

No. 634,114.

Patented Oct. 3, 1899.

J. F. W. KUEHN & P. WOHLFAHRT.
COUPLING FOR WELL DRILLING TOOLS.

(Application filed Nov. 22, 1898.)

(No Model.)

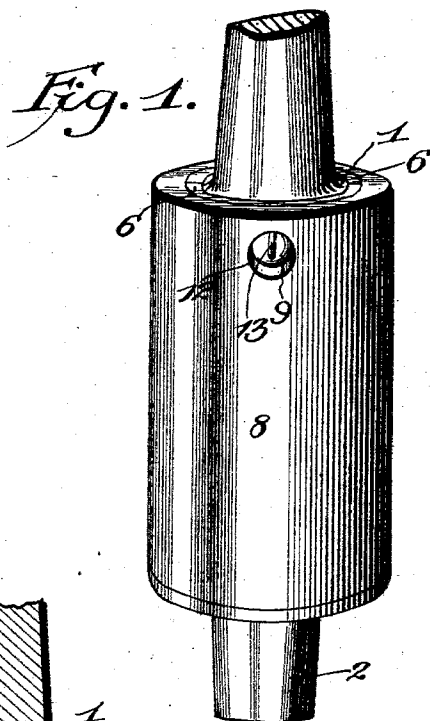


Fig. 2.

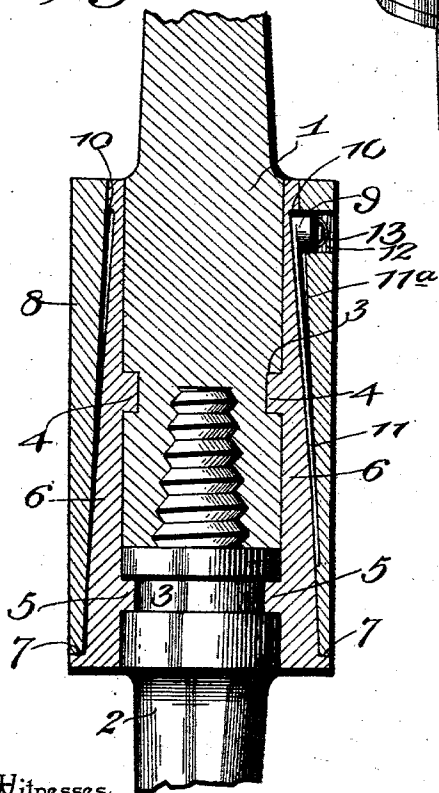


Fig. 3.

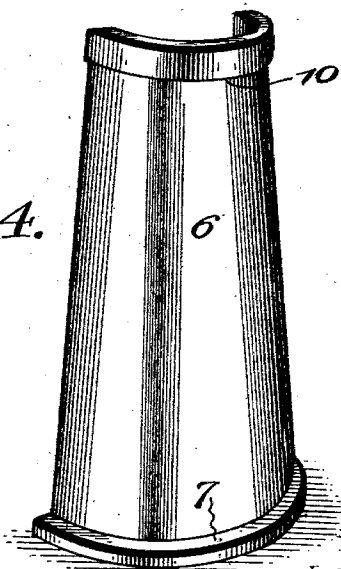
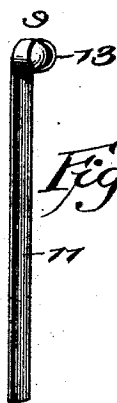


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JOACHIM F. W. KUEHN AND PAUL WOHLFAHRT, OF SAN ANTONIO, TEXAS.

COUPLING FOR WELL-DRILLING TOOLS.

SPECIFICATION forming part of Letters Patent No. 634,114, dated October 3, 1899.

Application filed November 22, 1898. Serial No. 697,188. (No model.)

To all whom it may concern:

Be it known that we, JOACHIM F. W. KUEHN and PAUL WOHLFAHRT, citizens of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Coupling for Well-Drilling Tools, of which the following is a specification.

