C. C. HANSEN.

COUPLING FOR DRILL STEELS.

APPLICATION FILED JUNE 6, 1908.

934,069. Patented Sept. 14, 1909.

Fig. 1.

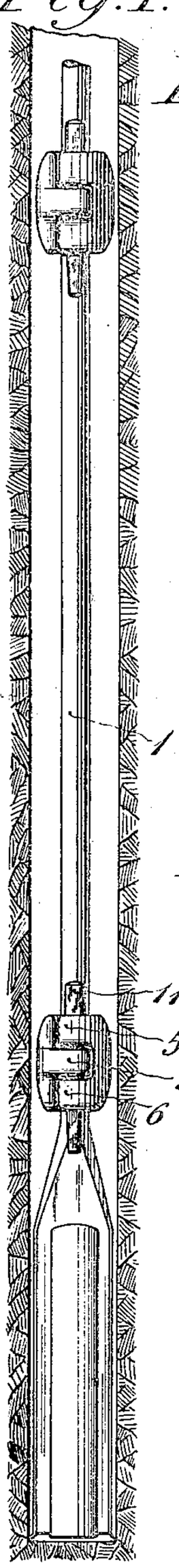


Fig. 2.

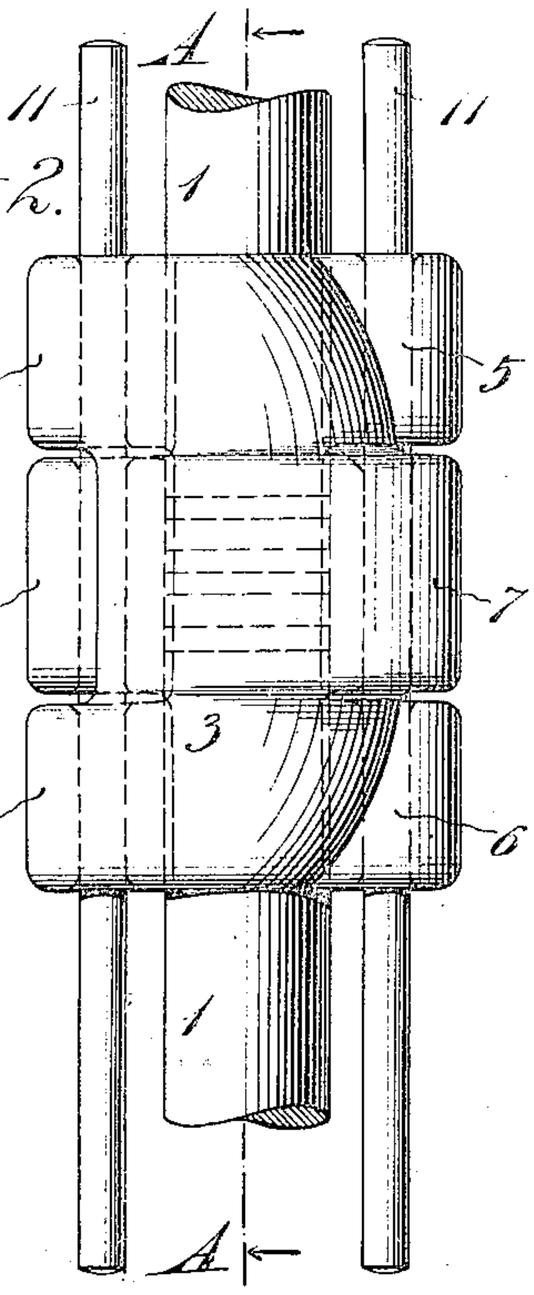


Fig. 3.

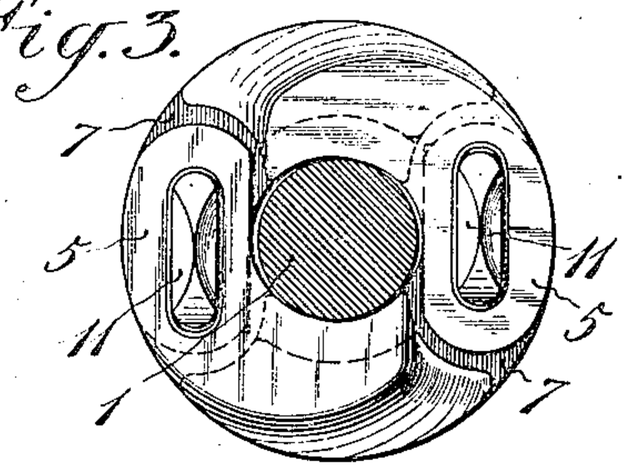


Fig. 4.

