No. 793,414. PATENTED JUNE 27, 1905.

J. T. CALLANAN.

TUBING JAR.

APPLICATION FILED OCT. 12, 1904.

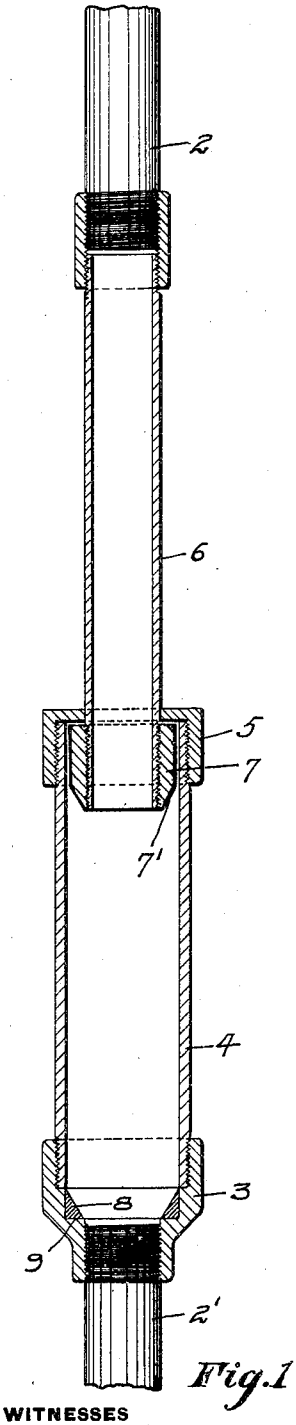


Fig. 1

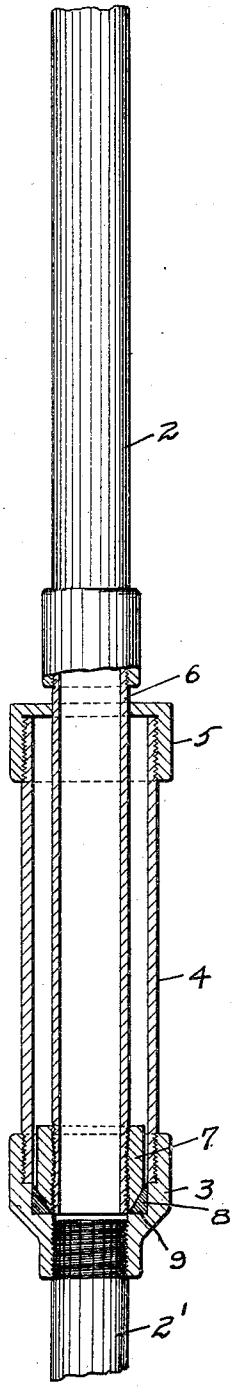


Fig. 2

WITNESSES

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No. 793,414. Patented June 27, 1905.

UNITED STATES PATENT OFFICE.

JAMES T. CALLANAN, OF PARKERSBURG, WEST VIRGINIA, ASSIGNOR TO THE PARKERSBURG MACHINE COMPANY, OF PARKERSBURG, WEST VIRGINIA, A CORPORATION OF WEST VIRGINIA.

TUBING-JAR.

SPECIFICATION forming part of Letters Patent No. 793,414, dated June 27, 1905.

Application filed October 12, 1904. Serial No. 228,219.

To all whom it may concern:

Be it known that I, JAMES T. CALLANAN, a citizen of the United States, residing at Parkersburg, in the county of Wood and State of West Virginia, have invented certain new and useful Improvements in Tubing-Jars, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to tubing or casing jars wherein telescoping tubular members are employed which are adapted to be moved one on the other for the purpose of jarring and loosening the tubing or casing when the same is to be removed from a well; and the primary object is to provide improved packing means for sealing the joint between the telescoping members when closed together or collapsed.

The invention is here embodied in a tubular jar which constitutes a telescoping portion of the well-tube or well-casing, as the case may be.

In the accompanying drawings, Figure 1 is a vertical sectional view of my improvements, the parts being shown in the position which they assume when being lowered in a well. Fig. 2 is a similar view showing the relation of the parts when in operative position in a well.

The improved device may be inserted at any convenient point between the separated sections 2 and 2′ of the tubing or casing. Secured to section 2′ is head 3, threaded internally to receive the cylinder or casing 4. The upper end of this casing is closed by head 5, and movable therethrough is tube 6, depending from tubing-section 2. Secured to the lower extremity of tube 6 and within cylinder 4 is head or collar 7, which preferably has its lower end tapered or coned, as shown at 7′.

In lowering the string of tubing into a well the parts are in the position indicated in Fig. 1. When the downward movement of tube-section 2′ is arrested by striking the bottom of the well, tubing-section 2 and tube 6 continue to descend until the tapered head 7 reaches the bottom of cylinder 4, where it encounters the soft-metal seat 8, fixed on internal shoulder 9 of head 3. Lead is preferably used for this soft-metal seat, and with the parts moved together, as in Fig. 2, a perfect seal is formed and none of the fluid passing through tubing 2, 2′, and 6 can escape into cylinder 4. To remove the tubing, the same is simply drawn upward from the position indicated in Fig. 2 to that shown in Fig. 1, with head 7 lifting on cylinder cap or head 5 to raise the tubing below, as will be understood. If the lower portion of the tubing resists the upward pull, as it is very apt to do if it carries a packer, tube-sections 2 and 6 are simply lowered and head 7 caused to strike upward against head 5 in manner similar to the operation of jars, (well known in the art,) and this striking or jarring may be continued until the packer or other obstruction has been loosened, when all the tubing and the packer may be removed from the well.

While the improvement is designed primarily for loosening pull-resisting packers, it may be used to advantage for loosening tubing that may have become fast in the well from any cause.

I claim—

1. Tubing-jars comprising a cylinder having top and bottom heads, a beveled soft-metal seat-forming ring 8 carried by the lower head, a tube movable through the upper head, and a stop-forming collar carried by the tube and adapted to coöperate with the top cylinder-head when jarring, the lower end of said collar being tapered to coöperate with beveled ring 8 in forming a seal.

2. A tubing-jar comprising a cylinder having a head at its upper end, a soft-metal seat in the lower end of the cylinder, a tube adapted to reciprocate through the cylinder-head and at its upper end having a tubing connection, and an enlargement at the lower end of the telescoping tube adapted when raised to coöperate with the cylinder-head and when lowered adapted to rest on the soft-metal seat.

3. A tubing-jar comprising a cylinder, a head at the lower end of the cylinder, a soft-metal seat within the head, a head for the upper end of the cylinder, tube 6 movable through the upper head, and tapered head 7 carried by

the lower extremity of tube 6 for preventing the withdrawal of the latter through the upper head and for resting on the soft-metal seat when said tube is in lowered position.

4. Tubing-jars comprising cylinder 4 having a head at its upper end, tube 6 movable through the head and within the cylinder a distance corresponding to the length of the latter, an annular stop carried by the lower end of tube 6 for engaging said head, and a seal-forming seat in the lower end of the cylinder for receiving the lower extremity of said tube when in lowered position.

5. Tubing-jars comprising cylinder 4 having a head at its upper end, the lower end of the cylinder being formed with an internal shoulder, a soft-metal ring on said shoulder, tube 6 movable within the cylinder and through said head, the movement of the tube corresponding to the length of the cylinder whereby the lower extremity of the tube is adapted to rest on the soft-metal seat when in lowered position, and a stop carried by the lower extremity of said tube for engaging the cylinder-head.

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

JAMES T. CALLANAN.

Witnesses:
J. M. NESBIT,
ALEX. S. MABON.