P. C. JONES & G. A. STRUB.

ROD COUPLING.

APPLICATION FILED JULY 19, 1911.

1,049,307. Patented Dec. 31, 1912.

Fig. 1

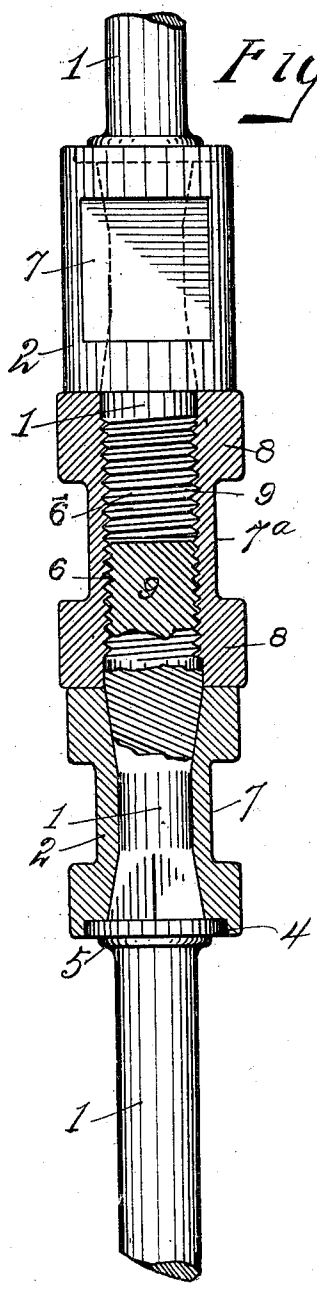


Fig. 3

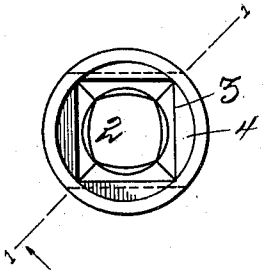
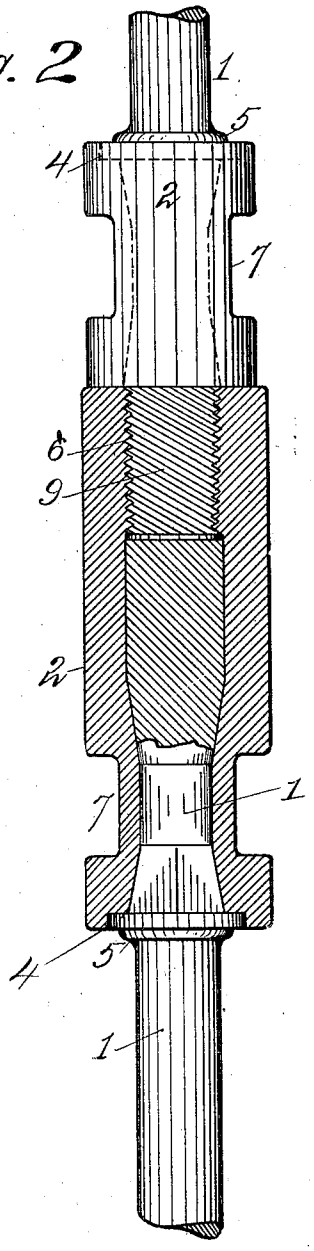


Fig. 2



WITNESSES.

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UNITED STATES PATENT OFFICE.

PERCY C. JONES AND GUSTAVE A. STRUB, OF TOLEDO, OHIO, ASSIGNORS TO THE S. M. JONES COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

ROD-COUPLING.

1,049,307. Specification of Letters Patent. **Patented Dec. 31, 1912.**

Application filed July 19, 1911. Serial No. 639,335.

To all whom it may concern:

Be it known that we, PERCY C. JONES and GUSTAVE A. STRUB, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Rod-Couplings; and we do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to detachable couplings for the meeting ends of rods, and more especially, for the sections of "sucker-rods" such as are used in deep oil wells.

The objects of our invention are to thicken and strengthen the "box" and "pin" which connect the meeting ends of the sucker-rod sections, and to provide convenient means for the application of a wrench in screwing the parts together. We attain these objects by means of the devices and arrangement of parts hereinafter described, and shown and illustrated in the accompanying drawings, in which,—

Figure 1 is a side-elevation of our device in section on line 1—1 Fig. 3; Fig. 2, a like view of the same in modified form, and Fig. 3 a top-plan view of one of the sleeves hereinafter referred to, detached.

Like numerals of reference indicate like parts throughout the drawings.

In the drawings, 1—1 are sections of rods to be connected at their meeting ends. 2—2 are sleeves through the axial bore of which the ends of the rods project. A description of one of these rods and sleeves will suffice for the upper and lower ones in Fig. 1 and the upper one in Fig. 2.

The bore of the sleeve midway of its length is cylindrical and of such diameter as to receive, with a snug fit, the rod 1. The bore of the sleeve at each end flares outwardly and is formed angular in cross section,—preferably square,—as indicated at 3 Fig. 3. The end of the sleeve at which the rod enters is countersunk, as at 4.

The end of the rod being properly heated is slipped through the sleeve 2, as in Fig. 1, and is now, by suitable mechanism, upset at each end of the sleeve so that the cylindrical and angular portions of the sleeve are completely filled by the hot metal and so that the projecting end of the rod is given an increased diameter, as shown. The metal is caused to fill the countersunk portion at the inner end of the sleeve by the upsetting tool which flattens the metal in the countersunk part and at the same time a fillet 5 is formed thus giving the sleeve and rod a suitable finish at this point. As the heated metal contracts longitudinally the squared beveled portions of the rod are drawn inwardly with tremendous force, bringing the sleeve and rod into a union nearly as close as if the parts were integral. The protruding enlarged end of the rod is threaded, as at 6. Two opposite sides of the sleeve are flattened, as at 7, to afford parallel surfaces to be engaged by a suitable wrench. 8 is a "box", the axial bore of which is threaded to receive the two projecting threaded ends or "spins" 9, as illustrated in Fig. 1. The box is also flattened to opposite sides, as at 7^a, for the reception of a wrench. It is now manifest that when the pins 9 are closely set up in the box 8, the rods 1 can never be rotated nor moved longitudinally in their sleeves and that when a line of rods is rotated all of the parts must move together as a whole.

In Fig. 2 the lower sleeve is formed as above described except that its upper end is elongated, the upper end of its bore being threaded to form a box for the reception of the pin of the adjacent rod-section. In the device of Fig. 2 the upper end of the lower rod does not, of course, protrude through the bore of the sleeve, but is enlarged within the bore, as shown, to fill all the cavity save the threaded portion.

What we claim and desire to secure by Letters Patent is,—

1. In a device of the described character, a sleeve having axially therethrough an opening flaring outwardly at its ends, and a rod, the end of which projects through said opening, the rod being upset and enlarged to fill said opening, the projecting end of the rod being also enlarged and threaded as a pin to take the thread of a corresponding box.

2. In a pump rod, a section having a laterally enlarged end terminating in screw threads and a sleeve applied to said pump rod adjacent the laterally enlarged end, said sleeve being provided with a polygonal exterior portion for the application of a manipulating tool.

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

PERCY C. JONES.
GUSTAVE A. STRUB.

Witnesses:
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