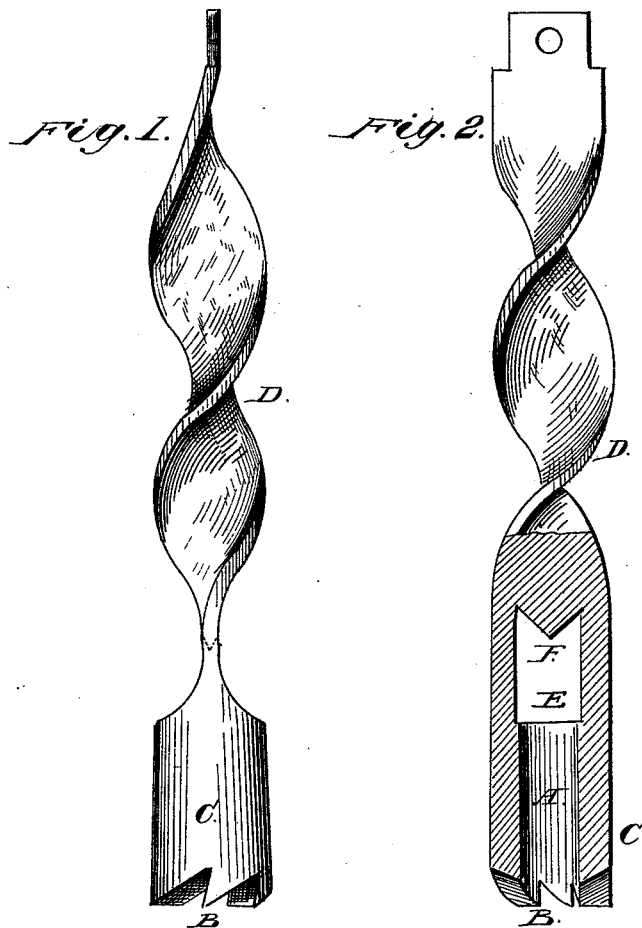


R. C. FISHBURN.  
Mining-Drill.

No. 218,374.

Patented Aug 12, 1879.



Witnesses:  
Fred G. Dietrich  
J. R. Lottell,

Inventor,  
Robert C. Fishburn,  
by C. A. Snow & Co.,  
Attys.

# UNITED STATES PATENT OFFICE.

ROBERT C. FISHBURN, OF MOUNT PLEASANT MINES, (HAZLETON P. O.,) PA.

## IMPROVEMENT IN MINING-DRILLS.

Specification forming part of Letters Patent No. **218,374**, dated August 12, 1879; application filed May 16, 1879.

*To all whom it may concern:*

Be it known that I, ROBERT C. FISHBURN, of Mount Pleasant Mines, (Hazleton P. O.,) in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Mining-Drills; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a side view, and Fig. 2 is a longitudinal sectional view.

Similar letters of reference denote corresponding parts in both figures.

This invention relates to mining-drills; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claim.

The point or bit C of my improved drill is circular in cross-section and nearly cylindrical in shape. It tapers, however, slightly from the front toward the rear, and has therefore, properly speaking, the outline or shape of a truncated cone. It is provided with a central longitudinal perforation, A, making it annular in shape, and is provided at its front end with sharp points or teeth B.

The auger D forms a rearward continuation of the point or bit, directly behind, in which is formed a slot, E, at the upper or rear end

of which is provided a sharp tooth or point, F, facing the rear end of the drill-bit.

This drill may be operated, in the usual manner, by any suitable machinery.

The annular bit will cut an annular opening around a core which is accommodated in the longitudinal perforation A. By this two advantages are gained, viz: First, the work is lessened, because only an annular opening is cut instead of the usual round hole; second, the operation of the drill is steadied by the core, which acts to prevent vibration of the drill, thus securing an even and uniform opening.

The drill-bit, being tapering, as above described, will permit the dust or cuttings to work back until carried off by the auger. The point F, when it reaches the core, will crush the latter, and the pieces will be carried off by the auger.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

As an improvement in mining-drills, a tapering annular bit having an auger, which forms a rearward continuation of said bit, provided with a slot, E, and tooth F, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ROBERT C. FISHBURN.

Witnesses:

CHAS. F. HILL,  
JACOB W. HILL.