M. JOHN.

DRILL-BIT.

No. 190,332. Patented May 1, 1877

Fig. 1.

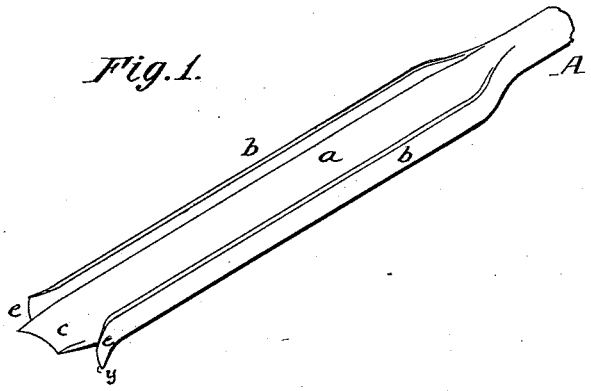


Fig. 3.

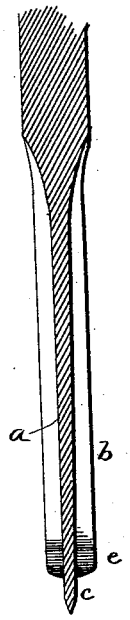
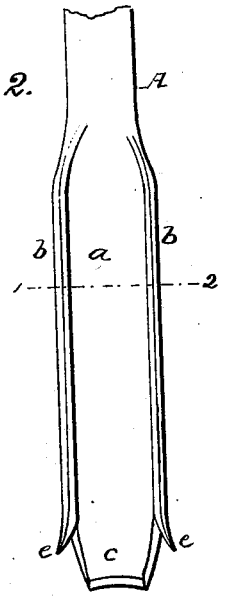


Fig. 4.

Fig. 2.



Attest:

Howard Greely.

Fred. Benjamin.

Inventor.

M. John

By his atty

Charles B. Fosler

UNITED STATES PATENT OFFICE.

MATTHEW JOHN, OF PITTSTON, PENNSYLVANIA.

IMPROVEMENT IN DRILL-BITS.

Specification forming part of Letters Patent No. **190,332**, dated May 1, 1877; application filed March 12, 1877.

To all whom it may concern:

Be it known that I, MATTHEW JOHN, of Pittston, Luzerne county, Pennsylvania, have invented certain Improvements in Drill-Bits, of which the following is a specification:

The object of my invention is a drill-bit constructed as fully described hereafter, to secure a ready penetration of the coal, and ream the hole, and so as to be comparatively light in weight, strong, durable, and easily sharpened and repaired.

In the drawing, Figure 1 is a perspective view of my improved bit. Fig. 2 is a face view; Fig. 3, a longitudinal section, and Fig. 4 a transverse section on the line 1 2.

A is the shank or stock of the drill, which may be a continuation of the shaft or handle, or may be constructed for attachment to the shaft.

The bit consists of a flat blade, *a*, of uniform, or nearly uniform, width, and having at both edges and on both sides flanges *b*.

The end *c* of the blade extends beyond the terminations of the flanges *b*, and the lower edge is curved inward, and the lower and side edges are sharpened, as shown in the drawing.

Each flanged edge *b* is bent outward at the lower end to form a curved lip, *e*, which is rounded and sharpened at the edge *y*, as shown.

In drilling, the projecting portion *c* of the blade penetrates and cuts the coal with its end and side edges, while the edges *y* of the lips *e* ream the opening.

It has been found that the cutter thus constructed may be cheaply manufactured, easily repaired and sharpened, will penetrate the coal much easier and with greater rapidity than ordinary cutters, and that, while the blade may be thin and comparatively light, the ribs impart great strength.

It has also been found that, by graduating the point of the bit according to the quality or hardness of the coal to be drilled, the tool may be adapted to different grades of work, and that the relative action of the blade and reamers may be graduated with that nicety requisite to the most effective operation of the tool.

Without confining myself to the precise construction and proportions shown,

I claim—

As a new article of manufacture, a drill-bit consisting of a blade, *a*, and parallel ribs *b* at both edges and on both sides of said blade, the lower ends of the ribs being formed into sharp-edged lips *e*, and the end of the blade being sharpened, and projecting beyond said lips, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MATTHEW JOHN.

Witnesses:
WALTER S. WILLIAMS,
D. S. KOON.