

(No Model.)

G. F. CASE.

CORE LIFTER FOR ANNULAR ROCK DRILLS.

No. 255,719.

Patented Mar. 28, 1882.

Fig. 1.

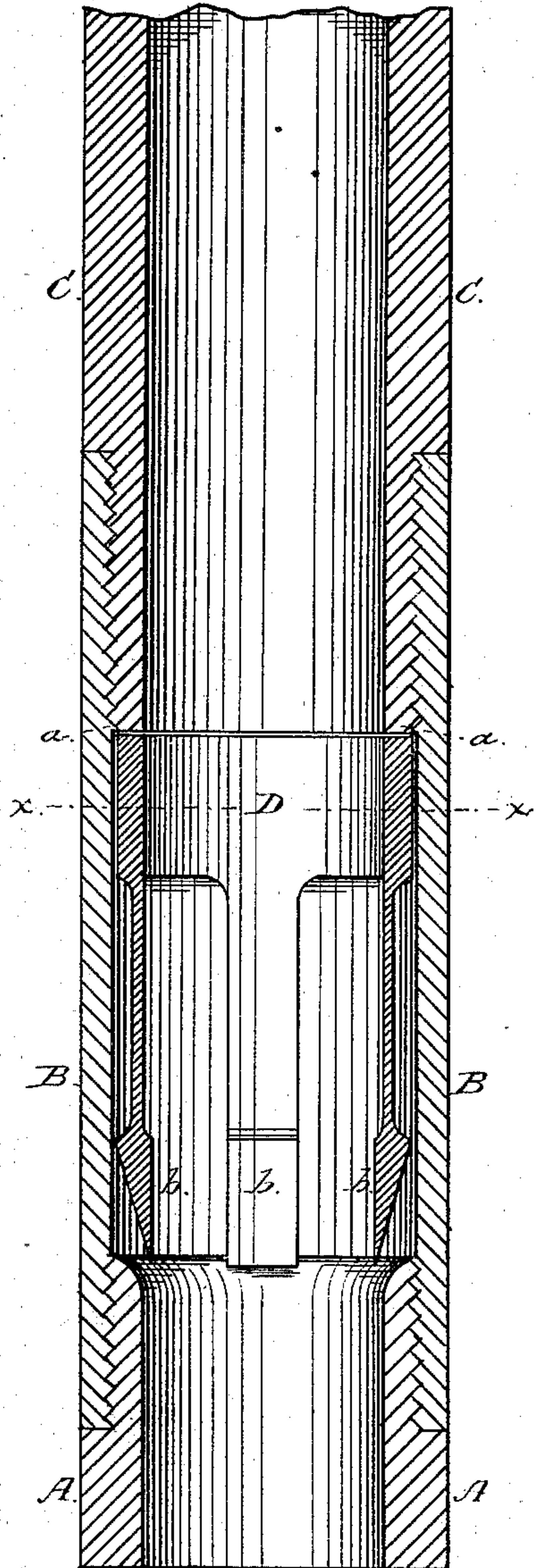


Fig. 3.