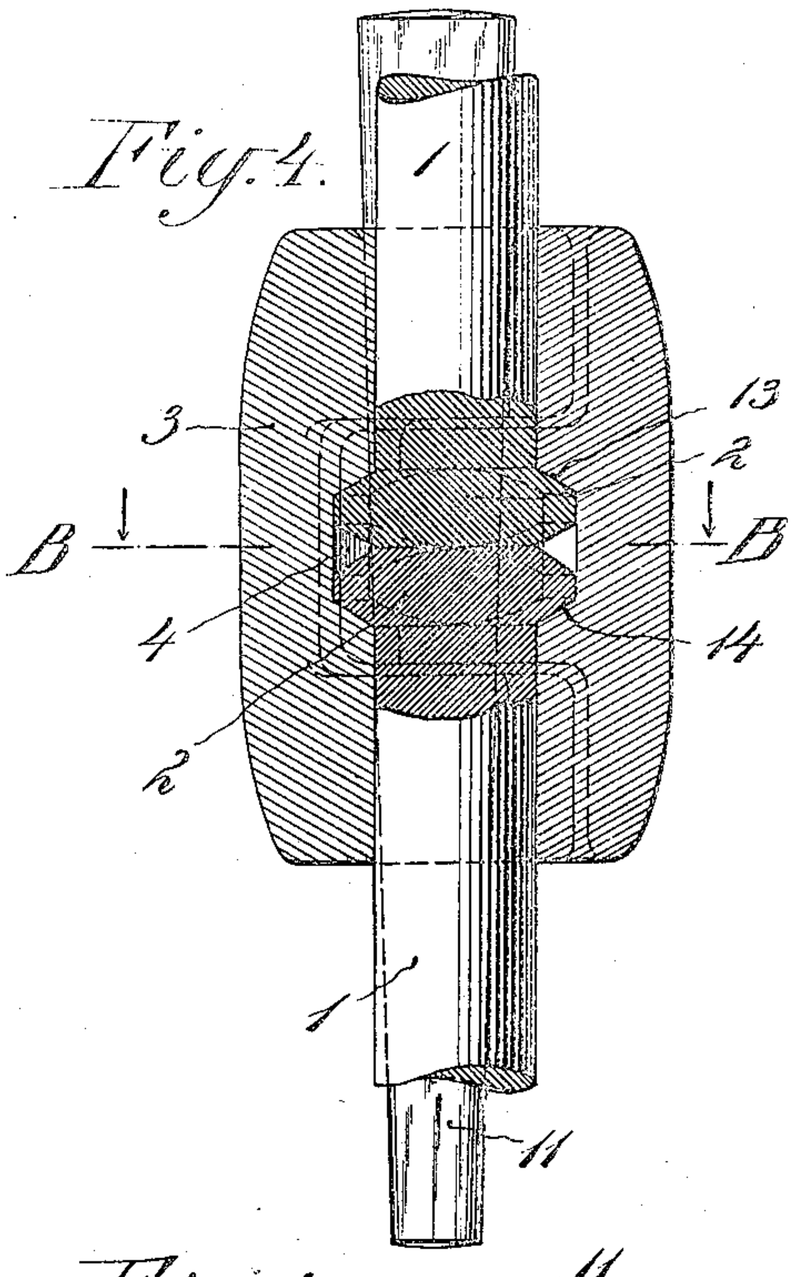


Fig. 5.

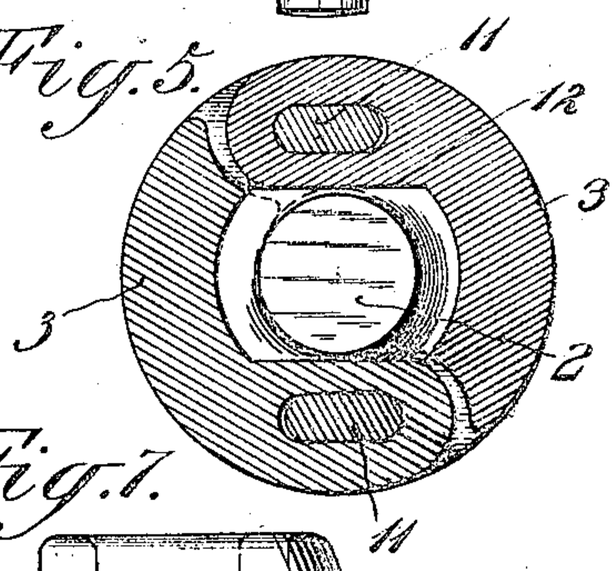


Fig. 6.

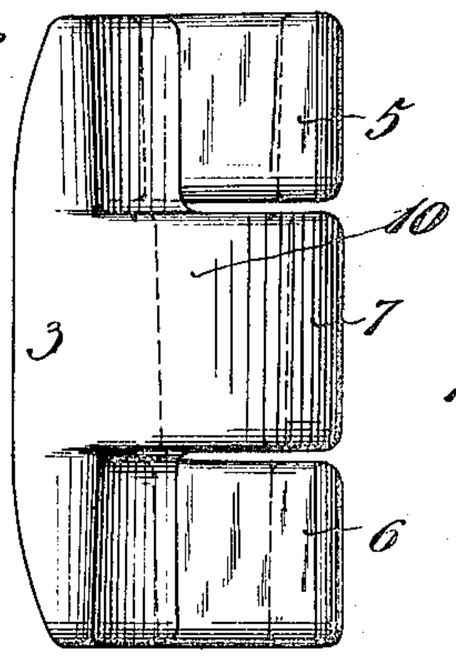
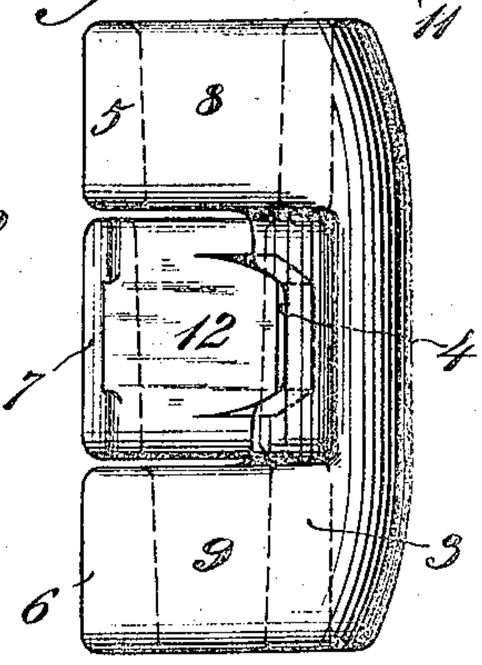


