

R. FLETCHER.
Rock-Drills.

No. 151,112.

Patented May 19, 1874.

Fig. 1.

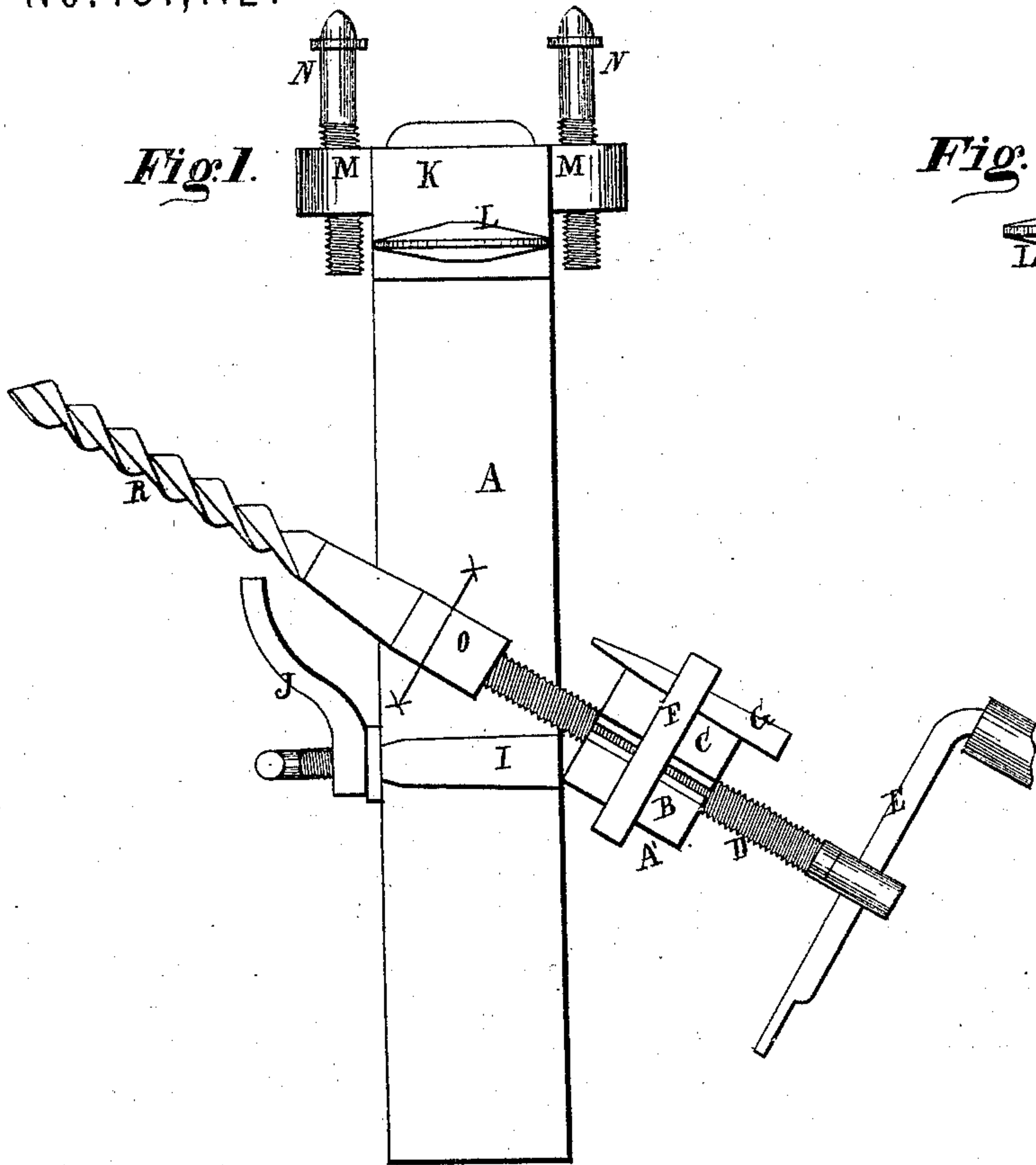


Fig. 2.

