

D. R. ERDMANN.
BORING DRILL.

No. 47,001.

Patented Mar. 28, 1865.

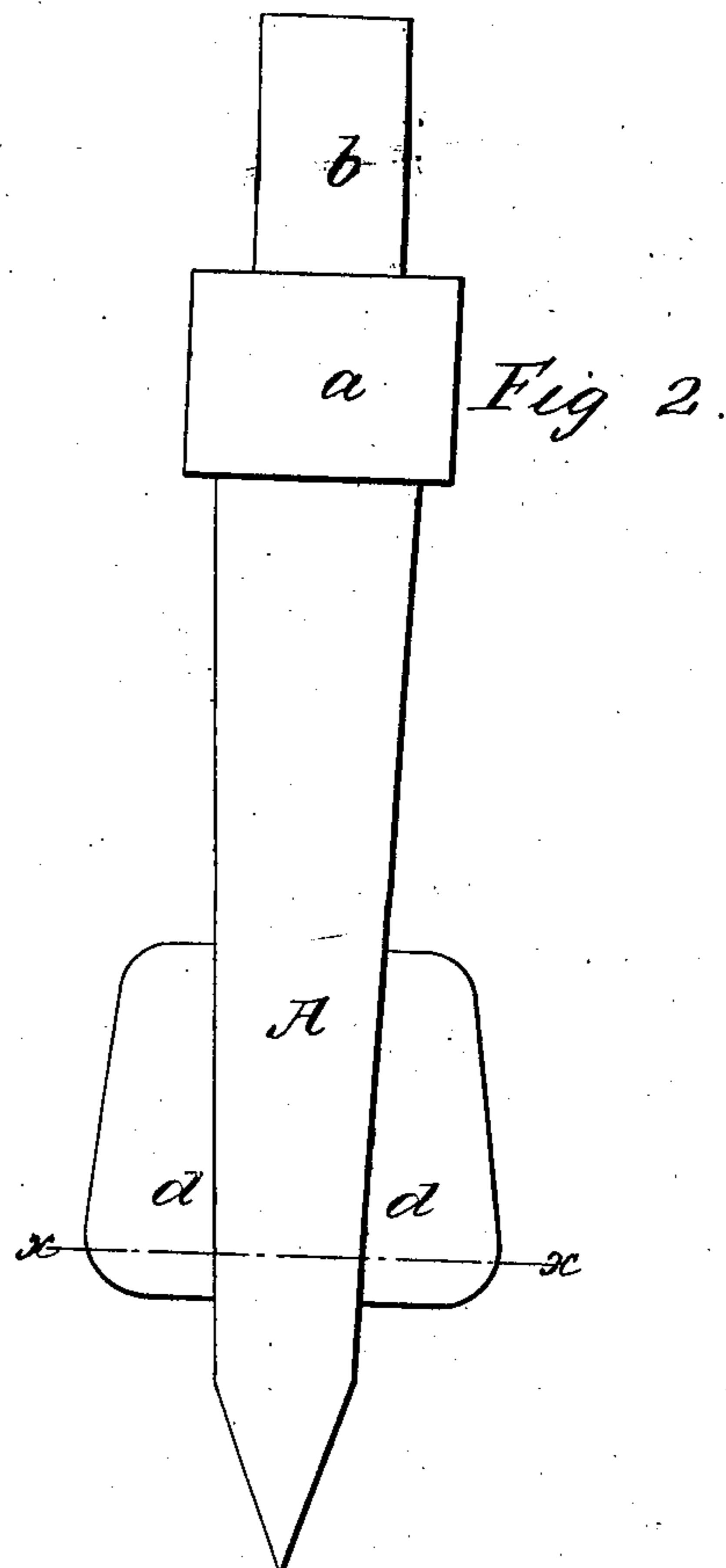