Fig. 7.



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UNITED STATES PATENT OFFICE

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COUPLING FOR DRILL-STEELS.

934,069. Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed June 6, 1908. Serial No. 437,171.

To all whom it may concern:

Be it known that I, CHARLES C. HANSEN, a citizen of the United States, and resident of Easton, in the county of Northampton and State of Pennsylvania, have invented a new and useful Improvement in Couplings for Drill-Steels, of which the following is a specification.

The object of this invention is to provide a novel coupling for connecting drill steel sections, which coupling is so constructed that it will coact with the drill steel sections to hold the sections rigidly together and yet will permit the ready separation of the said sections when so desired.

This invention is more particularly applicable for use in connection with deep drilling.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents in side elevation, the bit and several sections of an extension steel and their couplings as in use, Fig. 2 is an enlarged detail side view of one of the couplings with the adjacent ends of two drill steel sections clamped therein, Fig. 3 is a top plan view of the same, Fig. 4 is a section taken in the plane of the line A—A of Fig. 2, looking in the direction of the arrows, portions of the adjacent ends of two drill steel sections being shown in section and portions in side elevation, Fig. 5 is a transverse section taken in the plane of the line B—B of Fig. 4, looking in the direction of the arrows, Figs. 6 and 7 are detail views in side elevation, of the two interlocking members of the coupling.

The drill steel sections are denoted by 1 and they are provided at their ends which are to be coupled together with flat sided heads 2. These heads are composed of segmental flanges tapered toward their curved peripheries so as to be engaged by the flaring top and bottom walls of the pockets in the coupling members for forcing the two steel sections into snug engagement as will hereinafter appear.

The coupling comprises two half members 3, each having a pocket 4 and two lugs 5 and 6 projecting from one side and an intermediate lug 7 projecting from the other side of the said coupling member. The two coupling members are interchangeable. When the two members are assembled, the intermediate lug 7 of each member is interposed between the upper and lower lugs 5 and 6 of the other member.

Tapered key slots 8 and 9 extend vertically through the lugs 5 and 6 and a tapered key slot 10 extends through the intermediate lug 7, through which slots the tapered locking keys 11 of the coupling are driven from the top of the coupling upon opposite sides of the drill steel sections for securing the two members in their interlocked adjustment.

The inner face of each of the intermediate lugs 7 is flattened as shown at 12 for engaging the flattened sides of the heads 2 of the drill steel sections thereby preventing any rotary movement of the said steel sections with respect to the coupling.

The top and bottom walls of the pockets 4 are flaring as shown at 13, 14, for engaging the corresponding tapered top and bottom sides of the heads 2 of the drill steel sections so that as the locking keys 11 are driven home the two adjacent drill steels are forced rigidly into engagement with each other.

By the use of the couplings as herein described, it will be seen that the drill steel sections need not be made of too great lengths for easy handling. It will also be seen that the couplings will tend to guide and center the drill steel within the hole being bored and prevent the buckling of the steel. Also, by entering the locking keys 11 from the top of the couplings, it will be seen that the blows of the drill steel bit will tend to still further tighten the coupling.

What I claim is:—

1. Two drill steel sections having flat sided heads at their ends to be coupled, said heads having oppositely arranged tapered shoulders, a coupling comprising two interlocked members having pockets therein provided with flaring top and bottom walls engaging the said tapered shoulders, and locking keys passing through said interlocked members upon opposite sides of the drill steel sections for drawing the heads of the said drill steel sections into snug engagement with each other.

2. Two drill steel sections having flat sided heads at their ends to be coupled, said heads having oppositely arranged tapered shoul-

ders, a coupling comprising two interchangeable interlocking members having pockets therein provided with flaring top and bottom walls engaging the said tapered shoulders and each being provided with upper and lower lugs upon one side and an intermediate lug upon the other side, and locking keys passing through the upper and lower lugs of one of the members and the intermediate lug of the other member for drawing the heads of the drill steel sections into snug engagement with each other.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 4th day of June, 1908.

CHARLES C. HANSEN.

Witnesses:

ARTHUR J. SHIMER,

H. AUGUSTUS. GUILEY.