

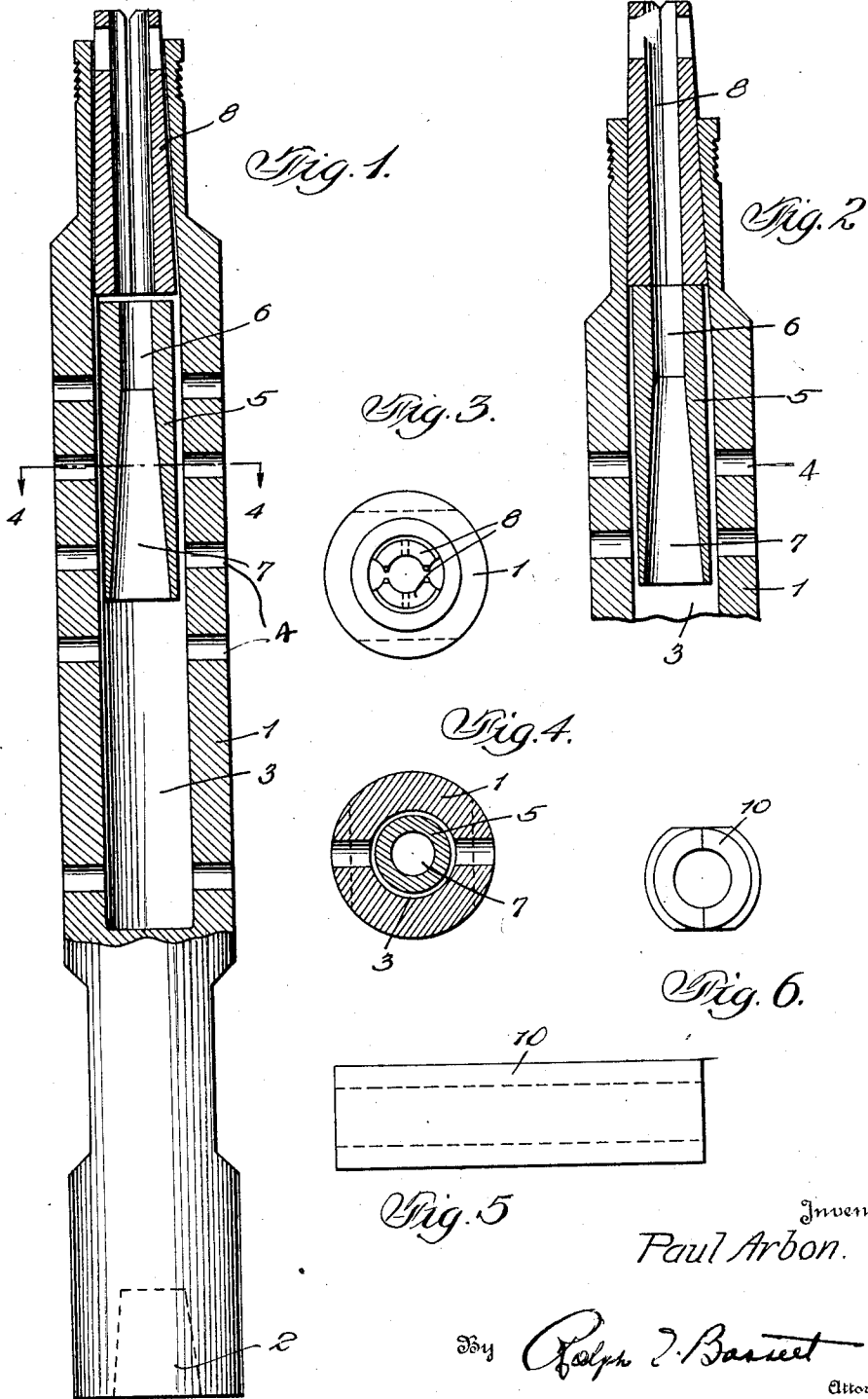
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1,658,472

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SOCKET

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SOCKET.

Application filed January 14, 1926. Serial No. 81,263.

This invention relates to certain improvements in swivel jar sockets which are utilized in the construction or drilling of oil wells and the like and contemplates certain changes in the construction of that type of socket shown in Letters Patent Nos. 1,073,469 and 1,073,470, dated September 16, 1913, and No. 1,107,889, dated August 18, 1914, and 1,045,883, dated December 3, 1912.

In that type of socket shown in the Burns patents supra, a side hole arrangement is provided whereby the wire rope is introduced through the neck of the socket and out through the side hole. The arrangement of the side hole obviously materially decreases the strength of the socket and also permits the swivel escaping through same to become lodged between the socket and the casing. The construction of the present device eliminates the foregoing objection and also provides solid metal between the box of the socket and the swivel which provides a dry joint and prevents the battering of the pin.

In addition to the foregoing the present arrangement enables the examination of the swivel without the breaking of the joint.

