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J. C. LEWIS

WELL CASING TOOL

Filed March 12, 1923

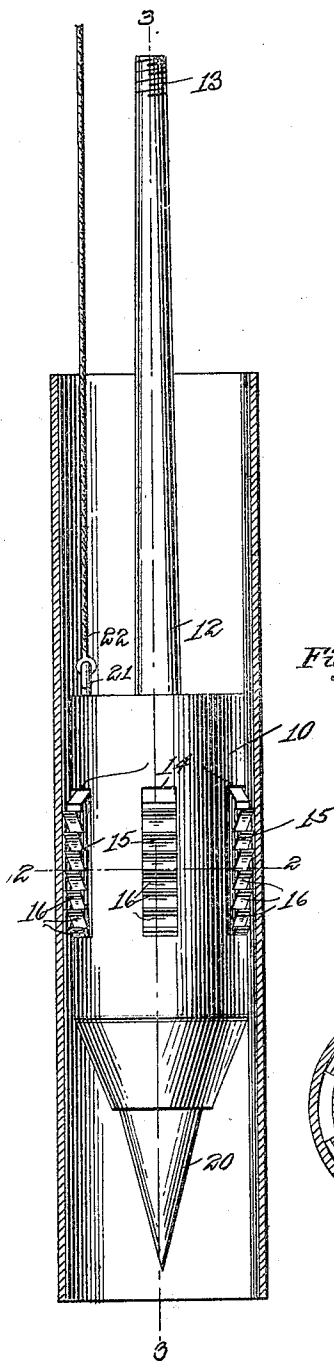


Fig. 1.

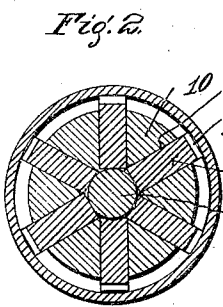


Fig. 2.

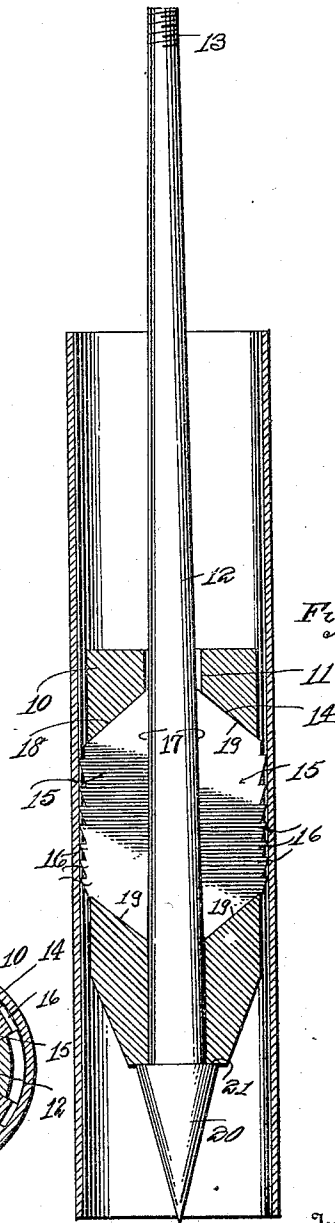


Fig. 3.

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JOSEPH C. LEWIS, OF GRANT, NEW MEXICO.

WELL-CASING TOOL.

Application filed March 12, 1923. Serial No. 624,660.

To all whom it may concern:

Be it known that I, JOSEPH C. LEWIS, a citizen of the United States, residing at Grant, in the county of Valencia, State of New Mexico, have invented certain new and useful Improvements in Well-Casing Tools; 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 new and useful improvements in tools and particularly to tools used for drawing well casings from wells.

One object of the invention is to provide a novel and efficient device of this character by means of which a section of well casing may be quickly and readily gripped and withdrawn from a well.

Another object is to provide a device of this character which is readily controllable to grip the well casing, at the will of the operator, and which can be readily and easily released from the casing, while in lowered position within a well.

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 a well casing tool made in accordance with the invention.

Figure 2 is a horizontal transverse sectional view on the line 2—2 of Figure 1.

Figure 3 is a vertical longitudinal sectional view on the line 3—3 of Figure 1.

Referring particularly to the accompanying drawing, 10 represents a cylindrical metal block through the center, longitudinally there is formed a bore 11, and disposed in this bore is a long rod 12 which tapers from its lower end toward its upper end. At the upper end of the rod there are provided threads 13 for attachment of a drill stem. It will be noted that the bore 11 is of a diameter slightly greater than the greatest diameter of the rod 12. Formed in the sides of the block, at regularly spaced intervals therearound, are the longitudinally extending elongated openings 14, and disposed in each of these openings is a steel block 15. The outer longer edge face of the block 15 is formed with a series of ratchet teeth 16, while its inner edge face is longi-

tudinally inclined to the same inclination of the tapered rod, said inner edge faces, indicated at 17, being arranged to lie against the face of the rod, with the result that when the rod is drawn upwardly through the bore 11, its tapered face will ride on the inner edge faces of the blocks 15 and project them through the openings 14. The upper and lower end walls of the elongated openings 14 are beveled, as shown at 18, and the upper and lower ends of the blocks 15 are correspondingly beveled, as shown at 19, for the purpose of limiting the movement of the blocks outwardly through the said openings, and whereby said blocks are prevented from being forced completely through the openings. The lower end of the rod 12 is formed with a tapered head 20, resulting in the shoulder 21 which bears against the lower end of the cylinder 10, to prevent said cylinder from slipping from the rod. To the upper end of the block 10 there is secured one end of a cable 22, which extends upwardly within easy reach of the operator, so when he desires to permit the block to fall and the blocks 15 grip the inner face of the well casing, he may let the cable run loose, and when he desires to cause the blocks 15 to be released he may pull up on the cable, which pulls the block 10 upwardly and brings the blocks 15 in contact with the smaller diameter of the rod 12.

What is claimed is:

1. A well casing pulling tool comprising a body having a bore therethrough and laterally directed openings in its sides, a tapered rod movable through the bore and having a stop member on one end, and a gripping member in each laterally directed opening engageable with the tapered rod for movement through the openings.

2. A well casing pulling tool comprising a longitudinally bored body having laterally directed longitudinally extending openings in its sides, elongated and serrated blocks in the openings, and a longitudinally tapered rod slidable through the bore and arranged to engage the blocks to move them outwardly into casing gripping position, said rod having a shoulder on one end to prevent escape of the body from the rod.

3. A well casing pulling tool comprising a body having a longitudinal bore and laterally directed elongated and longitudinally extending openings, the opposite end

walls of the openings being inclined diver-
gently inward of the body, a tapered rod
slidable through the bore, and casing grip-
ping blocks in the openings having their
5 inner faces longitudinally inclined in con-
formity with and for engagement by the
tapered face of the rod, the opposite end
walls of the blocks being correspondingly
inclined for engagement with the end walls

of the openings to prevent complete outward 10
movement of the blocks.

In testimony whereof, I affix my signa-
ture, in the presence of two witnesses.

JOSEPH C. LEWIS.

Witnesses:

S. R. COON,

LOUISE HENDRICKS.