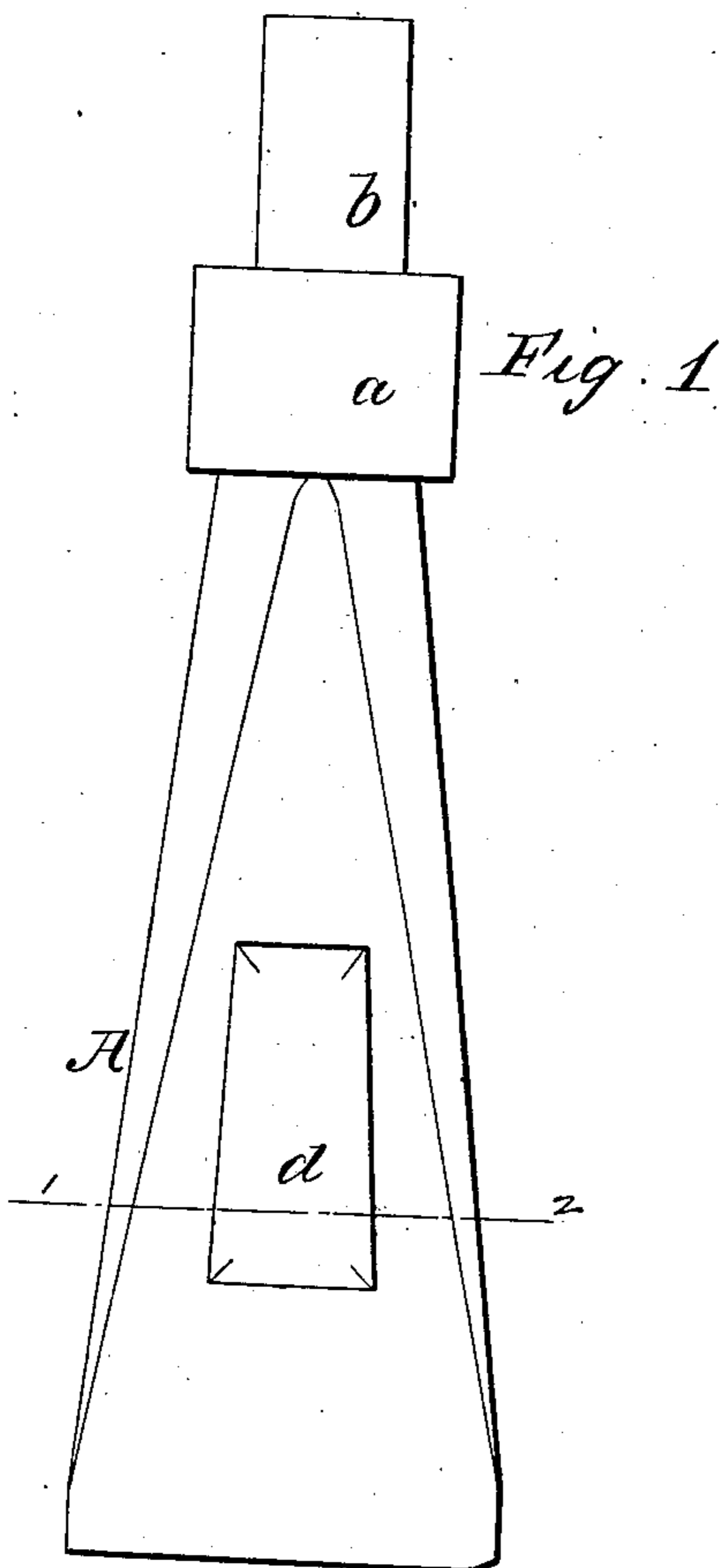
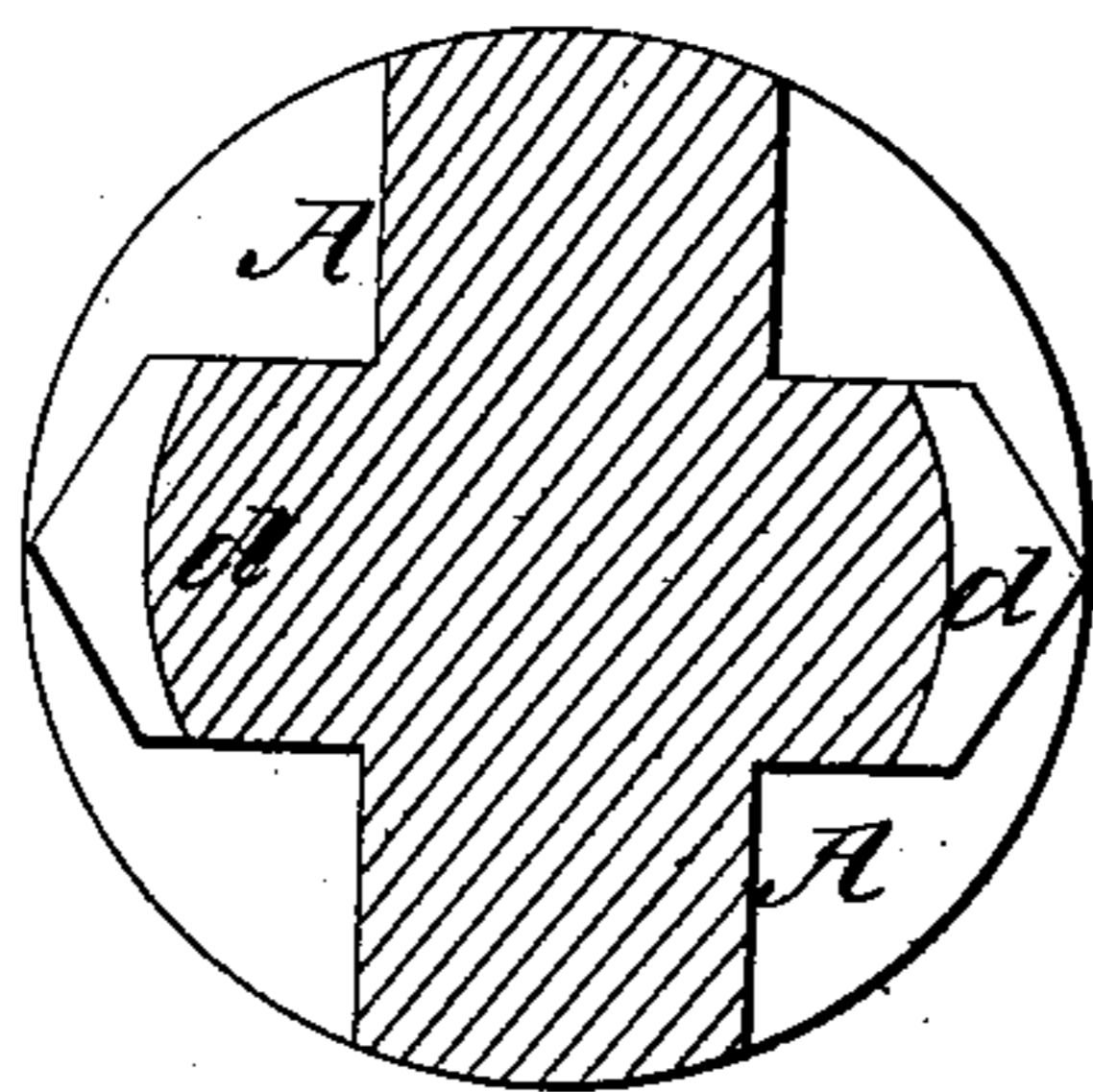