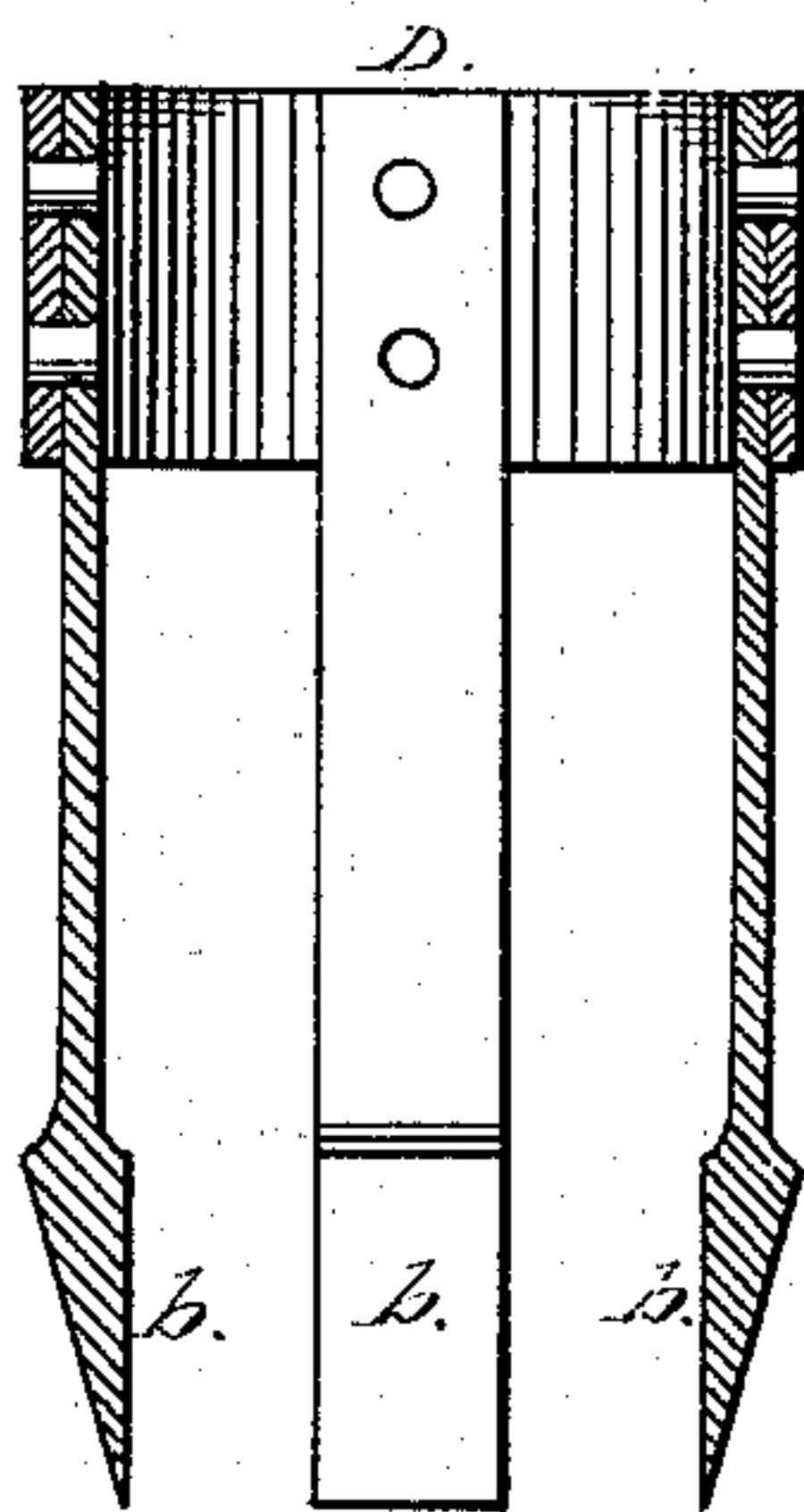


Fig. 4.

