

J. W. DAVIS.
 TOOL FOR DRAWING CASINGS FROM WELLS.
 APPLICATION FILED OCT. 19, 1914.

Patented July 6, 1915.

1,145,125.

Fig. 1.

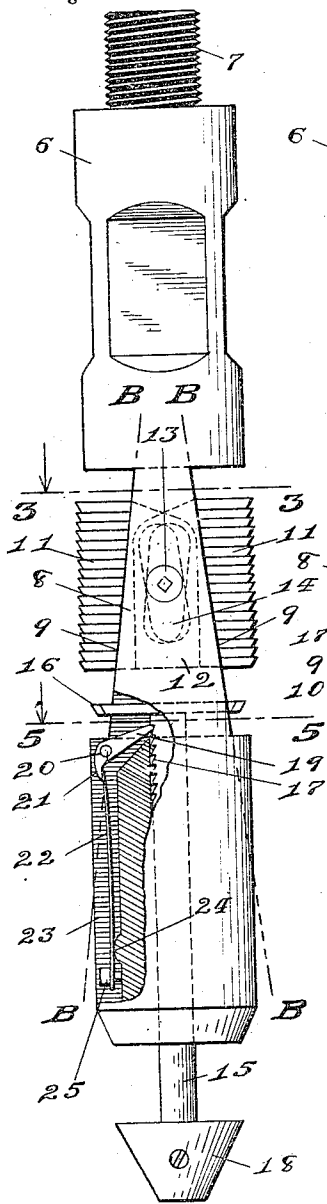


Fig. 2.

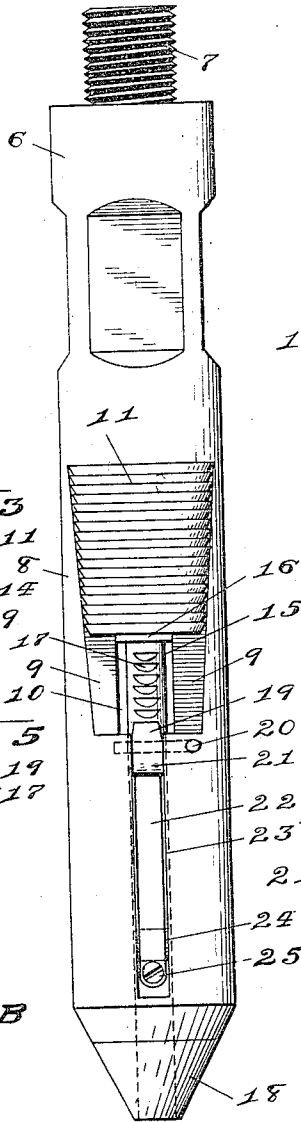


Fig. 3.

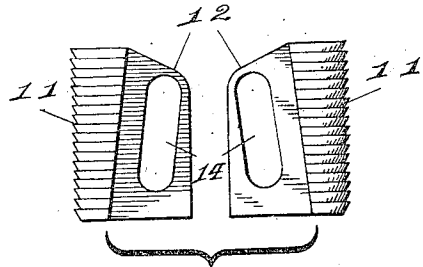
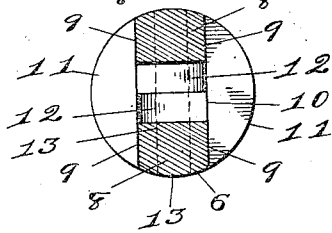


Fig. 4.

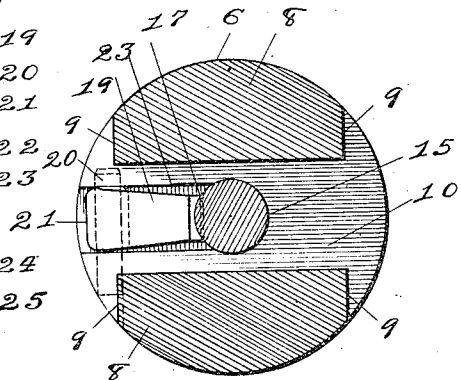


Fig. 5.

WITNESSES:

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TOOL FOR DRAWING CASINGS FROM WELLS.

1,145,125.

Specification of Letters Patent.

Patented July 6, 1915.

Application filed October 19, 1914. Serial No. 867,452.

To all whom it may concern:

Be it known that I, JAMES W. DAVIS, a citizen of the United States, residing at Coalgate, in the county of Coal and State of Oklahoma, have invented certain new and useful Improvements in Tools for Drawing Casings from Wells, of which the following is a specification, reference being had to the accompanying drawings.

10 Tools of this class commonly include a main body portion which is adapted to be attached to a cable or to a drill-stock and let down into the well casing, this body being provided with engaging blocks which, when
15 said body portion is pulled upward in the casing, are forced to engage said casing.

