Sept. 27, 1932. C. L. PRUIETT 1,879,478

STUFFING BOX

Filed Feb. 5, 1930

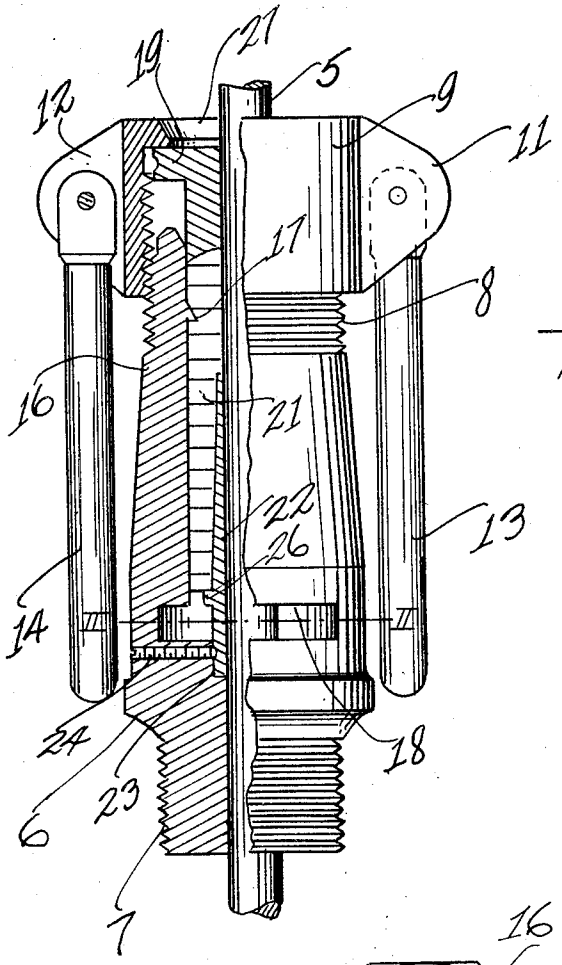


Fig. I.

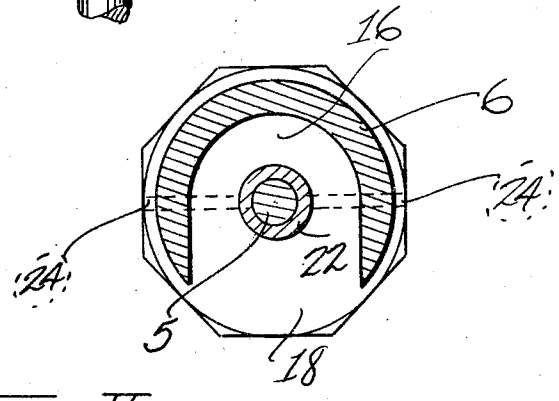


Fig. II.

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Patented Sept. 27, 1932

1,879,478

UNITED STATES PATENT OFFICE

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STUFFING BOX

Application filed February 5, 1930. Serial No. 426,085.

This invention relates to improvements in stuffing boxes and has particular reference to a stuffing box for use with oil wells or other deep wells, and may be employed for either a reciprocating rod or for a rotary rod.

The principal object of the invention is to provide a stuffing box adapted to be attached to the upper portion of the well casing, which stuffing box may be packed during the pumping operation of the well.

A further object is to produce a stuffing box which is economical to manufacture, simple in construction, highly efficient in use, and one which may be readily assembled.

A still further object is to provide means whereby the packing may be quickly adjusted so as to increase the compressive force.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure I is a side elevation of my device partly broken away so as to show the mechanism thereof, and

Figure II is a cross section taken on the line 2—2 of Figure I.

In deep wells there is a polish rod which extends down into the well and which rod is reciprocated for the purpose of actuating the pump plunger near the bottom of the well. This polish rod passes through a stuffing box secured to the top of the well casing and heretofore as far as applicant is aware of it has been necessary to shut down the well during the act of repacking the stuffing box. Applicant has devised a means whereby this packing may be accomplished without shutting down the operation of the well and he accomplishes the same in a novel manner.

In the accompanying drawing wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates the ordinary polish rod which extends from the pump rigging into the well. Surrounding this polish rod is a casting 6 having a tapered threaded lower portion 7 which is adapted to threadedly engage the top of the well casing not shown. The upper end of this casting is also threaded as shown at 8 so as to receive a compression nut 9 which is provided with ears 11 and 12 to which are hingedly secured operating levers 13 and 14 respectively. The casting 6 is centrally bored and within which is placed packing material 21. The central bore has formed near its upper end an annular ring 17, the lower surface of which is formed at right angles to the wall of the bore while the upper surface tapers toward the wall of the bore.

An opening 18 extends through the casting 6 and communicates with the bore 16 the purpose of which will be later seen. A compresser 19 is carried in the compression nut 9 and has its lower extremity so formed as to enter the bore 16 so as to compress the packing material 21. A tapered bushing 22 is mounted upon the polish rod and has its lower extremity extending into a slot 23 formed in the casting 6 and held therein as by set screws 24. This bushing 22 has a ledge 26 which ledge is formed above the opening 18 and so as to lie within the bore 16. It will be noted that the compression nut 9 when in contact with the compresser 19 provides a well 27 into which oil may be placed for the purpose of lubricating the polish rod 5.

The operation of my device is as follows:—

Assuming that the same has been attached to a pump in operation all the parts will remain stationary with the exception of the polish rod 5 which passes back and forth therethrough. By moving the handles 13 and 14 to a horizontal position the compression nut may be rotated so that the compresser 19 will force the packing 21 forth into the bore 16, past the annular shoulder 17 and into the space between the bushing 22 and the wall of the bore, the result being that when it engages the shoulder 26 it will have served its useful purpose and will be expelled into the space below the shoulder from which space it can be withdrawn through the opening 18. By loosening the nut 9 and raising

the same more packing material may be inserted in the bore and at the same time the shoulder 17 will prevent the packing within the bore from rising and consequently a leakage will occur around the polish rod.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:—

In a stuffing box of the character described, a casting, said casting having a bore formed therein, a bushing positioned within said bore, a shoulder formed on said bushing, a shoulder formed within said bore and integral with said casting, means for forcing a packing into said bore so as to be positioned between said shoulders, said means including a compressor movable into said bore, a nut threadedly engaging said casting for the purpose of moving said compresser into said bore and handles adapted to be moved to a horizontal position for rotating said nut.

In testimony whereof I affix my signature.

CHARLES LEROY PRUIETT.