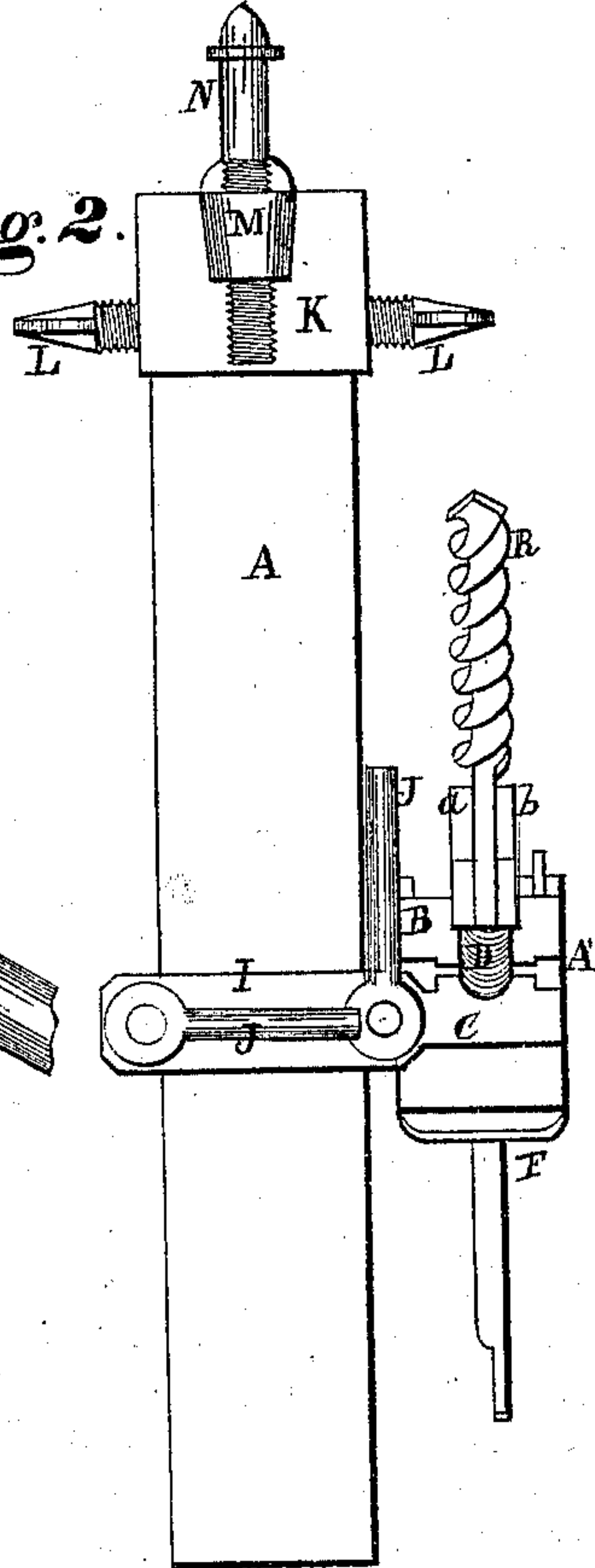


Fig. 3.

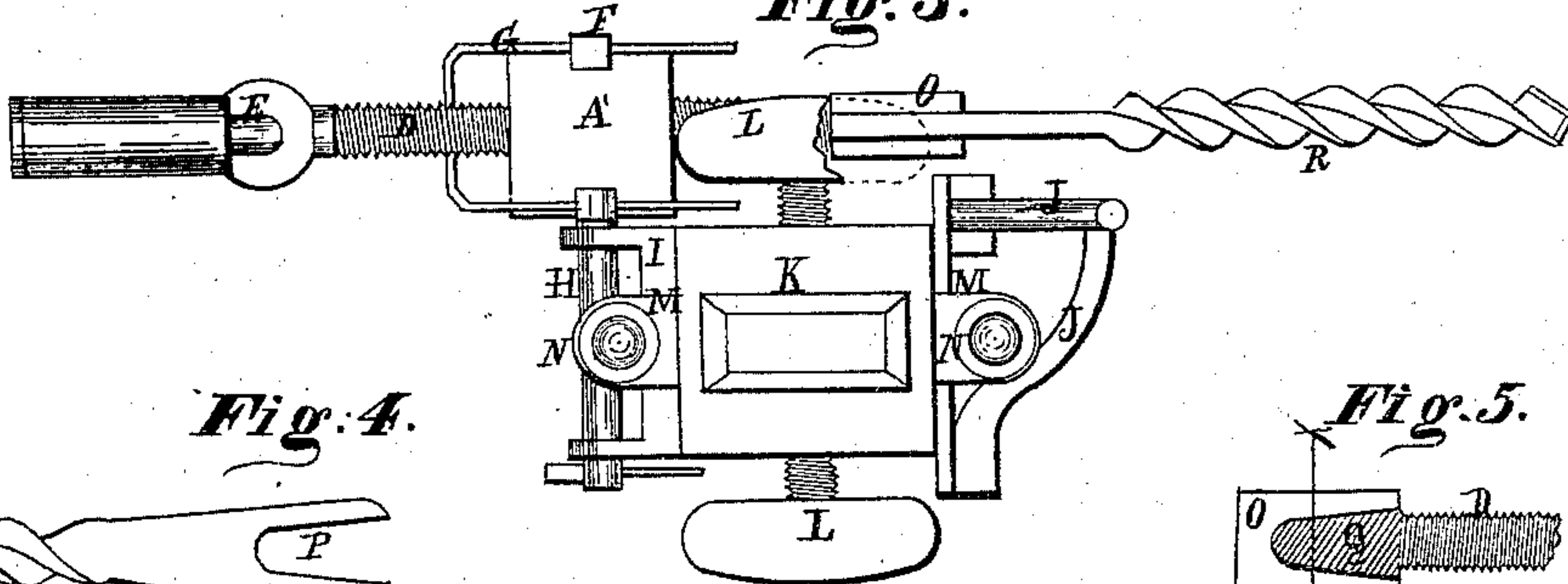
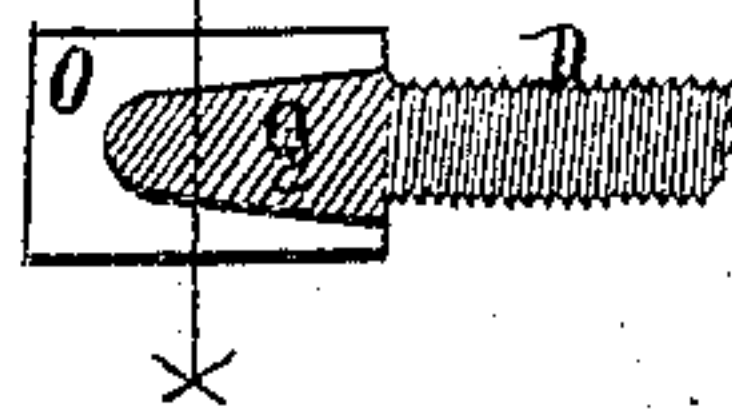