Our invention relates to couplings for well-drilling tools, and particularly to a device whereby the thread-box and pin of a drilling-tool may be securely connected to prevent detachment and lost motion during operation, the object in view being to provide a coupling of which the members may be readily attached and as easily detached to allow the disconnection of the pin from the thread-box, but which when in place serves to prevent independent movement of said parts, and hence retain them in operative relation.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a coupling constructed in accordance with our invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a detail view in perspective of one of the inner sleeve-sections. Fig. 4 is a similar view of the spring-actuated lock or catch detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the construction illustrated, 1 designates a thread-box of the ordinary construction, to which is attached a pin 2, each of said elements, however, being provided with an annular channel or groove 3 for the reception of internal ribs 4 and 5, formed upon an inner sleeve 6, which embrace the contiguous portions of the thread-box and pin and breaks the joint therebetween, said engaged ribs and channels forming an interlocking connection between the sleeve 6 and the thread-box and pin, as clearly indicated in Fig. 2. In order that the engagement of the interlocking elements may be attained with facility, the sleeve 6 is constructed of sections provided upon a longitudinal plane and forming halves which are adapted to be brought

into contact with the thread-box and pin from opposite directions. Said sleeve is exteriorly tapered, preferably toward its upper end, the taper terminating at its lower end in a shoulder 7, and removably fitted upon the sleeve is an exterior sheath 8, having a tapered bore to fit the tapered exterior surface of the sleeve and adapted to rest at its lower edge upon the shoulder or stop 7. Obviously when the sheath is fitted upon the sectional sleeve the parts of the latter are held in their operative positions with relation to the inclosed portions of the thread-box and pin, and by providing means for preventing the axial displacement of said sheath it is possible to produce a coupling adapted to prevent the accidental disconnection of the pin from the thread-box. In the construction illustrated the form of lock or catch employed for maintaining the sheath in place consists of a button or head 9, yieldingly held in position to engage a shoulder 10 on the sleeve, said shoulder being continuous throughout the two sections or members of the sleeve and being formed at the upper end of a reduced portion of the sleeve, whereby when the button or head is in its normal position it occupies a position near the surface of the reduced portion of the sleeve, and hence the shoulder 10 is in the path of the button or head to resist an axial movement of the sheath. Also the button or head 9 is yieldingly held in its normal or engaging position by means of a flat spring 11, secured in a groove 11^a in the inner surface of the sheath, and hence removable therewith, and the button is disposed in alignment with and preferably projecting slightly into an access-opening 12, which extends from the inner surface of the sheath to its outer surface. The button is provided with a loop or finger-hold 13, whereby it may be grasped to draw the button outwardly in opposition to the tension of the spring 11 to disengage it from the shoulder 10, and thus allow the removal of the sheath and the separation of the sleeve sections or members.

It is obvious that after placing the sleeve-sections in operative relation with the drill members the sheath may be slipped axially into place and locked by the automatic inward movement of the button and that when it is desired to disengage the drill members

it is necessary simply to draw out the button manually, move the sheath axially in the opposite direction, and displace the sleeve-sections.

5 Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

10 Having described our invention, what we claim is—

1. The combination with axially - alined drill members coupled together by the ordinary exteriorly-threaded pin and the interiorly-threaded box, an annular-groove3 provided on each of the members, a sectional sleeve provided with interior ribs 4 and 5 to engage with the said grooves, a sheath fitted concentrically upon the sleeve, and means for
20 holding the sheath from movement in either direction, substantially as described.

2. The combination with axially - alined drill members, of an exteriorly-shouldered sectional sleeve embracing the contiguous
25 ends of said drill members and having an interior interlocking connection therewith, and also having an upwardly-tapered exterior surface, an interiorly-tapered sheath fitted exteriorly upon the sleeve, a stop carried by

the sleeve-sections contiguous to their lower 30 ends for limiting the downward movement of the sheath with relation thereto, and locking devices carried by the sheath for engaging a shoulder of the sleeve to prevent upward displacement of the sheath, substantially as 35 specified.

3. The combination with axially - alined drill members, of a sectional sleeve embracing the contiguous ends of said drill members and having an interlocking connection there- 40 with, said sleeve-sections being provided with an annular shoulder, a sheath fitted exteriorly upon the sleeve and provided in its wall with an opening, and a spring-actuated button carried by the sheath in alinement 45 with said opening, and provided with a finger-hold accessible therethrough, said button being adapted for engagement with the said shoulder of the sleeve-sections, substantially as specified. 50

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

JOACHIM F. W. KUEHN.

PAUL WOHLFAHRT.

Witnesses:

CHARLES COHEN,
MONROE ADLER.