June 5, 1923.

1,457,596

O. D. NUTTER

TUBING SPEAR

Filed Aug. 12, 1921

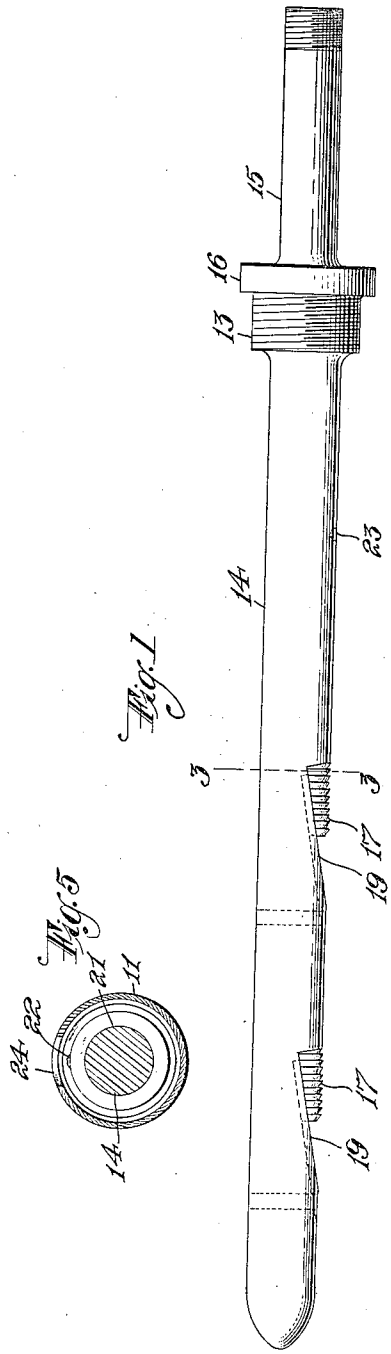


Fig. 1

Fig. 5

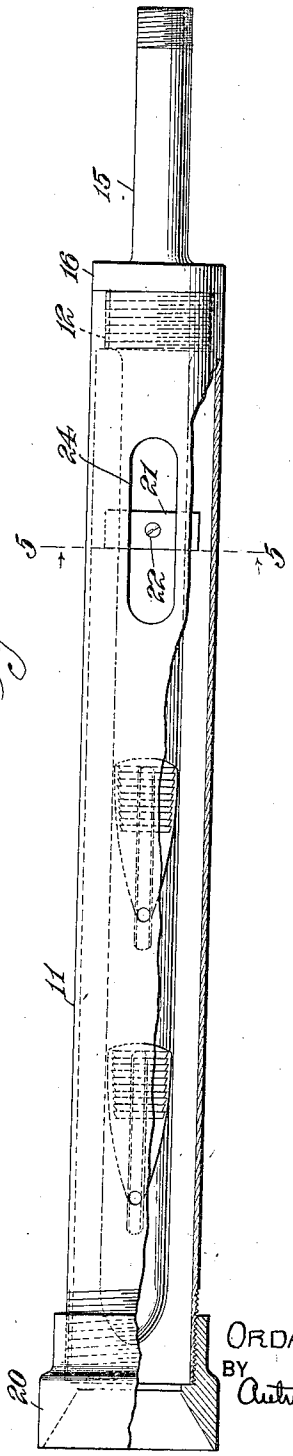


Fig. 2

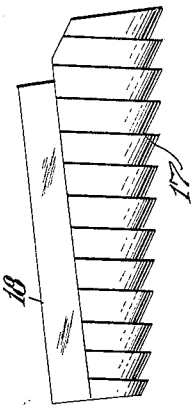


Fig. 4

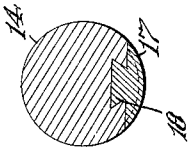


Fig. 3

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UNITED STATES PATENT OFFICE.

ORDA D. NUTTER, OF PARKERSBURG, WEST VIRGINIA, ASSIGNOR TO ACME FISHING TOOL COMPANY, OF PARKERSBURG, WEST VIRGINIA, A CORPORATION OF WEST VIRGINIA.

TUBING SPEAR.

Application filed August 12, 1921. Serial No. 491,856.

To all whom it may concern:

Be it known that I, ORDA D. NUTTER, a citizen of the United States, residing at Parkersburg, West Virginia, have invented certain new and useful Improvements in Tubing Spears, of which the following is a specification.

