(No Model.)

J. WALP & C. F. DAUXDATER.

MEANS FOR SECURING WELL BORING DRILLS.

No. 451,788. Patented May 5, 1891.

Fig. 1.

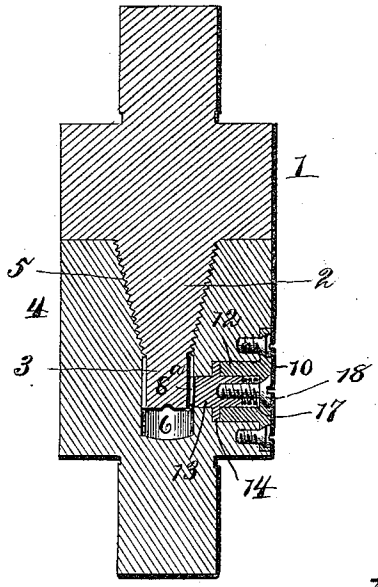


Fig. 2.

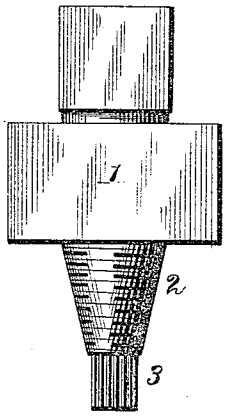


Fig. 3.

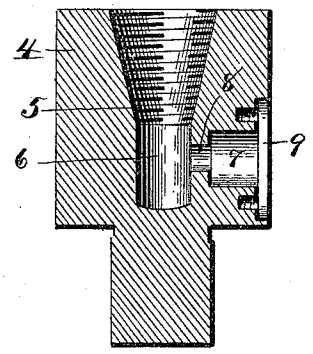
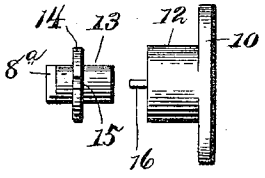


Fig. 4.



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JAMES WALP AND CHARLES F. DAUXDATER, OF LEHIGHTON, PENNSYLVANIA.

MEANS FOR SECURING WELL-BORING DRILLS.

SPECIFICATION forming part of Letters Patent No. 451,788, dated May 5, 1891.

Application filed September 15, 1890. Serial No. 365,023. (No model.)

To all whom it may concern:

Be it known that we, JAMES WALP and CHARLES F. DAUXDATER, both residents of Lehighton, in the county of Carbon and State of Pennsylvania, have invented certain new and useful Improvements in Means for Securing Well-Boring Drills; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to improvements in means for securing well-boring drills to the drill-stocks.

In well-boring apparatus as now ordinarily constructed much injury and loss are frequently sustained owing to the drill becoming detached from the stock during the operation of boring, causing much time, labor, and expense to be expended in grappling for and removing the drill.

Many devices have been devised for securing the drill to the stock in such a manner as to prevent its accidental detachment therefrom, but all are more or less open to objections, which our invention is designed to obviate.

The object of our invention is to provide simple and economical means for connecting the drill with the stock, whereby it is intended to prevent accidental disconnections, while at the same time it can readily be detached when required.

The invention consists in the novel construction and combination of parts hereinafter fully described, and definitely pointed out in the claim.

In the accompanying drawings, Figure 1 is a central sectional view of a drill-stock and a portion of a drill constructed in accordance with our improvements. Fig. 2 is a side elevation of a portion of a drill. Fig. 3 is a sectional view of the drill-stock with the securing-plate detached. Fig. 4 is an elevation of the securing-plate detached.

In the said drawings, the reference-numeral 1 designates a drill having its end which is connected with the stock provided with a conical screw-threaded boss 2 and a serrated or toothed grooved extension 3.

The numeral 4 designates the stock having a conical screw-threaded recess 5, corresponding with the boss 2, and also having a plain recess 6, to receive the extension 3. In the side of the stock, at a point in line with the recess 6, is a transverse recess 7, which communicates with said recess 6 by means of an opening 8. At its outer end said recess 7 is provided with an elongated countersink 9.

The numeral 10 designates the securing device, consisting of an elliptical plate with screw-openings at each end, and a central boss 12, having a spring-actuated plunger 13. The plate 10 corresponds in shape with the countersink 9, while the boss 12 is circular, fitting within recess 7, with the plunger 13 working in the opening 8. This plunger is provided at its inner end with a knife-edge or projection 8^a, to engage with the teeth or serrations of the extension 3. The plunger 13 is provided with an annular flange 14 near its inner end, and having a recess or slot 15, with which engages a stud or pin 16 on the boss 12, whereby said plunger is prevented from rotating within said boss.

17 designates a coiled spring located within said boss and bearing upon the flange 14, the tendency of said spring being to press the plunger toward the center of the stock and into engagement with the serrated or toothed hub 3. The elliptical plate is provided with a central opening for the passage of an adjusting-screw 18, the inner end of which engages with a screw-threaded opening in the plunger.

The operation is as follows: The securing device being placed in proper position, the elliptical plate will be flush with the surface of the stock, so as to prevent any obstacle to the free working thereof. By tightening the screw 18 the plunger will be drawn outward so that the projection 8^a will not project into the recess 6. The drill is now inserted and screwed home, when the toothed extension will lie directly in line with the plunger 13. By loosening the adjusting-screw 18 the spring will force the projection 8^a of the plunger into engagement with the teeth of the exten-

sion, thus preventing it from rotating, and consequently securely holding or connecting the drill and stock without any possibility of displacement until the screw is again tightened to withdraw the projections 8^a from engagement with the toothed extension.

Having thus described our invention, what we claim is—

The combination, with a drill having a screw-threaded boss and a serrated or toothed extension, of a stock provided with recesses to receive said boss and hub, a transverse recess having an opening in its inner end and an elongated countersink at the outer end, a securing-plate having a central boss, a plunger having a projection on its inner end engaging with the serrated extension, and an annular slotted flange, a stud or pin on the boss, and a coiled spring for actuating the plunger, substantially as described.

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

JAMES WALP.
CHARLES F. DAUXDATER.

Witnesses:
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I. S. KOCH.