Fig. 4.



Fig. 5.



Witnesses.

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ROBERT FLETCHER, OF BROOKFIELD, OHIO.

IMPROVEMENT IN ROCK-DRILLS.

Specification forming part of Letters Patent No. 151,112, dated May 19, 1874; application filed April 8, 1874.

To all whom it may concern:

Be it known that I, ROBERT FLETCHER, of Brookfield, in the county of Trumbull and State of Ohio, have invented a certain new and Improved Coal and Rock Drill, of which the following is a full, clear, and complete description, reference being had to the accompanying drawings making part of this specification.

The nature of this invention relates to a drill for mining coal, quarrying rock, &c.; and the special object of the invention is to so construct the drill that it can be easily and readily adjusted to any desirable position in the mine for drilling. Also, the invention has for its object a mode of attaching the drill to the screw, whereby it is operated.

Of the construction and operation of the above-specified invention, the following is a more full and complete description.

Figures 1 and 2 are side views of the drill. Fig. 3 is a top view. Figs. 4 and 5 are detached sections.

Like letters of reference refer to like parts in the several views.

In the drawings, A represents the drill post or stanchion, to which the drilling apparatus is secured. Said apparatus consists of a two-part nut, A', of which B C are the sections. In the nut is fitted the feed-screw D operated by a handle, E. The two parts of the nut are held together by a yoke, F, Fig. 1, and draw-key G. From one arm of the yoke projects a shaft, H, Fig. 3, which has its bearings in one side of the clamp I, whereby said nut and screw are fastened to the stanchions by means of the hand-nuts J, as shown in the drawings. To the top of the stanchion is fitted a cap, K, which is secured thereto by the screws L. From two sides of the cap K project lugs M, in which are fitted the adjusting-screws N, the purpose of which will presently be shown. At the end of the feed-screw D, above referred to, is secured a head, O, in which is inserted the bifurcated end P of the drill. The branches of the bifurcation fit around the form Q, Fig. 5, of the head, thereby holding the head securely from vibration in direction of the line *xx*, while the sides *a b*, Fig. 2, hold it from

vibrating sidewise. This manner of holding the end of the drill in the head allows of no dirt to accumulate in the head, and prevent the end of the drill from fitting snugly and securely therein, but which frequently occurs in the ordinary socket-head. The socket becomes charged with dirt, so that the shank of the drill will not properly enter, hence it requires to be often cleaned out to allow the shank to enter the socket.

The operation of the above-described drill is as follows: The post or stanchion A is set upright in the mine, in which position it is maintained by the screws N forced upward against the ceiling. The two screws not only prevent the post from falling over, but they also prevent it from turning round in consequence of the pressure exerted upon it in the process of drilling. The two screws being of considerable length, the post can be adjusted to variable heights of the mine, and thereby avoid the trouble of changing the post for a longer or shorter one, as the case may be.

By means of the clamp I, the drill can be raised or lowered for drilling at any altitude in the wall, and for reason of the nut being journaled in the clamp, it can be directed to any angle for drilling either above or below a horizontal line.

It will be observed that the drilling is done by the drill R, and that the feeding of the same is effected by the screw D operated by the adjustable handle E, which, for convenience, is not fixed to the screw, but simply run through the eye therein, so that it can be lengthened or shortened, as the space around it or other circumstance may require a long or short crank.

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

The nut A', screw D, yoke F, key G, shaft H, and clamp I, in combination with the post A, substantially in the manner as and for the purpose set forth.

ROBERT FLETCHER.

Witnesses:

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