W. J. SHELDON AND C. H. ALLEN.

SUCKER ROD OR PULL ROD COUPLING.

APPLICATION FILED JUNE 1, 1917.

1,305,311. Patented June 3, 1919.

Fig. 5.

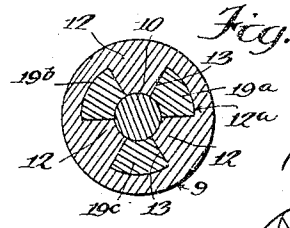


Fig. 1

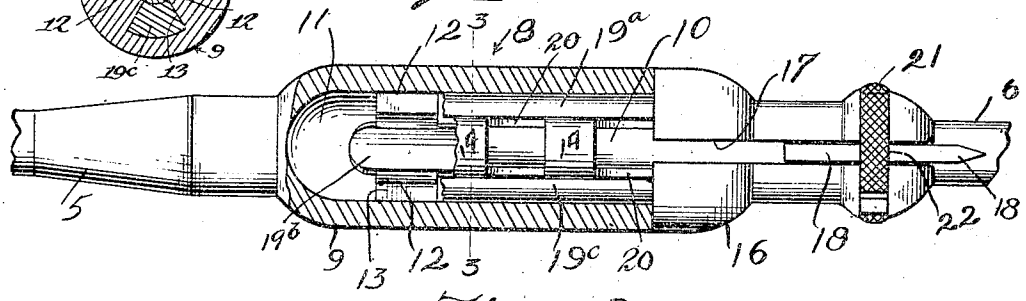


Fig. 2

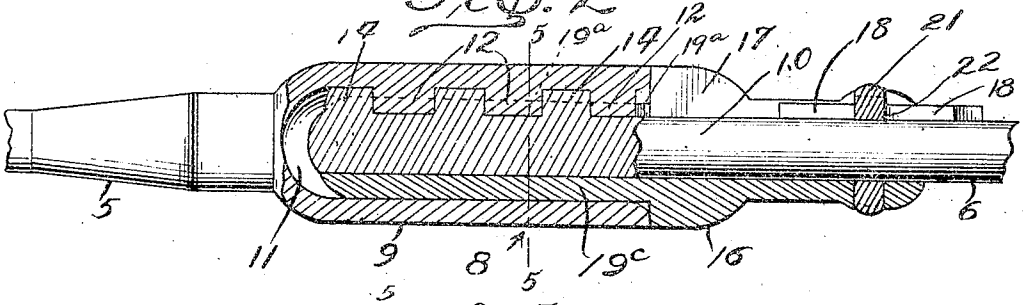


Fig. 7.

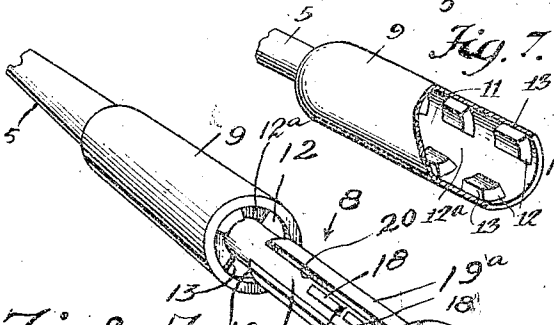


Fig. 4

Fig. 3

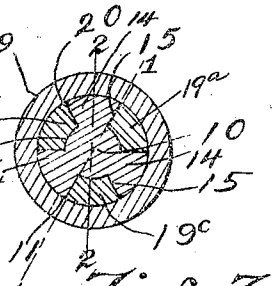
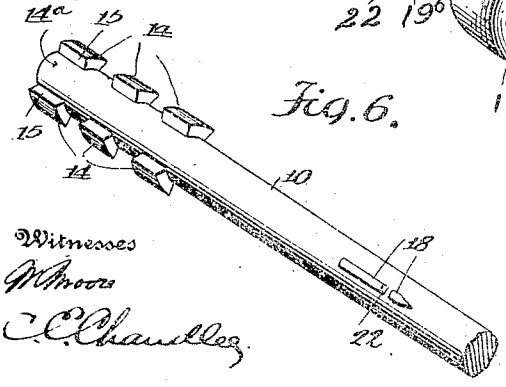


Fig. 6.



Witnesses

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SUCKER-ROD OR PULL-ROD COUPLING.

1,305,311. Specification of Letters Patent. Patented June 3, 1919.

Application filed June 1, 1917. Serial No. 172,312.

To all whom it may concern:

Be it known that we, WARD J. SHELDON and CHARLES H. ALLEN, citizens of the United States, residing at Electra, in the county of Wichita, State of Texas, have invented certain new and useful Improvements in Sucker-Rod or Pull-Rod Couplings; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in couplings and is directed more particularly to a coupling for securely connecting together those sections of rod or pipe which when assembled constitute what is known as the "pull rod" in well drilling operations.

An object of the present invention resides in the provision of a coupling of this character wherein the elements thereof may be conveniently connected and disconnected, means of novel arrangement being provided for releasably securing the coupling in assembled position.

