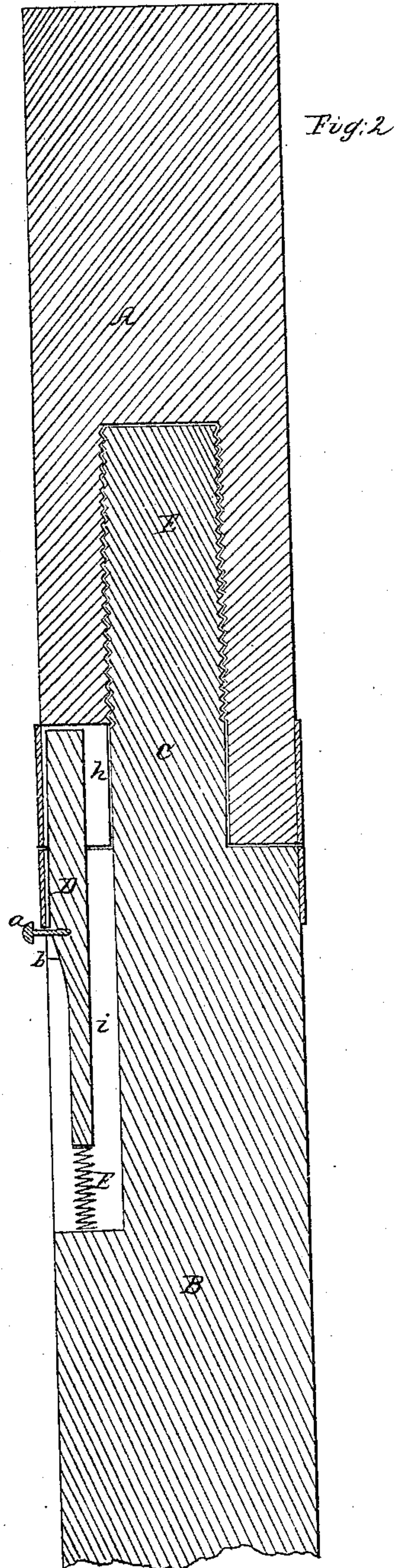
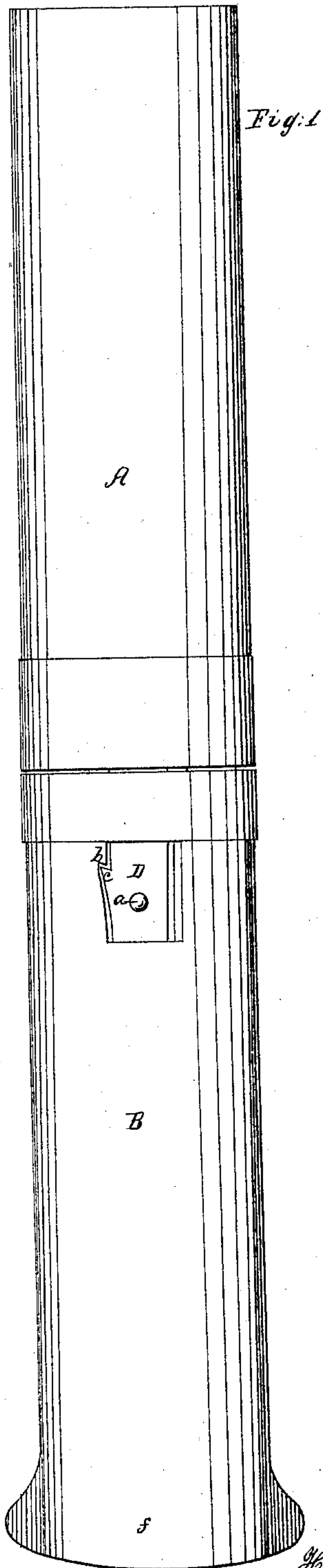


L. H. Bell,
Rock-Drill Chuck.

N^o 57,664.

Patented Sep. 4, 1866.



Witnesses
Henry Jamison
J. M. Mitchener

Inventor
L. Harold Bell

UNITED STATES PATENT OFFICE.

L. HARROD BELL, OF CARMICHAELS, PENNSYLVANIA.

IMPROVEMENT IN COUPLING-JOINTS FOR WELL-BORING SHAFTS.

Specification forming part of Letters Patent No. 57,664, dated September 4, 1866.

To all whom it may concern:

Be it known that I, L. HARROD BELL, of Carmichaels, in the county of Greene and State of Pennsylvania, have invented a new and useful Improvement on the Machine or Tools that are used for Boring Oil and Artesian Wells; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan view of the lower part of the auger-stem with the auger attached. Fig. 2 is a plan view of the lower end of the auger-stem and the upper end of the auger. Fig. 3 is a perspective view of the lower part of the auger-stem and the auger detached; and Fig. 4 is a plan view of the coil-spring, of the side mortise in the auger, and of the fastening-bolt.

The construction and operation of this improvement are as follows, to wit: A represents the lower part of the auger-stem in the ordinary oil and artesian well boring tools. B is the auger, attached to the same by the screw C, which is solid at *d*, to prevent it from breaking off at the shoulder. Into A and B a mortise is made, the shape of which is shown at *h* and *i* in Fig. 2, and is about one and a half inch deep in A, and about six inches in B. The bottom of the mortise in B is narrowed and rounded to admit the spring E, which is a coil or other spring, to be made of steel or other suitable material. Into the mortise in B, and on the top of E, is placed a bolt of iron or other material, which is represented in the

drawings by D. A side mortise, *x x x x*, is made into B, so as to open into or enter the vertical mortise *i*. The mortise *x x x x* has a notch, *b*, into which the catch *c* of the bolt D fits. The bolt D is also provided with a small knob, *a*, by which it may be drawn back with the hand against the spring E and pressing it down until *c* catches in *b*. The parts are so arranged that when this occurs the upper end of D is even with the shoulder of B, thus allowing the auger to be screwed readily into the stem. When this is done, *c* is loosened from *b* by the hand on *a*, and the bolt D enters the mortise *h* by the force of the spring E, and is by the same force retained there, thus preventing the auger from unscrewing from the stem. The mortise *i* is made a little wider than D, to allow D to be fastened at *b*. The mortise *h* may be made wider than D, and D may be of malleable metal, to allow it to be widened if the adjoining ends of the tools should wear by friction or otherwise, thus requiring B to be screwed deeper in A. The chamber in A should be deep enough for this.

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

The device for preventing the two sections from separating by becoming unscrewed—namely, the mortises *h* and *i*, bolt D, and spring E, all arranged and operated substantially as set forth.

L. HARROD BELL.

Witnesses:

HENRY JAMISON,
A. T. CROASDALE.