June 18, 1935. J. D. PACE 2,005,631

PIPE COUPLING

Filed Sept. 5, 1934

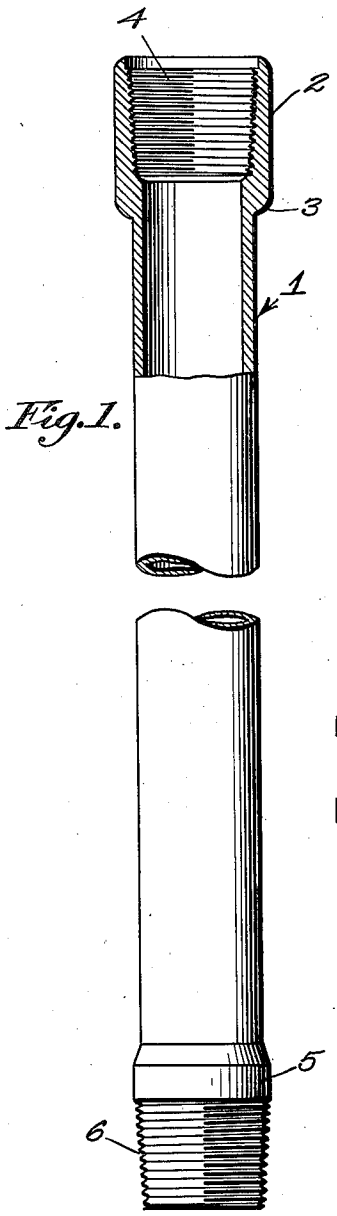


Fig. 1.

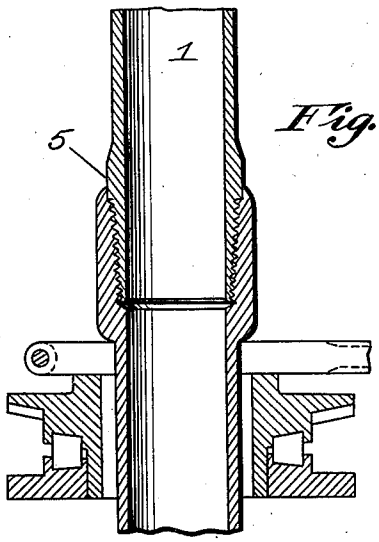


Fig. 2.

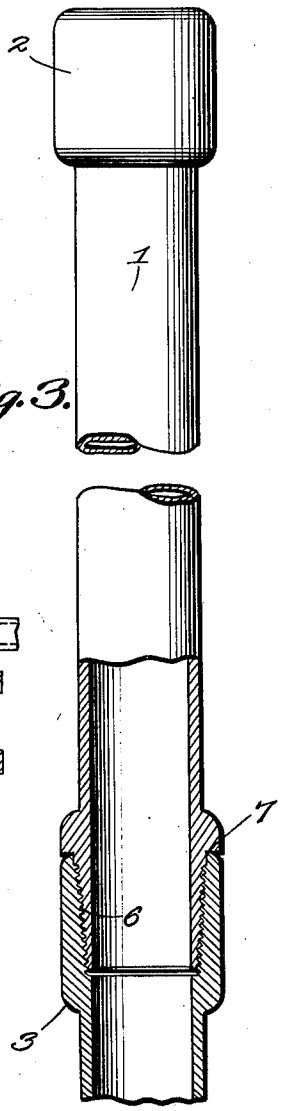


Fig. 3.

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WITNESS:

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PIPE COUPLING

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1 Claim. (Cl. 285—146)

This invention relates to pipe couplings especially adapted for oil well tubing, and has for the primary object the provision of a device of this character which will provide an unobstructed passage therethrough or a passage of the same diameter as the diameter of the tubing whereby free flow of fluid may be had and also will permit various drilling and fishing operations to be successfully carried out through the tubing and provides a coupling which is durable, simple in construction and may be manufactured at a low cost.

With these and other objects in view this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a side elevation, partly in section, illustrating a section of a well tubing constructed at its ends to form a coupling when joined to a correspondingly constructed tubing and forming the subject matter of the present invention.

Figure 2 is a fragmentary vertical sectional view showing the joining of the well tubing sections in accordance with the present invention and also disclosing the association of my invention or coupling with slide tongs and a rotary.

Figure 3 is a side elevation, partly in section, illustrating a modified form of my invention.

Referring in detail to the drawing, the numeral 1 indicates a section of a well tubing, one end of which is enlarged to form a female element 2 of a coupling. The enlargement of the well tubing 1 provides a comparatively wide shoulder 3 and the enlargement is internally screw threaded, as shown at 4. The screw threaded portion of the enlargement tapers from the free end towards the shoulder 3 and the smallest diameter thereof is approximately the same diameter as the interior of the well tubing 1.

The opposite end of the well tubing 1 is enlarged, as shown at 5, and tapers from the enlarged portion towards the free end and is externally screw threaded, as shown at 6, to form the male portion of the coupling. The male portion is adapted to be threaded into the female portion of a similarly constructed well tube section and when said well tube sections are thus connected, as shown in Figure 2, the passageway through the coupling will be of a diameter equal to the interior diameter of the well tubing sections so as to provide free passage through said sections. By employing a coupling of the character described will permit various drilling and fishing operations to be successfully carried out through the well tubing sections without danger of becoming hung or caught within the coupling.

The comparatively wide shoulder 3 provided on the well tubing section provides a very efficient rest for tongs of a rotary to engage without danger of the tubing wedging into the tongs.

Referring to my modified form of invention, as shown in Figure 3, the male end of the well tubing is provided with a shoulder 7 to be abutted by the female portion when threaded onto the male portion. In the form of the invention shown in Figure 1, the enlargement 5 is minus the shoulder 7 and the female portion of the coupling overlaps the enlargement 5, as clearly shown in Figure 2.

Having described the invention, I claim:

A string of drill pipe for oil wells comprising a plurality of detachably connected sections of uniform bore, each section being upset at its extremities to enlarge it only externally thereat throughout its circumference, the enlarged portion at one end of each section being internally threaded and at the other end externally threaded, so that the sections may be coupled in end to end relation, the threaded zones defining conical frustums of which the smaller bases are of greater diameter than the bores of the sections, whereby the coupled sections provide a continuous run of drill pipe having a bore of uniform diameter throughout its length.

JEFFERSON D. PACE.