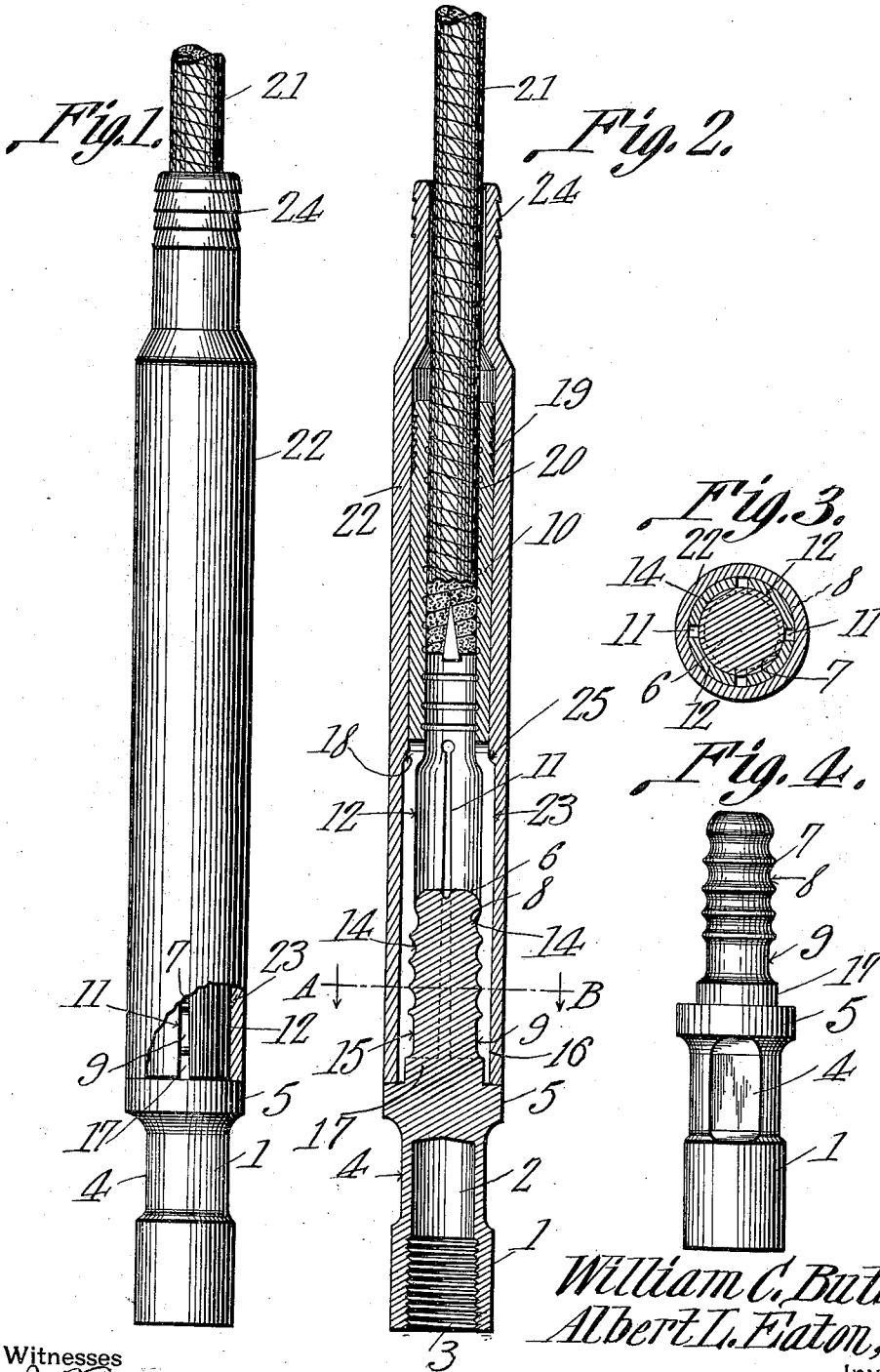


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 ROPE SOCKET FOR OIL WELLS.
 APPLICATION FILED MAY 11, 1910.

991,196.

Patented May 2, 1911.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM C. BUTLER AND ALBERT L. EATON, OF SISTERSVILLE, WEST VIRGINIA.

ROPE-SOCKET FOR OIL-WELLS.

991,196.

Specification of Letters Patent.

Patented May 2, 1911.

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To all whom it may concern:

Be it known that we, WILLIAM C. BUTLER and ALBERT L. EATON, citizens of the United States, residing at Sistersville, in the county of Tyler, State of West Virginia, have invented a new and useful Rope-Socket for Oil-Wells, of which the following is a specification.

The device forming the subject matter of this application is adapted primarily to be employed as a component part of a pumping outfit for an oil well. In operating an oil well, it frequently happens that the plunger of the pump becomes immovable in the well, and under such circumstances, the disconnection of the pumping rope and the plunger, is a matter of considerable difficulty.