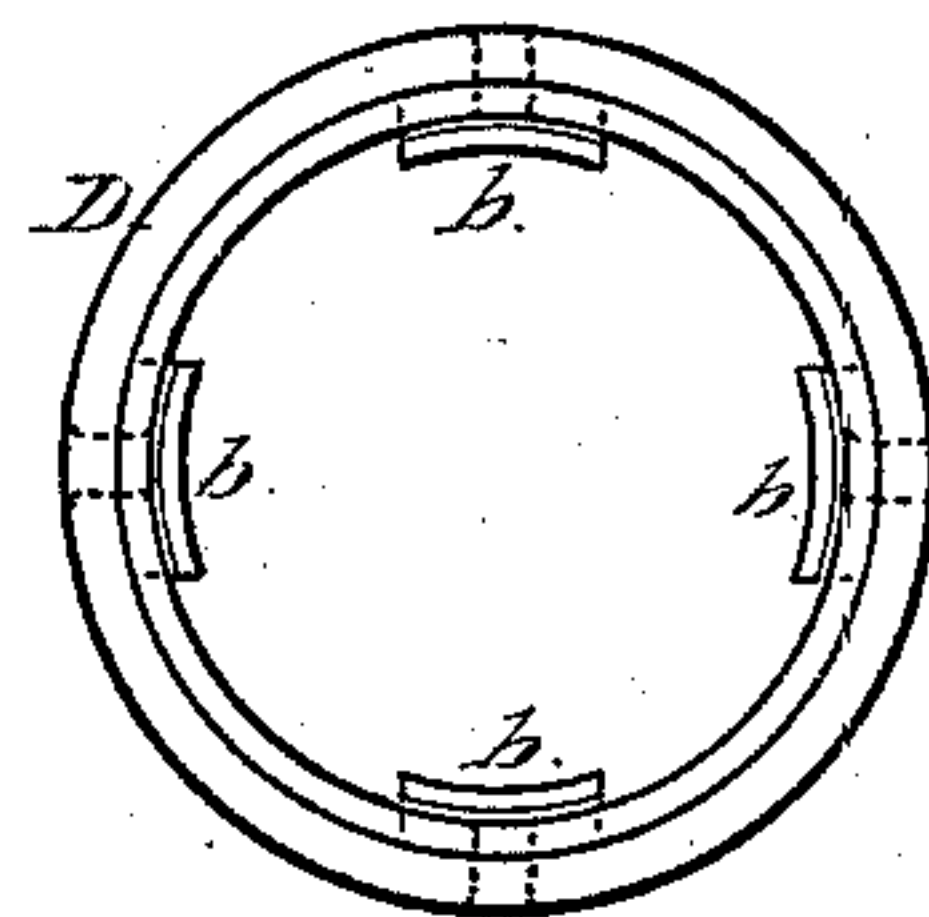
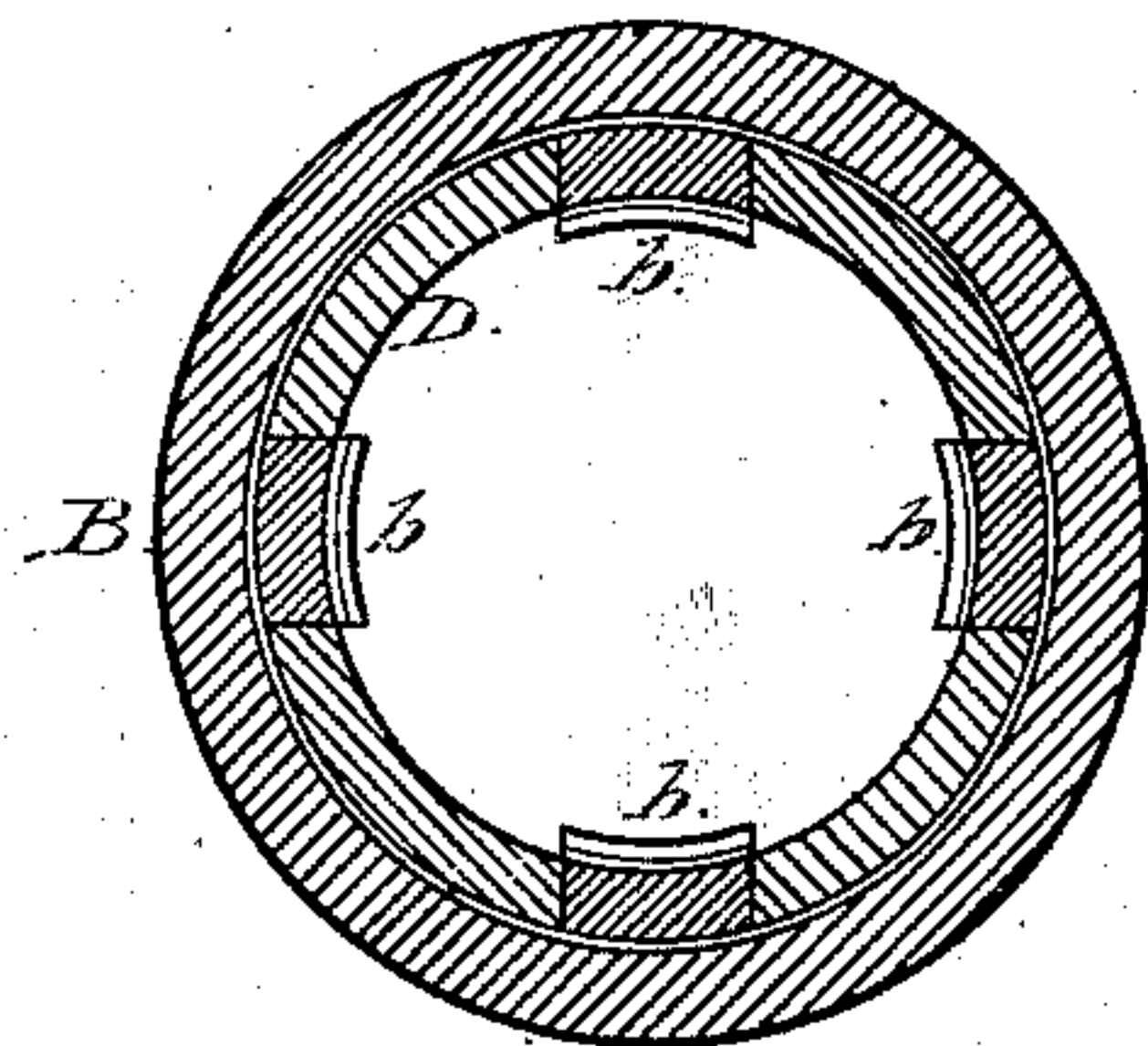


