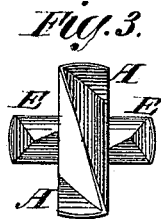
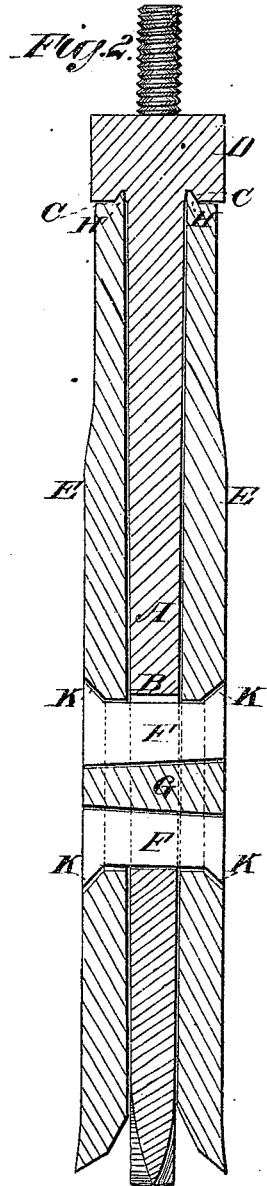
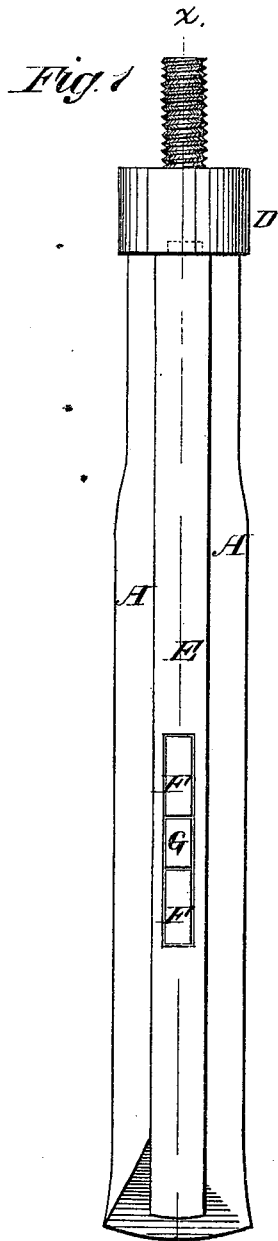


W. W. GOODWIN.

Rock-Drill.

No. 161,948.

Patented April 13, 1875.



WITNESSES:
Francis McArdle
A. H. Terry

INVENTOR:
W. W. Goodwin
BY *[Signature]*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM W. GOODWIN, OF NATIONAL P. O., IOWA.

IMPROVEMENT IN ROCK-DRILLS.

Specification forming part of Letters Patent No. **161,948**, dated April 13, 1875; application filed February 5, 1875.

To all whom it may concern:

Be it known that I, WILLIAM W. GOODWIN, of National P. O., in the county of Clayton and State of Iowa, have invented a new and Improved Rock-Drill, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claim.

Figure 1 is a side elevation of my improved drill. Fig. 2 is a sectional elevation of Fig. 1 on the line *x x*, and Fig. 3 is an end elevation of the drill.

Similar letters of reference indicate corresponding parts.

A represents the principal blade of the drill, in which is a mortise, B, a suitable distance above the lower end, and at the top of which are sockets C, in the lower side of a collar, D. E represents the trimmers, which are also mortised, so as to be secured to A by the gibs F and the key G, and they have a tenon, H, on the upper end, to enter the socket C.

The mortises in the trimmers are so contrived, in respect of the distance from the tenons, that the lower gib will press down on the lower end wall of the mortise in the blade A, while the upper gib presses the trimmers at the upper end of the mortise in them, and thus binds the trimmers firmly endwise by pressing them into the sockets C, while the heads K of the gibs keep the trimmers against the side of the blade. I prefer to make the trimmers a little shorter than the main blade; but they may be the same length, if required.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

The blade A, having collar D, socketed at C, and combined with trimmers having tenons H, substantially as and for the purpose specified.

WILLIAM W. GOODWIN.

Witnesses:

EDWIN SHERMAN,
ELIAS HOLLINGSWORTH.