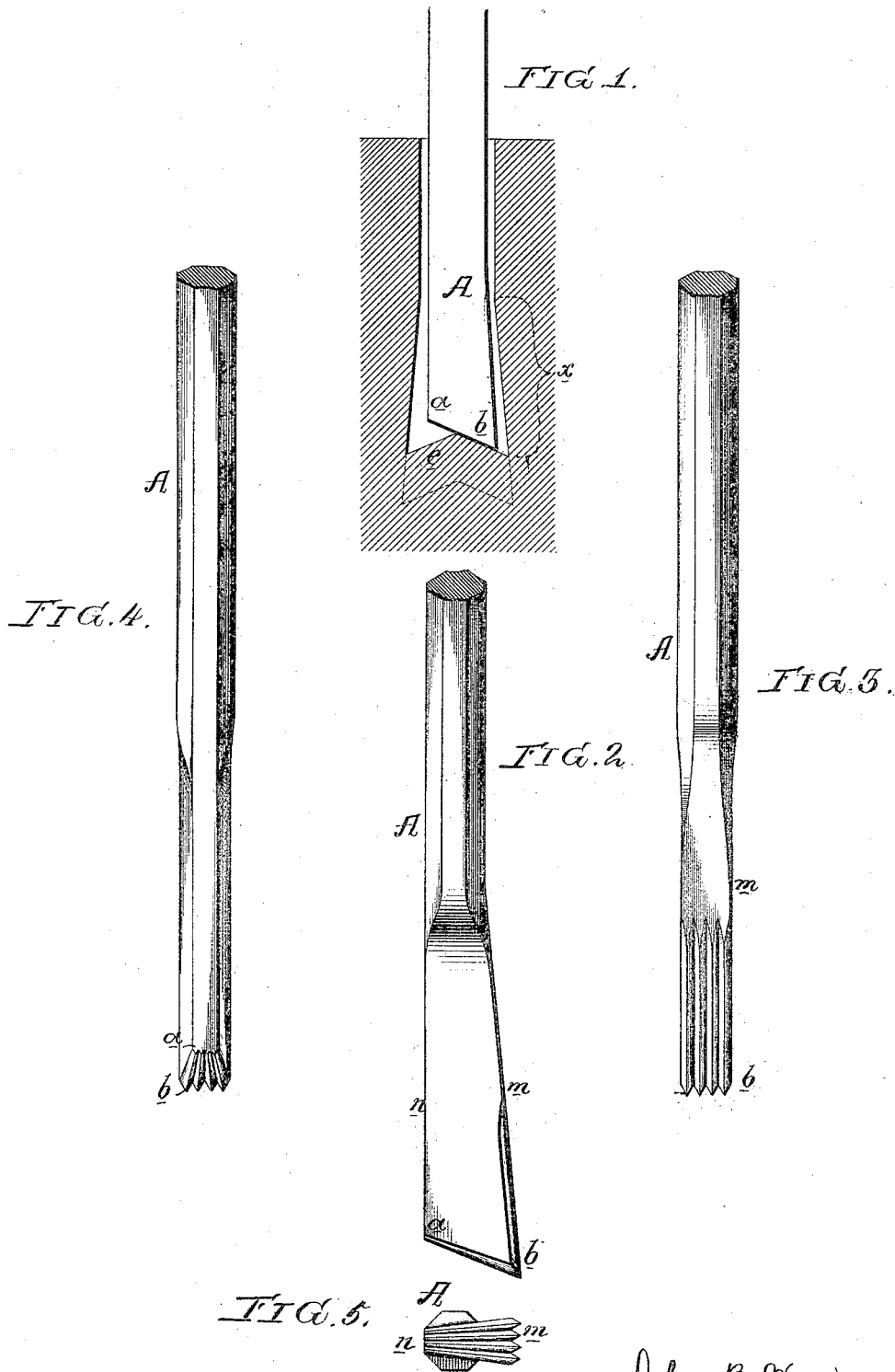


J. B. WARING.
BIT FOR ROCK DRILLING.

No. 172,529.

Patented Jan. 18, 1876.



Witnesses, Hubert Howson
Thomas McIlwain

John B. Waring
by his Atty.
Howson and Son.

UNITED STATES PATENT OFFICE.

JOHN B. WARING, OF NEW YORK, N. Y.

IMPROVEMENT IN BITS FOR ROCK-DRILLING.

Specification forming part of Letters Patent No. **172,529**, dated January 18, 1876; application filed January 23, 1875.

To all whom it may concern:

Be it known that I, JOHN B. WARING, of the city, county, and State of New York, have invented an Improved Bit for Rock-Drilling, of which the following is a specification:

The object of my invention is to construct an efficient drill-bit for drilling enlarged holes in rocks, for the reception of the explosive material for blasting purposes, and this object I attain as hereafter described.

It is essential to this bit that it should have an inclined cutting-base, *a*, terminating in a comparatively sharp cutting-edge, *b*. The bottom *c* of the hole formed by this drilling-bit must always be cone-shaped, and as the inclined base of the bit strikes the inclined sides of the cone *c*, there must be a tendency of the bit to yield laterally, and to cut both downward and outward, and the result will be the conical continuation *x* of the cylindrical hole and the desired enlarged cavity for the lodgment of the explosive material.

I make the drill-bit in the manner shown in the enlarged views, Figures 2, 3, 4, and 5, Fig. 2 being a side view; Fig. 3, a view of the front edge; Fig. 4, a view of the rear edge, and Fig. 5 an inverted plan view of the cutting-base.

This bit consists of a rod of steel, in the

present instance of octangular sectional form, and the lower portion of this rod is flattened and reduced to the shape shown in the drawing.

On the inclined cutting base *a* are formed a number of V-shaped ribs, which are made tapering from the broad front edge *m* of the bit to the narrower rear edge *n*.

In the present instance there are four of these ribs, but their number and size will depend in a great measure on the character of the rock to be drilled.

In the front edge *m* of the bit there are as many ribs as on the base, (see Fig. 3,) and these ribs coincide with and meet those of the base at the cutting-edge *b*, where they form sharp cutting-points.

I claim as my invention—

A rock-drilling bit, having on its inclined base a number of cutting-ribs terminating in corresponding ribs on the cutting-edge *b*, as set forth.

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

J. B. WARING.

Witnesses:

HUBERT HOWSON,
HARRY SMITH.