(No Model.)

G. R. VALENTINE.

REAMER.

No. 265,998. Patented Oct. 17, 1882.

Fig. 1

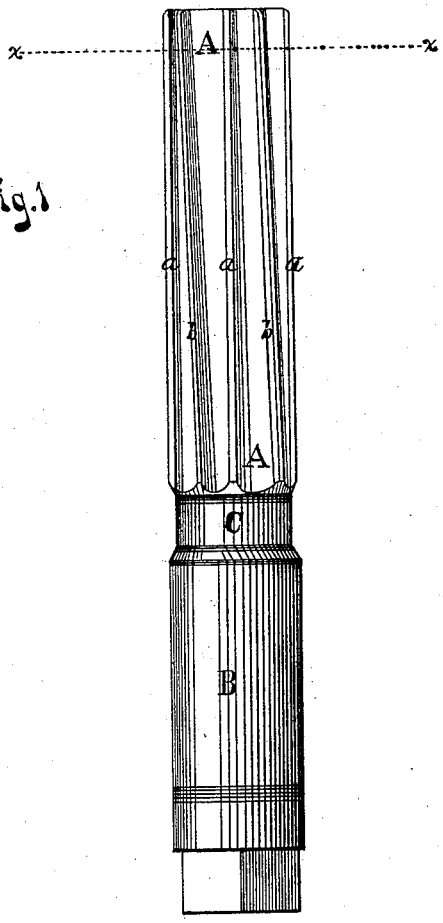
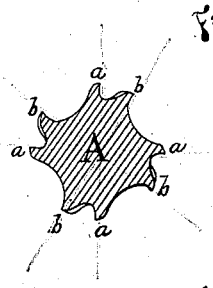


Fig. 2



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE R. VALENTINE, OF NEW BEDFORD, MASSACHUSETTS.

REAMER.

SPECIFICATION forming part of Letters Patent No. 265,998, dated October 17, 1882.

Application filed July 13, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. VALENTINE, of New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Reamers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

My invention relates to bore-reamers, and embraces the following peculiar features: The bit consists of a double series of ribs forming the cutters, the one series being parallel with the axis of the bit and immediately alternating with the other series, which, starting from the same portion of the body of the bit, are each diagonally inclined at the same angle to the said axis from shank to end—that is to say, each said parallel rib or cutter is immediately followed by or alternating with a said diagonal rib or cutter, and vice versa, all of which is hereinafter more fully described, and illustrated by the accompanying drawings, in which the same letters designate identical parts of my device in the different figures, respectively.

Figure 1 illustrates a longitudinal elevation of my device, showing the said parallel and diagonal series of rib-cutters. Fig. 2 illustrates a cross-sectional view of my device, made on the plane of a dotted line *x* in Fig. 1, and looking toward the front end of the bit.

The letter A represents the bit portion of my reamer, the letter B the body portion, and the letter C the shank.

The letter *a* represents the one series of ribs or cutters, which extend directly from the shank to front end in lines parallel with the axis of the bit, and the letter *b* represents the other series of ribs or cutters, which extend, as shown, in lines diagonal to said axis, although parallel with each other. These diagonal ribs *b* may thus extend either inclined from right to left, as shown in the drawings, or from left to right; or one of said diagonal rib-cutters may thus be inclined from right to left, while its alternating diagonal rib may be inclined from left to right, thus making these diagonal ribs *b* alternately vary in direction with each other, as well as with the said directly-extending parallel ribs *a*.

The beneficial results obtained by the above-described successively and alternately changing direction of the lines of rib-cutters *a* and *b* in the axial revolutions of this reamer are that both "drawing" and "chattering" are entirely prevented, and whichever rib-cutter, *a* or *b*, first makes the cut, it is immediately followed by a diagonally-cutting rib, *a* or *b*, as the case may be, which smooths away any defectiveness in the preceding cut. Therefore,

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

As an article of manufacture, a reaming-bit, A, provided with a double series of rib-cutters, *a* and *b*, the series *a* being each made parallel with the axis of the bit and to immediately alternate with one of the series *b*, which latter are each made to diagonally incline either at the same angle to said axis or at equal opposite angles to each other while alternating with said series *a* from shank to end, substantially as and for the purposes specified.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of July, A. D. 1881.

GEO. R. VALENTINE.

Witnesses:
GEO. S. PINDLE,
J. W. HAMILTON JOHNSON.