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE F. CASE, OF CLAREMONT, NEW HAMPSHIRE, ASSIGNOR TO THE
SULLIVAN MACHINE COMPANY, OF SAME PLACE.

CORE-LIFTER FOR ANNULAR ROCK-DRILLS.

* SPECIFICATION forming part of Letters Patent No. 255,719, dated March 28, 1882.

Application filed December 31, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. CASE, of Claremont, in the county of Sullivan and State of New Hampshire, have invented a new and Improved Core-Lifter for Annular Rock-Drills; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in core-lifters particularly adapted to be employed in connection with annular drills for boring rock or other material, and whose purpose is the same as that set forth in Letters Patent No. 247,303, granted to myself September 20, 1881. Its novelty consists principally in the combined construction and arrangement of its component parts, and the simplicity with which it so effectively performs its work, all as more fully hereinafter set forth and claimed.

For the better understanding of my invention, and to enable those skilled in its relative art to know how to construct and use the same, I will proceed to fully describe it with reference to the accompanying drawings, in which—

Figure 1 is a longitudinal section thereof; Fig. 2, a cross-section on the line *xx* of the same; Fig. 3, a longitudinal section of core-retainer modified in construction, and Fig. 4 a plan view of the same.

Like letters refer to corresponding parts in each figure.

In the drawings, A represents the drill-head, (in which the cutting-points are inserted,) screwed upon the lower end of a tube, B, which in turn is screwed upon the lower end of the drill-rod C, of usual construction. The upper end of the drill head is curved or rounded, as shown in Fig. 1, for a purpose hereinafter explained.

The device D, for grasping and retaining the core, consists of a solid ring of metal, provided with long depending prongs or springs *b*, whose lower ends are enlarged and made wedge shape, as shown in Figs. 1 and 3, to accommodate themselves to the upper rounded end of the drill-head, for a purpose that will hereinafter

be readily perceived. This ring, with its depending prongs or springs, is located in the recess of the tubing B formed by the shoulders *a a* of the drill-rod C and the upper rounded end of the drill-head A. Within this recess the said ring, with its prongs or springs, has movement up and down, which movement is terminated in either direction by the shoulders *a a* and the upper rounded end of the drill-head A, above referred to.

It is immaterial in regard to operation (as it is the same) whether the prongs or springs *b* of the ring D be cast integral therewith or made separate and secured thereto by means of bolts or rivets, as shown in the modification, Figs. 3 and 4. It is only a matter of convenience or desire. When the drill is advanced and the work of boring commences the ring D and its prongs or springs *b* hug the core, but permit it to pass up through them into the rod C, the downward movement of the drill naturally causing the said ring, with its prongs or springs, to be pressed up under the shoulders *a a* of the rod C. When the desired depth is reached and the drill is withdrawn the ring D falls, causing the enlarged and wedge-shaped ends of the prongs or springs *b* to enter the curved or rounded end of the drill-head, which presses them tightly against the core, so as, when the core is broken, to grasp and retain it in the tube while the drill is being withdrawn from the hole.

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

In a core-lifter, the combination, with the drill-rod and its head, curved or rounded at its upper end, substantially as described and shown, of the metallic ring or band D, provided with the depending prongs or springs *b*, enlarged and made wedge shape at their lower ends, substantially as described, shown, and for the purpose set forth.

This specification signed and witnessed this 11th day of November, 1881.

G. F. CASE.

Witnesses:

JOEL F. RAYNSFORD,
CHARLES H. CLARK.