This invention relates to fishing tools for oil well tubing, usually known as tubing spears and the object of the invention is to devise means for preventing the body of the spear from becoming so jammed in the tubing that it cannot be removed therefrom without great difficulty.

The invention consists essentially of a ring encircling the body of the spear between it and the guide and spaced a short distance from the threaded head thereof where it acts as a stop for the downward movement of the body into the tubing or other object being fished for. Slotted means are provided in the guide through which the ring may be readjusted with respect to the tubing after the tubing has been recovered whereby the tube can be moved upwardly or along the body slightly to loosen the segmental wedges and permit removal of the spear from the tubing.

The invention is described by showing one embodiment thereof herein but it is to be understood that the embodiment is used in an illustrative sense and not in a limiting one.

In the drawings:

Figure 1 represents a side elevation of the body of a tubing spear body;

Fig. 2 is an elevational view of such a tubing spear showing both the body and guide but with parts of the guide broken away;

Fig. 3 shows a cross sectional view taken along the lines 3—3 in Fig. 1;

Fig. 4 shows an elevation of one of the segmental wedges, and Fig. 5 is a sectional view taken along the lines 5—5 in Fig. 2.

The usual tubing spear consists of a guide 11 threaded at 12 to an enlarged head 13 of a body 14 of the spear. The body 14 has a shank 15 and a flange 16 of such a size that it is flush with the guide 11 when it is in place on the spear.

The body is provided with segmental wedges 17 dovetailed at 18 into the body 14 but mounted to be slidable upon an inclined surface 19 on a cut-away portion of the body. The guide 11 has a bowl 20 at its lower end.

At the upper end of the body 14 and spaced a short distance from the threaded head 13 of the body, I provide a ring 21 encircling the body and held in position by means of a set screw 22 entering the body at 23. The guide is slotted at 24 to permit adjustment of the ring 21 into position and removable of the set screw 22 when the ring is to be released.

In operation, the spear with the guide in place over the body is lowered into the well, the ring having first been positioned as shown in Fig. 2. Upon engagement with the tubing to be fished for, the bowl 20 and the guide 11 guide the spear body into the tubing until the top of the tubing engages the ring 21 whereupon any further entry into the tubing by the spear is prevented. Upon pulling the spear upwardly, the segmental wedges are dislodged from their free positions, or moved downwardly by contact with the tube by their teeth, and movement upon their inclined seats cause them to bite into the tube to carry it up with the spear as it is pulled upwardly.

When the tube has been recovered, the set screw 22 is removed through slot 24 and the ring 21 being released from the body 14 thereby, is slid along the body toward its enlarged head 13. Then the spear can be driven downwardly or into the tubing enough to move the wedges 17 back and away from or out of contact with the tubing, whereupon the spear can then be easily removed from the tubing.

Without such a devices as the ring, in driving the spear down into the tubing to get a sufficient hold to bring it to the surface, the tendency is to drive it too hard and it is jammed down into the tubing until the upper edge of the tubing becomes wedged onto the upper end of the body and in many cases it is next to impossible to remove the spear from the tubing. By the use of my invention, this wedging action is prevented and there is always further movement possible of the body into the tube (after the ring has been removed from position) to loosen readily the segmental wedges and remove the spear.

As has been said the disclosure herein is illustrative so while it has been stated that

"tubing" was being fished for I do not mean to be limited to the application of this invention to tubing and likewise I mean the patent to be broad enough to cover applying the ring to the guide instead of the body if this should be desirable.

What I claim is:

1. In combination in a fishing tool, a substantially pointed body adapted to enter the tubing to be fished for, a flange on said body, segmental wedges on said body adapted to grip the tube when pulled upwardly, and an element between said flange and the pointed end of said body for limiting the extent of entry of the body into the tube, said element being adjustable to permit loosening of the tube from the spear after it has been withdrawn from the well.

2. The apparatus of claim 1 in which the adjustable element includes a ring secured to the body by set screws.

3. In combination in a fishing tool, a body adapted to enter the tubing to be fished for, segmental wedges on said body adapted to grip the tube when pulled upwardly, a guide on said body, adjustable means for limiting the extent of entry of the body into the tube, and means on the guide permitting access to said adjustable means to adjust it.

4. The apparatus of claim 3 in which the adjustable means include a ring secured to the body.

5. The apparatus of claim 3 in which the means on the guide constitutes a slot.

In testimony whereof I have affixed my signature to this specification.

ORDA D. NUTTER.