E. Colson.

Saw Teeth.

No. 89,559. Patented May 4, 1869.

Fig. 1.

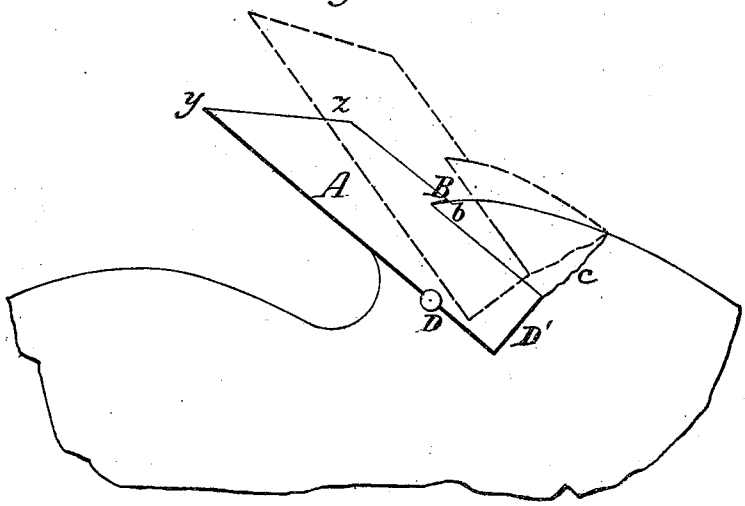

Fig. 2.

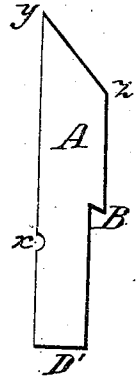

Fig. 3.

Witnesses.
G. W. Edmund
H. F. Willson.

Inventor.
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United States Patent Office.

EDWARD COLSON, OF FORT WAYNE, INDIANA, ASSIGNOR TO HIMSELF AND CHAUNCEY B. OAKLEY, OF SAME PLACE.

Letters Patent No. 89,559, *dated May* 4, 1869.

IMPROVEMENT IN SAW-TEETH.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, EDWARD COLSON, of Fort Wayne, in the county of Allen, and State of Indiana, have invented certain new and useful Improvements in Circular-Saw Teeth; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a plan view.

Figure 2 is a detached view.

Figure 3 is an edge view.

The nature of my invention consists in an improved method of inserting teeth in the periphery of circular saws.

To enable others skilled in the arts to make and use my invention, I will proceed to describe its construction and operation.

A represents a tooth or cutter, which is inserted in the manner and constructed in the form seen in the drawings, figs. 1 and 2, having its edges grooved, so as to receive a V-shaped tongue formed on the edges of the plate, at *a a*.

B represents a shoulder, having an acute angle, and is formed on the back side of said tooth, as seen in the drawings.

This shoulder is so formed that it receives the projecting point, *b*, of the saw-plate, which is formed in recessing it, to receive the tooth.

The result obtained by so fitting projecting point *b* into the recess or acute angle of shoulder B is not only to brace and back up the tooth, but it subserves another purpose, which will be more clearly understood when we take into consideration the fact that the direction of the pressure or strain on the tooth, while cutting, is, owing to the tangential angle at which it is set, so as to force it backward, and create an intense strain at the heel of projecting point *b*, and thus cause it to break in the broken line *c*, and allow the tooth to be forced backward, as seen in red lines; but, by this device, in combination with plug D, it is impossible that this result should be produced, from the fact that, in order to be forced backward, it must be partially withdrawn from the recess, which is prevented by the plug D, before the direct end-pressure on the shoulder B is overcome.

The principle involved in this tooth is such as renders it practical when set, so as to stand out considerably from the direct line of resistance.

The advantage of setting teeth at this or greater angles of divergence from the line of resistance is of considerable importance in some classes of saws, from the fact that a greater number of teeth may be used in the construction of saws, which, as before suggested, is very desirable.

What I claim as new, and desire to secure by Letters Patent, is—

The tooth A, made straight on its forward side, with a semicircular notch, *x*, bevelled at the top, from *y* to *z*, and straight from *z* to B, where there is an inclined shoulder, and straight from said shoulder to its horizontal base, D′, all as shown in fig. 2, and connected to the blade in an inclined manner, substantially as shown and described.

EDWARD COLSON. [L. S.]

Witnesses:

GEO. ESMOND,

GEO. W. DURGIN, Jr.