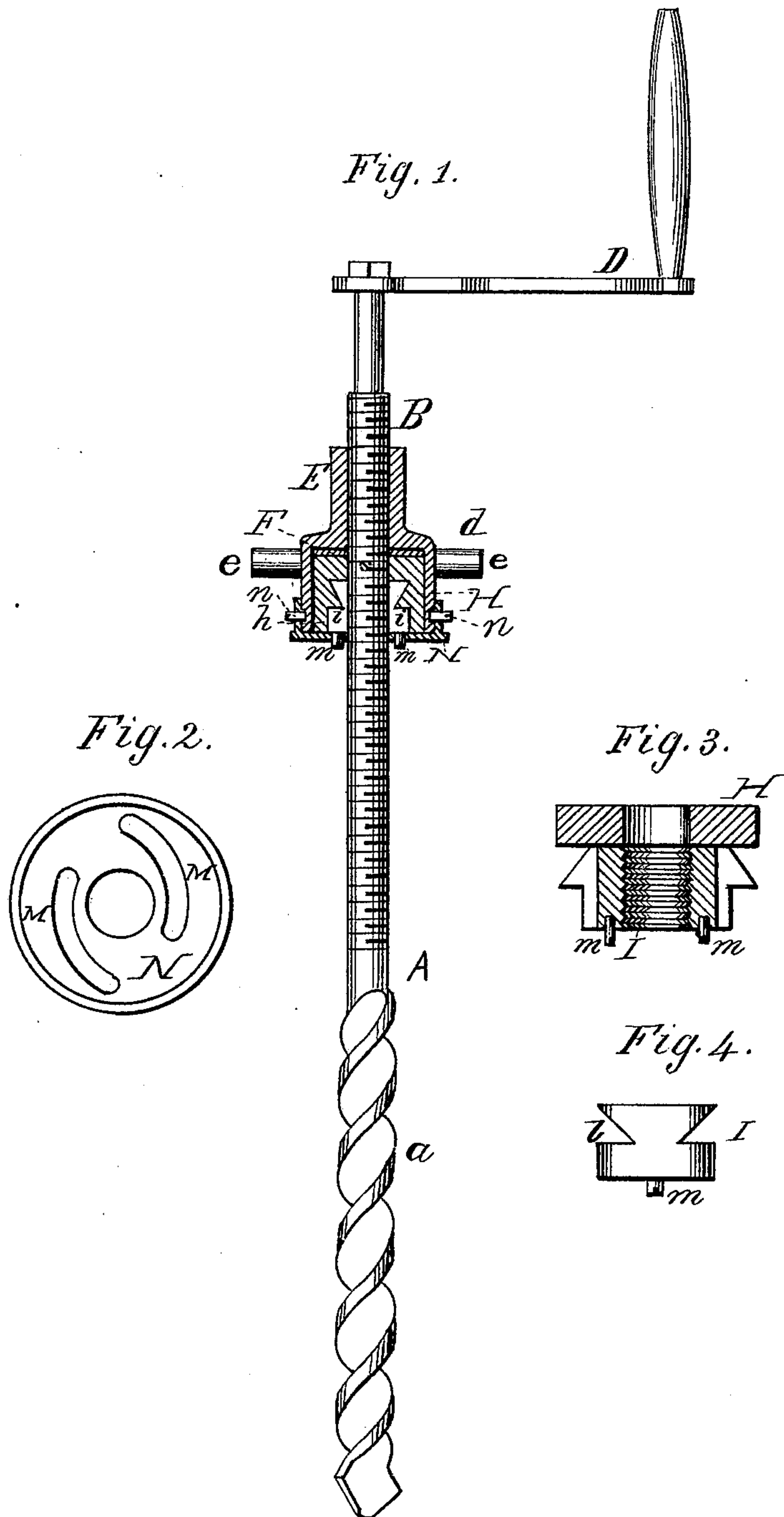


G. J. BEST.

AUGERS FOR BORING ROCK

No. 176,505.

Patented April 25, 1876.



Witnesses

John A. Tauberschnidt
Chas. C. Gill

Inventor
George J. Best
by his Atty.
Cox & Cox.

UNITED STATES PATENT OFFICE.

GEORGE J. BEST, OF EAST BRADY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
HIS RIGHT TO FRANK X. FELIX.

IMPROVEMENT IN AUGERS FOR BORING ROCK.

Specification forming part of Letters Patent No. **176,505**, dated April 25, 1876; application filed
March 31, 1876.

To all whom it may concern:

Be it known that I, GEORGE J. BEST, of East Brady, in the county of Clarion and State of Pennsylvania, have invented a new and useful Improvement in Augers, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to certain improvements in augers for boring rock; and consists in the devices hereinafter more specifically designated.

The object of the invention is to provide an efficient device for mining purposes.

Figure 1 is a vertical central longitudinal section of a device embodying the elements of the invention. Fig. 2 is a plan view of the cap N. Fig. 3 is a vertical central section of the interior arrangement of the movable nut. Fig. 4 is a plan view of one of the bits.

In the accompanying drawings, A represents the shaft, provided on one end with the bit *a*, and on its upper part with the male thread B, and having the crank D secured upon its upper extremity, by means of which the device is operated. Upon the shaft is placed the movable cup E, the body of which is provided with trunnions *e*, which are intended to be mounted in journals in the top of properly-constructed standards, thus permitting the vertical elevation or depression of the bit. In the bottom of the cup E is placed a metallic washer, F, having an aperture in its center coinciding with that in the lower part of the cup. Upon this washer E, and fitting closely within the cup, is placed the bit-rest H, having the vertical walls *h* provided with the angular slides *i*. Within the

bit-rest are placed the bits I, having their interior threaded, so as to fit upon the screw on the shaft, and provided on each side with the angular recesses *l*, which fit upon the slides *i*, thus securing the bits against vertical displacement, but allowing a free lateral movement. The upper parts of the bits are provided with the studs *m*, which project through the slots M in the cap N, the slots being arranged at a tangent to the aperture in the center of the cap, which coincides with that in the cup and bit-rest. Thus, when the cap is moved in one direction, the bits are separated, being closed by a reverse movement. The cap fits upon the upper part of the cup, and is provided on each side with movable studs *n*, operating in the annular groove near the upper edge of the cap.

Operation: When it is desired to advance the auger or retract it, it is only necessary to operate the cap N, so as to separate the bits, when the auger may be moved forward or backward, as desired.

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

The combination of the cup E, provided with the bit-rest H, bits I, and cap N, having the slots M, substantially as described.

In testimony that I claim the foregoing improvement in augers, as above described, I have hereunto set my hand this 21st day of January, 1876.

GEORGE J. BEST.

Witnesses:

R. R. MCGREGOR,
GEO. WATERTON.