N. W. HORTON

Drill-Chucks.

No. 161,616. Patented April 6, 1875.

Fig: 1.

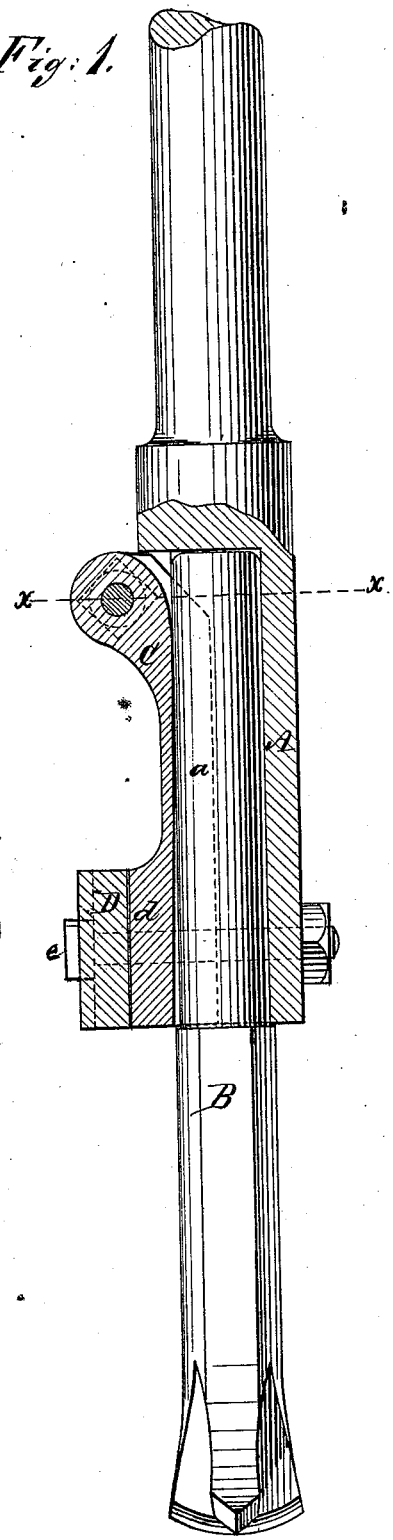


Fig: 2.

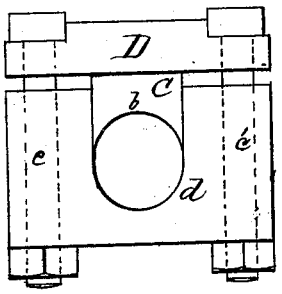
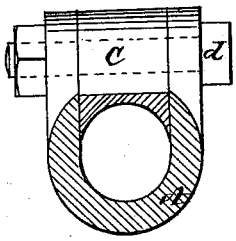


Fig: 3.



Witnesses:

Henry Eichling.

B. B. Clark.

Inventor.

Nathan W. Horton

per J. Peck

his Atty.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

NATHAN W. HORTON, OF NEW YORK, N. Y.

IMPROVEMENT IN DRILL-CHUCKS.

Specification forming part of Letters Patent No. **161,616**, dated April 6, 1875; application filed March 23, 1875.

To all whom it may concern:

Be it known that I, NATHAN W. HORTON, of the city, county, and State of New York, have invented an Improvement in Drill-Chucks, of which the following is a specification, reference being had to the accompanying drawing forming part thereof.

Figure 1 is a side view of my improved drill-chuck, the socket portion of the same being in section with the drill in the chuck. Fig. 2 is a bottom-end view of the chuck with the drill removed; and Fig. 3 is a cross-section of the chuck on the dotted lines *x x*, Fig. 1.

My invention relates to the devices and construction of the chuck herein described, employed to secure the drill in the chuck; and consists in a hinged jaw, which fits into a longitudinal opening or slot made in the wall of the socket of the drill, said jaw being slightly curved lengthwise, so that when swung on its hinge down upon the drill-shank it will touch the same first near the hinge, and then, by force applied by bolts or otherwise at the other end, it will be sprung down into contact with said shank along its entire length.

A is the socket of the chuck. On one side of this socket the wall or side is cut away its whole length, making a longitudinal opening, preferably equaling in width the diameter of the shank of the drill, and of the base of the socket, as shown in Figs. 2 and 3. B is the drill, the shank *a* of which fits snugly into the socket A. C is a jaw, the body of which fits into the said opening in the wall of the socket, its inner face forming one-half of the inner face of the bore of the socket. At its upper end it is hinged between two straight ears, *c* and *c'*, projecting from the body of the chuck. These ears, the head of the jaw C, lying between them, and the bolt *d*, must all be large and strong, as they are subjected to great strain. D is a clamp-plate, lying across the lower end of the jaw C, and *e e'* are two screw-bolts, which pass through the said clamp-plate and the head *d* of the socket, whereby the said clamp-bar is tightened down upon the lower end of the jaw C. The said jaw being slightly curved longitudinally on its inner face, when swung down into its place upon the shank *d* of the drill, it touches the said shank first at the hinged end of the jaw, and then, by the stress of the bolts *e e'*, is sprung down into contact with the said shank along its entire length, thus insuring that a constant pressure of the jaw upon the shank from end to end will be maintained, even though there may happen to be a little looseness or play in the joint of the jaw, which is nearly or quite unavoidable.

I claim—

The combination, in a drill-chuck, of the socket A, the hinged jaw C, slightly curved longitudinally on its its inner face, the clamp-bar D, and bolts *e e'*, as and for the purpose specified.

In witness whereof I have hereunto set my hand this 20th day of March, 1875.

N. W. HORTON.

Witnesses:

B. S. CLARK,

A. S. FITCH.