Fig. 3.



Witnesses;
Am. Albert Steel.
Charles Howson

Inventor;
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Atty

UNITED STATES PATENT OFFICE.

DANIEL R. ERDMANN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BORING-DRILLS.

Specification forming part of Letters Patent No. 47,001, dated March 28, 1865.

To all whom it may concern:

Be it known that I, D. R. ERDMANN, of Philadelphia, Pennsylvania, have invented an Improved Well-Boring Drill; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of a drill having projections arranged in respect to the cutting-edge, in the manner described hereinafter, so that the drill may be always maintained in a central position in the bore of the well, and cannot become jammed therein.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a side view of my improved well-boring drill; Fig. 2, an edge view; and Fig. 3, a sectional plan on the line 1 2, Fig. 1.

Similar letters refer to similar parts throughout the several views.

A is the drill, having near the upper end a collar, *a*, and above the latter a stem, *b*, on which may be cut screw-threads for attachment to the lower end of the boring-bar; or the drill may be attached to the latter by any appropriate means. The drill is flattened out so as to taper gradually from the collar *a* toward the lower edge, which is reduced to the chisel shape illustrated in the drawings, a shape similar to that of ordinary drills used for well-boring. These drills are very apt to become jammed or wedged in the well, owing

to the difficulty of maintaining them in a central position, this adhesion of the drills frequently causing much delay in the operation of boring the well, and not unfrequently wells have been abandoned, owing to the impossibility of withdrawing tools which have become jammed at a great depth. In order to obviate these difficulties, I provide the drill with two projections, *d d*, one on each side, which are such that the distance between the points *x x*, Fig. 2, is equal, or nearly so, to the diameter of the bore of the well, and equal or nearly equal to the length of the cutting-edge of the drill, which must be situated between the points *x x*. Owing to the said projections *d d* acting as guides the cutting-edge of the drill must of necessity strike the rock in a line passing through the center of the bore of the well, and its liability to become wedged therein obviated.

I claim as my invention and desire to secure by Letters Patent—

The within-described drill, having projections *d d* arranged in respect to the cutting-edge of the said drill, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL R. ERDMANN.

Witnesses:

HENRY HOWSON,
JOHN WHITE.