With the above and other objects of similar nature in view, the invention consists in the construction, combination and arrangement of parts, set forth in and falling within the scope of the appended claims.

In the drawing:

Figure 1 is an elevational view of an assembled coupling constructed in accordance with the invention, one member of the coupling being shown in section as indicated by the line 1—1 of Fig. 3.

Fig. 2 is a longitudinal sectional view therethrough.

Fig. 3 is a transverse section taken on the line 3—3 of Fig. 1, and,

Fig. 4 is a fragmental perspective view of the coupling with the locking member withdrawn,

Fig. 5 is a section taken on the line 5—5 of Fig. 2,

Fig. 6 is a fragmental perspective view of one member of the coupling, and

Fig. 7 is a fragmental perspective view of another member of the coupling.

Referring now more particularly to the drawing there is shown at 5 and 6 the adjacent ends of two sections of a pull rod said ends being provided with my improved coupling which is designated generally at 8.

Specifically the coupling 8 consists of the separable elements 9 and 10 which are carried respectively by the sections 5 and 6, the element 9 being of cylindrical formation and provided with a longitudinally extending bore 11. Provided in the bore 11 are a plurality of spaced circumscribing series of lugs 12 the longitudinal side faces of which are tapered or beveled inwardly as shown at 13 on radial lines.

The element 10 of the coupling is of a diameter to pass freely into that portion of the bore of the element 9 inwardly of the lugs 12 and is exteriorly provided with a plurality of spaced circumscribing series of lugs 14 corresponding to the lugs 12 and having their longitudinal faces beveled or tapered similarly thereto as shown at 15. In connecting the elements 9 and 10, the latter is inserted into the former in such manner that the lugs 14 will enter and pass through the spaces 12^a between the lugs 12, the elements being then rotated relatively to each other to bring the lugs 14 behind and in alinement with the lugs 12. This construction constitutes in effect a bayonet joint or connection, the spaces between adjacent lugs in a series corresponding to the slot of such connection and those between each series of lugs corresponding to the transverse slot of the connection, while the lugs 14 correspond to the pins or lugs of the connection. It is evident that when so interlocked the elements 9 and 10 will be held positively against relative longitudinal movement.

In order to secure the coupling elements against relative rotation and consequent disconnection there is slidably engaged upon the element 10 a sleeve 16 which is split longitudinally as shown at 17 for the reception of a guide rib 18 fixed to the element 10, the sides of the split engaging those of the rib so that rotation of the sleeve with respect to the element 10 will be prevented. Formed integrally with the sleeve 16 and extending longitudinally therefrom toward the lugs 14 are a plurality of spaced fingers 19^a, 19^b, 19^c the longitudinal faces of which are beveled as at 20 to enter the spaces 12^a between the lugs 12 and the spaces 14^a between the lugs 14 when the same are disposed in alinement as above described, the fingers passing into said spaces as clearly shown in Fig. 2 and positively preventing entry of the lugs thereinto, so that relative rotation of the elements is in consequence impossible.

While not essential to the effective oper-

ation of the coupling, yet we have in addition mounted upon the sleeve 16 a rotating split ring 21 and have provided in the outer face of the rib 18 a notch 22, said notch and ring, when the sleeve is in operative position being brought into registration, so that by rotating the latter it will enter the notch and thus prevent longitudinal displacement of the sleeve.

From the foregoing it will be evident that we have provided a coupling which when once assembled will be positively held against disconnection while when it is desired to disassemble the coupling this may be quickly and conveniently accomplished as will be readily understood.

What we claim is:

1. A coupling for sucker rods or pull rods, comprising a member having a longitudinal bore and having on the inner face thereof, a series of spaced circumscribing lugs providing communicating longitudinal and transverse slots, another member adapted to enter said bore and provided with a series of peripheral spaced circumscribing lugs slidable first into the longitudinal slots and then into the transverse slots, a sleeve on the second member to abut the first member and conform thereto, said sleeve having spaced longitudinal locking fingers to fit in the longitudinal slots when the lugs are in alinement longitudinally, a guide rib on the second member and having a notch therein, said sleeve being split longitudinally to receive the guide rib therein, and a split ring retained on the sleeve to move into the notch to retain the sleeve on the second member.

2. A coupling for sucker rods, pull rods or the like, comprising separably connected members, one of said members having a longitudinal bore provided upon the face thereof with a series of spaced circumscribing lugs of tapering cross section providing communicating longitudinal and transverse slots, another member adapted to enter said bore and having a series of spaced circumscribing lugs of tapered cross section movable into the longitudinal slots and then into the transverse slots of the first member, a series of spaced longitudinal fingers movable into the longitudinal slots when the lugs are in alinement longitudinally so as to intercept said lugs and transverse slots, said fingers also being of tapering cross section to coöperate with said lugs whereby to snugly fit the bore of the first member and means carried by said fingers and engageable with the second member to hold said parts against relative turning and prevent longitudinal displacement of the fingers.

In testimony whereof we affix our signatures in the presence of two witnesses.

WARD J. SHELDON.
CHARLES H. ALLEN.

Witnesses:
E. R. BROWN,
ADA BROWNING.