

(No Model.)

G. W. DUDLEY.
REAMER.

No. 258,390.

Patented May 23, 1882.

Fig. 1.

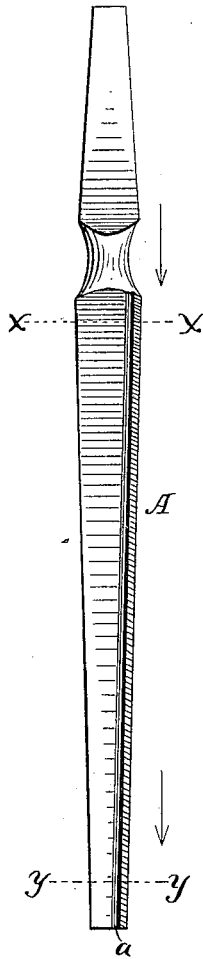


Fig. 3.

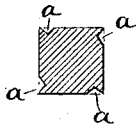


Fig. 4.

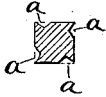


Fig. 2.



WITNESSES:

Thos. Houghton.
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INVENTOR:

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UNITED STATES PATENT OFFICE.

GEORGE W. DUDLEY, OF WAYNESBOROUGH, ASSIGNOR TO HIMSELF AND
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REAMER.

SPECIFICATION forming part of Letters Patent No. 258,390, dated May 23, 1882.

Application filed August 16, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. DUDLEY, of Waynesborough, in the county of Augusta and State of Virginia, have invented a new and Improved Reamer; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view representing the reamer with the grooves cut in it before it is twisted. Fig. 2 represents a side view of the reamer complete; and Figs. 3 and 4 are cross-sections, respectively, through the lines *xx* and *yy*, looking in the direction of the arrows.

My invention relates to an improvement in that class of tools known as "reamers;" and it consists in a tapered polygonal piece of metal having flat sides with a groove on one side of each of its corners and then twisted to form a spiral cutting-edge, as hereinafter more fully described.

In the drawings, A represents the reamer, which, as shown, is made in the shape of a square in cross-section, having four flat sides with a groove, *a*, cut in each of its sides upon one side of its corner angles. This reamer is first made in the square shape with the proper amount of taper, the grooves *a* then cut, and the proper amount of pitch or spiral twist then given to the cutting-edges by twisting the whole piece. In giving the twist to the reamer it is turned about its longitudinal axis, so that its spirals wind reversely to those of the ordinary bit or gimlet, by which structure it has in use, when turned to the right in the usual way, a tendency to throw the reamer up or out of the work, instead of drawing it in.

The advantages of this form of reamer are—
First, as it cuts at all points in the circum-

ference at the same time, it makes a perfectly-round hole.

Second, it will not choke, as it drives the cuttings before it.

Third, it cannot get tight in the hole, as the twist is in the opposite direction to that usually employed.

Fourth, it cannot jar in cutting, as it cuts directly against the pressure.

Fifth, it makes a draw cut, and consequently cuts faster than any other shape, while the cutting-edge, for the same reason, will last infinitely longer.

Sixth, having flat sides, it can be ground on an emery-wheel, which is not the case with any fluted reamer.

Seventh, it is as easily manufactured as the flat reamer by first forging it square, grooving the corners, twisting, turning it on the lathe, and grinding it.

I am aware of the fact that spirally-fluted reamers having the twist in the same direction as mine have been heretofore made. My invention, however, is distinctive in the respect that the sides of the reamer are perfectly flat, thus permitting the edges to be ground by an emery-wheel, while the required acuteness is given to the cutting angles by the grooves at the sides of the corners, making an easily-constructed and very effective tool for the purpose.

Having thus described my invention, what I claim as new is—

A reamer made with flat tapered sides, grooved at the corners, and twisted, substantially as shown and described.

GEORGE WILSON DUDLEY.

Witnesses:

R. F. WAY,
I. S. WALLACE.