It is the object of this invention to provide a device whereby a rope may readily be connected with a tool of any sort employed in a well, such for instance as the movable element of a pump, the construction being such that should the tool or pump element become wedged and bound in the well, the device may be manipulated to free the end of the rope, so that the rope may readily be drawn out of the well without cutting the rope, the operation of cutting the rope at a point well down within the earth, being a matter of considerable difficulty.

The drawings show typical embodiments merely, and it is to be understood that changes, properly falling within the scope of what is claimed, may be made without departing from the spirit of the invention.

In the accompanying drawings,—Figure 1 shows the invention in side elevation, parts being broken away; Fig. 2 is a vertical longitudinal section; Fig. 3 is a transverse section upon the line A—B; and Fig. 4 is a side elevation of the body of the device.

The body 1 of the device is chambered at its lower end, as denoted by the numeral 2, the chamber being threaded, as at 3, for connection with a pump element, or with a tool. Upon its exterior, the body 1 is provided with wrench faces 4, whereby the body 1 may be rotated. Intermediate its ends, and above the wrench faces 4, the body 1 is provided with an outstanding annular shoulder 5. The shank 6 of the body is provided with a plurality of circumscribing ribs 7, defining between them recesses 8. The recess 9 which is located adjacent the shoulder 5 is considerably broader than the other recesses 8. The device further in-

cludes a sleeve 10, the sleeve being split, as at 11, at its lower end, to define a plurality of resilient arms 12. Extended transversely of the arms 12, and located in the interior of the sleeve 10, are ribs 14, adapted to register in the recesses 8 of the body 1. The rib of the sleeve 10 which is located adjacent the lower end thereof, is somewhat broader than the other ribs, as shown at 15, this rib 15 being adapted to register in the recess 9 of the body 1. At its lower end, the bore of the sleeve 10 is enlarged as at 16, to receive the lower end 17 of the shank 6 of the body 1. At its upper end, the sleeve 10 is provided with a plurality of annular, circumscribing ribs 19, and intermediate the upper and lower ends of the sleeve 10 there is a shoulder 18, formed by a slight enlargement in the diameter of the lower portion of the sleeve. Into the opening 20 in the upper end of the sleeve, the operating rope 21 is adapted to be inserted, and to be secured in any desired manner. A tubular member 22 is provided, the bore of which is enlarged at its lower end as at 23, defining a shoulder 25, against which the shoulder 18 of the sleeve 10 is adapted to abut. At its upper end, the tubular member 22 is surrounded by a plurality of ribs 24, each of which presents a face disposed substantially perpendicular to the axis of the device.

The operation of the device is as follows: A wrench may be applied to the faces 4 of the body 1, the body being rotated, so that its threaded portion 3 will engage the tool or pump element which is to be inserted into the well. The lower end of the sleeve 10 is then slid over the upper end or shank 6 of the body 1. The rope 21 is threaded through tubular member 22 and secured in the upper end of the sleeve 10. The tubular member 22 may then be slid downwardly, compressing the resilient arms 12 of the sleeve, and causing the interengaging elements 7 and 14 to cooperate with each other, the tubular member being thrust downwardly into abutment with the outstanding shoulder 5 of the body 1, and the lower ends of the arms 12 being likewise in abutment with the shoulder 5. The tubular member 22 will thus be wedged upon the outside of the sleeve 10, the angular ribs 19 of the sleeve engaging the upper portion of the bore of the tubular member 22. When the parts are thus assembled, the tool or pump element may be lowered into the well.

Should it be necessary to remove the supporting element 21, without removing the tool with which the rope is connected a grab tool may be slid down the rope, and made
5 to engage the ribs 24 of the tubular member 22. The tubular member 22 may thus be slid upwardly, to a point well above the sleeve 10, thus setting free the resilient arms 12 of the sleeve, the sleeve, in its turn, being thus freed from the body 1 of the device. The full length of the operating rope 21 may then be drawn upwardly, carrying with it the sleeve 10 and the tubular member 22, the rope being thus set free readily
10 from the body 1 and the pump element or tool which is wedged in the bottom of the well.

Having thus described the invention what is claimed is:—

20 A device of the class described comprising a body adapted to receive a tool and provided with an outstanding shoulder; a

tubular sleeve having spring arms at one end adapted to be compressed upon the body, the body and the arms having interengaging elements permitting a rotation of the body, but preventing relative longitudinal movement between the body and the sleeve; and a tubular member freely slidable upon the sleeve into abutment with the shoulder 30 to compress the arms; the tubular member and the sleeve being open ended to permit a supporting element to extend through the tubular member into engagement with the sleeve. 35

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM C. BUTLER.
ALBERT L. EATON.

Witnesses:

ISAAC N. HOLLAND,
CLYDE B. HULBERT.

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