With the foregoing and other objects in view attention is directed to the following specification and claims and particularly to the annexed drawing wherein like numerals of reference designate corresponding parts throughout the several views in which:

Figure 1 is a side elevation with parts broken away in section.

Figure 2 is a vertical sectional view through the upper portion of the socket with the parts seated in position.

Figure 3 is a top plan view.

Figure 4 is a section on line 4-4 of Figure 1.

Figure 5 is a side elevation showing a modified form of slips utilized where a swivel action is not desired, and

Figure 6 is an end view of same.

In the present illustration the socket body 1 is of conventional shape including the lower internally threaded box 2 tapered upwardly to receive the tapered threaded end of a stem or the like. An axial cylindrical bore 3 extends from the upper end of the socket body downwardly a sufficient distance to accommodate the cable swivel movement. The chamber formed by the axial bore 3 is

drained by the perforations 4 arranged in suitable series as may be found necessary.

A swivel head 5 is arranged to carry the cable extremity and is positioned normally within the chamber formed by the bore 3. This bore may be of gradually reduced diameter upwardly throughout its entire length or only for a portion of its length at the upper end to permit engagement of the locking means for the swivel. This means comprises a sectional frusto-conical hollow slip 8, each section of which is substantially identical, and it is of such formation as to create when assembled a tapered slip as more clearly shown in Figure 2. In the present illustration the slip body 8 merely comprises two sections which will be found sufficient in the usual conventional structure. The upper extremities of the slip sections are formed with openings 9 to receive a wedge or other tool which may be necessary in releasing the parts.

In actual use when assembling a socket the swivel which has previously been bab-bitted on the line is introduced through the neck of the socket until the upper extremity of the swivel is below the upper end of the socket. The first half of the slip, in the event that same merely comprises two sections, is seated on top of the swivel and the entire arrangement is lowered into the center of the socket until the top of the slip section is sufficiently within the gradually enlarged chamber to permit sufficient play for the passage and positioning of the next section. In the event that the chamber is formed with an internal shoulder to engage the slips then the first slip section can be lowered below this shoulder before the second is placed adjacent thereto. Obviously the manipulation of the various parts will be without difficulty in any way and the loss of an element of the slip will be impossible as the upward movement of the swivel will quickly bring the slip section to within reach of the operator. When both slip sections are in position an upward movement of the swivel will carry both slips to completely fill the neck of the socket. In the removal of the slips the frictional grip can be readily broken by inserting a wedge or the like into the opening formed in one section and resting the wedge on the upper edge of the

socket body to prevent inward movement of said section, while the other section can be driven into the chamber.

It frequently happens that the operator does not want to swivel and in this event the swivel can be eliminated and the slips shown in Figures 5 and 6 utilized. When these slips are used without the swivel the end of the cable located within the slips may be enlarged, increased in size or knotted in any desired manner so as not to be withdrawable through the slips.

The present construction is subject to numerous minor changes in details such as the tapering of the upper extremity of the axial bore for the engagement with the tapered face of the slip. Such details will depend upon the size and use of the socket and requirements of the operator.

What I claim as new and useful and desire to secure by Letters Patent is:

1. The combination with a rope socket adapted at its lower end to connect with well tools and at its upper end formed with a concentric elongated chamber having a tapered wall portion, a swivel, and a clip closing said chamber comprising a tubular sectional body having a tapered outer face for engagement with the tapered wall portion of said chamber, the sections of the slip being provided with openings accessible from the upper end of the socket for engaging a releasing tool.

2. The combination with a rope socket body formed with an axial bore extending downwardly from the upper end with the upper portion of said bore tapering upwardly, a swivel head for the extremity of a cable arranged in said bore, and a tubular slip for closing said bore, said slip being formed of a plurality of tapered sections

and at least one of the sections being provided with an opening accessible from the upper end of the socket for the reception of a releasing tool.

3. The combination with a rope socket body formed with an axial bore extending downwardly from its upper end with the upper portion of said bore tapered upwardly, a swivel head for the extremity of a cable arranged in said bore, and a tubular slip for closing said bore, the said slip being formed of a plurality of sections which are provided with openings accessible from the upper end of the socket for engaging a releasing tool.

4. The combination with a rope socket body formed with an axial bore opening through its upper end and sectional means wedged in said bore for holding the extremity of a cable secured to the socket body, said sectional means having at least one of its sections formed, at a point exteriorly of the socket, to receive a releasing tool.

5. The combination with a rope socket body formed with an axial bore opening through its upper end, a swivel head for the extremity of a cable arranged in said bore and means secured in the bore and loosely bearing against the outer end of the swivel head for preventing the withdrawal of the latter; the said socket body being formed with a series of perforations communicating with the said bore and part of which are in transverse alignment with the normal position of the swivel head, and the said swivel head being small enough in diameter so as not to fill the bore of the socket body and obstruct the said perforations.

In testimony whereof I affix my signature.

PAUL ARBON.