When it is desired to withdraw the tool from the casing without drawing the latter from the well, it is often difficult to hold the
20 blocks away from the inner surface of the casing until the tool is withdrawn.

An object, therefore, of the invention is to provide improved means for overcoming the objection named.

25 Other objects and advantages of the invention will be set forth in the ensuing description.

Referring to the accompanying drawings, which show one embodiment of the invention in practical form:—Figure 1 is an elevation view of the tool. Fig. 2 is an elevation view taken in the direction of the arrow A of Fig. 1, but showing some of the parts shifted in position. Fig. 3 is a sectional
30 view taken on the line 3—3 of Fig. 1. Fig. 4 is a view in the same direction as Fig. 1, showing two engaging blocks. Fig. 5 is an enlarged sectional view taken on the line 5—5 of Fig. 1.

40 Referring to the several figures, in all of which like characters of reference designate like parts, the improved tool shown includes a cylindrical main body 6, which has a reduced screwthreaded upper end 7 for attachment to a drill-stock. On diametrically opposite sides, this main body portion 6 is cut away to the planes represented by the two lines B—B and B—B in Fig. 1, thus leaving an upwardly tapering central portion 8; and this central portion is slotted through from one of its plane faces 9 to the other, as at 10. In further arrangement, two engaging blocks 11, shown separated in
50 Fig. 4, are provided, and rest against the inclined faces 9 with freedom of vertical sliding movement, each block having a lug 12

which extends into the slot and laps past the lug of its mate. A pin 13 passes through the central portion 8 parallel with the two faces 9 and through slots 14 in the lugs 12 of the blocks 11, thus holding said blocks in
60 assemblage with the body 6 with freedom of vertical movement on said faces.

In use, the tool thus described is let down into the casing to be drawn, the blocks 11 being held at or toward the upper or smaller end of the tapered central portion 8 by frictional contact with said casing. Then, by giving the tool a pull upward, the frictional contact of the blocks 11 with the inner surface of the casing draws said blocks downward along the faces 9 toward the lower and larger end of the tapered central portion 8, thus forcing said blocks apart and into lifting engagement with the casing.
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The tool thus described is not materially different from one in use at this time.

In further arranging the tool and carrying out the objects stated, all that part of the main body 6 below the slot 10 is bored
80 out axially, and the bore contains a rod 15 having freedom of vertical sliding movement therein except as yieldably limited by improved parts later described. The upper end of this rod 15 is provided with a T head 16 and with a series of ratchet teeth 17, while its lower end is provided with a suitable weight 18. A detent 19 is pivoted in the lower end of the slot 10 by a pin 20 which passes through the lower portion of
90 the central tapered portion 8, and the free end of said detent is adapted to engage successive ones of the ratchet teeth 17 of the rod 15 as the latter is raised upward. Ordinarily, this detent 19 would engage the teeth 17 by its own gravity, but to insure a quicker action of said detent and in order to have it prevent the rod 15 from being too sensitive and responding too easily to jars or accidental downward thrusts of the drill-
100 stock, it is provided with a short depending arm 21 against which a leaf spring 22 acts. This spring 22 lies in a vertical groove 23 for clearance with the well casing and for protection, its lower end projecting just below and fulcruming on a protuberance 24 in the groove and being secured therein by a screw 25. By adjusting this screw 25, the tension of the spring 22 may be varied to produce proper resisting action
110 of the detent 19 on the rod 15.

When it is desired to withdraw the tool

from the casing, the cable or drill-stock to which the tool is attached is given one or more quick downward thrusts, with the result that the blocks 11 are, by their own inertia, raised to or toward the uppermost position shown in Fig. 2 out of engagement with the well casing; and also at each downward thrust of the tool the rod 15 is, by its own inertia, raised upward one or more teeth and caught by the detent 19. In this way, the blocks 11 and rod 15 are finally brought to their uppermost positions, with the head 16 of said rod supporting said blocks in the position shown in Fig. 2. It is also obvious that the blocks 11 may be raised to the upper end of their throw and out of lifting engagement with the well casing by letting the tool downward until the lower end of the rod 15 contacts the bottom of the well.

20 Having thus described the invention, I claim:—

In a tool of the class described, a body, a

portion of said body being tapered upward and having blocks mounted with freedom of vertical sliding movement on said tapered portion, the lower portion of the body being bored axially and provided with a rod mounted slidably in said bore, said rod having a T head which, with the rod raised upward in said bore, supports said blocks, a detent pivoted in the body at the side of said rod and adapted to positively hold the latter against downward movement when raised, a spring carried by the body and acting on said detent in such manner that the latter yieldably resists upward movement of said rod, and means for adjusting the tension of said spring.

Witness my hand this 10th day of October, 1914.

JAMES W. DAVIS.

Witnesses:

ROY WIRTLOCK,
R. P. CARSON.

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