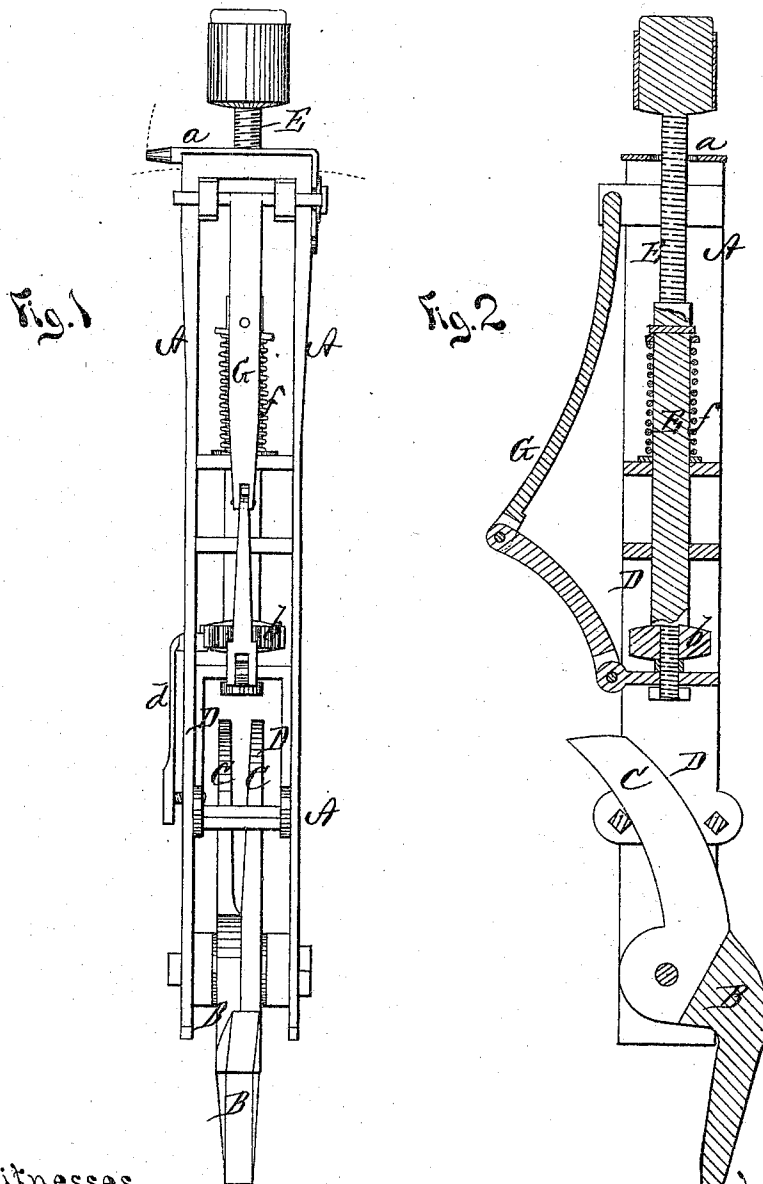


D. KUNKEL.
Drill-Extractors.

No. 142,244.

Patented August 26, 1873.



Witnesses.
George E. Upham,
Emory H. Bates.

Inventor.
Daniel Kunkel
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Atty

UNITED STATES PATENT OFFICE.

DANIEL KUNKEL, OF OREGON, MISSOURI.

IMPROVEMENT IN DRILL-EXTRACTORS.

Specification forming part of Letters Patent No. 142,244, dated August 26, 1873; application filed July 26, 1873.

To all whom it may concern:

Be it known that I, DANIEL KUNKEL, of Oregon, in the county of Holt and State of Missouri, have invented a new and valuable Improvement in Drill-Extractors; 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, and to the letters and figures of reference marked thereon.

My invention relates to a tool to be used when a drill breaks in boring for mineral or any other object, or whenever any other obstruction occurs in boring, the causes whereof may be drawn up through the hole bored, or in case it becomes necessary from any cause to extract the tubing of bored wells; and it consists in the construction of parts arranged together to form an instrument whereby drills or other objects may be extracted from the hole bored.

In the accompanying drawing, Figure 1 is a side view, and Fig. 2 a longitudinal section, of my invention.

The frame of my machine is composed of two straight bars, A A, between the lower ends of which two jaws, B B, are pivoted. The upper ends of the bars A A are bent inward, and a half nut cut in each end, so that when said ends are pressed together by a spring-catch, *a*, a complete nut is formed. Each jaw B has an arm, C, extending upward and passing through the lower end of an interior frame, D, which also acts as a guide. E represents a screw rod or shaft, provided with a coupling at its upper end for the purpose of attaching other rods. This screw works in the nut formed in the upper end of the exterior frame A A, and its lower end enters into the upper end of the interior frame D. The lower end of the screw is, by a jointed arm, G, connected with the upper end of the

exterior frame. By turning the screw-shaft E to the left the interior frame D moves downward and the jaws B B are thrown open, and when the jaws have passed the obstacle to be removed, by turning the screw-shaft to the right, the jaws are drawn together and the object grasped may be drawn out. The jaws are thus operated upon both by screw and lever power, which makes them very powerful to hold the object sought for. For different purposes different shaped jaws may be necessary. On the screw-shaft E is a ratchet-wheel, *b*, in which a pawl, *d*, operates to hold the inner frame D raised, and the jaws B B closed tightly. The shaft E is surrounded by a spiral spring, *f*, the tendency of which is to throw the shaft upward, so that by releasing or opening the latch *a*, thus separating the two halves of the nut in the upper end of the main frame, the jaws will be closed very quickly.

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

1. The combination of the exterior frame A A, jaws B B with arms C C, interior frame D, and screw-shaft E, all substantially as and for the purposes herein set forth.

2. In combination with the interior frame D, screw-shaft E, and jaws B B, the ratchet-wheel *b*, and pawl *d*, for the purposes herein set forth.

3. The combination, with the frames A D, jaws B B, and screw-shaft E, of the spring *f* and the bisected nut with latch *a*, for the purposes herein set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DANIEL KUNKEL.

Witnesses:

JOHN MARSH,
DEMDEUR LYMNADOR.