELL-CASING PULLER.

1,282,479.

Specification of Letters Patent.

Patented Oct. 22, 1918.

Application filed May 3, 1918. Serial No. 232,279.

To all whom it may concern:

Be it known that I, MARION W. SMITH, a citizen of the United States, residing at Tulsa, in the county of Tulsa, State of Oklahoma, have invented certain new and useful Improvements in Well-Casing Pullers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in grapples and particularly to grapples used in pulling well casings out of wells.

One object of the present invention is to provide a novel and improved device of this character which is simple in construction and by means of which casings of different sizes can be readily pulled from the wells.

Another object is to provide a novel and improved device of this character which is easy to operate and which is effective in its grip on the casing.

A further object is to provide a novel and improved device of this character whereby a single section of casing, or the lowermost section of a series, can be gripped at the lower end without danger of the gripping members biting in the sides of the well and preventing upward movement of the grapple.

A still further object is to provide a device of this character whereby the proper adjustment can be made before the device is lowered into the casing, thus insuring the proper grip on the casing without danger of too deep penetration of the gripping members into the casing section.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawing.

In the drawing:

Figure 1 is an elevation of my improved well casing grapple shown within the casing, and in operative or gripping position, the casing being shown in section.

Fig. 2 is a similar elevation showing the gripping members in elevated position.

Fig. 3 is vertical sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 1.

Referring particularly to the accompanying drawing, 10 represents the lowermost section of the well casing and 11 the next

section above, the latter being the one upon which the device is shown as operating, in the various figures of the drawing.

A vertical rod 12 is disposed within the center of the casing and has secured to the lower end thereof, immediately above the point 13 thereof, a plate 14 carrying the vertical pairs of eye-bolts 15 on its upper face. Disposed between each pair of eye-bolts is the lower apertured end of one of the gripping members 16, there being four of such members, as clearly shown in the drawing. The upper end of the rod is provided with a ring 17 to which is connected the lower end of a cable 18, said cable being connected to any suitable lifting device at its upper end. The free ends of the gripping members are cut off obliquely to provide the biting points 19 which are adapted to engage with the inner face of the lower end of the casing section to be removed from the well.

In the upper portion of the rod 12 there are formed the longitudinal series of openings 20 for reception of a pin 21 carried by a vertically slidable collar 22 disposed on the rod. Also slidable on the rod, and disposed above the collar, is a ring 23. To this ring, and to the outer end portions of the gripping members are connected the chains or other flexible elements 24, which serve to prevent too far movement outward of the said gripping members. This is particularly advantageous when a single casing section is to be pulled from the well, for the reason that the gripping members are prevented from biting into the walls of the well when the device drops below the lower end of said section.

It will be noted that the collar 22 serves as a stop to prevent or limit the downward movement of the ring 23, on the rod.

Connected to the ring 23 is a cord or line 25 by means of which the said ring may be moved upwardly on the rod to release the gripping members from engagement with the casing, and also to withhold the gripping members out of engagement with the interior face of the casing when the device is being lowered thereinto.

By reason of the adjustability of the collar the proper spread of the gripping members can be obtained prior to lowering the device in the casing.

What is claimed is:

1. A well casing puller including an op-

erating rod, gripping members movably carried by the rod, a slidable member on the rod, flexible connections between the slidable member and the gripping members, and an
5 adjustable stop member for the slidable member mounted on the rod.

2. A well casing puller including an operating rod, casing gripping members pivotally mounted on the lower end of the rod,
10 a slidable ring mounted on the rod, flexible elements connected to the ring and to the gripping members, and a collar slidably adjustable on the rod to limit the movement of the ring and to limit the outward pivotal
15 movement of the gripping members.

3. A well casing puller including an operating rod having a longitudinal series of

openings in the upper portion thereof, a plate fixed on the lower end of the rod, casing gripping arms pivotally carried by the
20 plate, a ring slidably mounted on the rod, chains connected to the arms and to the ring, and a collar slidable on the rod and having a removable pin for engagement in the openings of the rod, whereby the ring is limited
25 in its movement to limit the outward swinging movement of the gripping arms.

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

MARION W. SMITH.

Witnesses:

JNO. ROWE,
GEO. COOKS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."