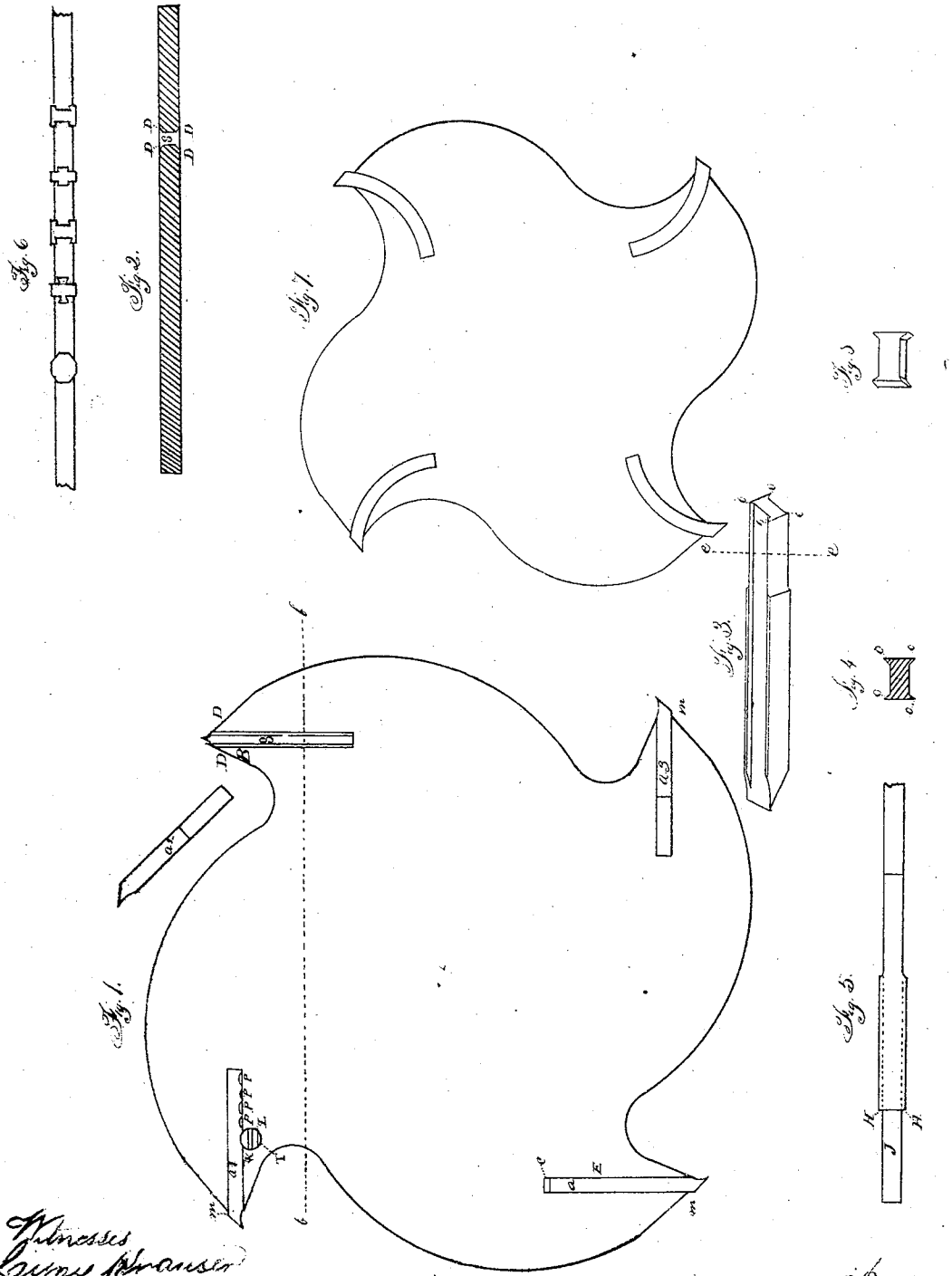
J. L. Krauser.

Saw.

No. 71625 Patented Dec. 3, 1867.



Witnesses
Lyne Krauser
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JOHN L. KRAUSER, OF TYLERSBURG, PENNSYLVANIA, ASSIGNOR TO J. E. EMERSON, OF TRENTON, NEW JERSEY.

Letters Patent No. 71,625, *dated December* 3, 1867.

IMPROVEMENT IN SAWS.

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, JOHN L. KRAUSER, of Tylersburg, in the county of Clarion, and State of Pennsylvania, have invented certain new and useful Improvements in Saws; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and letters of reference marked thereon, similar letters referring to like parts in all the figures, of which—

Figure 1 represents a side or face view of one of the saws.

Figure 2 represents a cross-section, taken through the dotted line *b b* in fig. 1.

Figure 3 represents a perspective view of one of the teeth.

Figure 4 represents a cross-section, taken through the dotted lines *c c* of fig. 3.

Figure 5 represents a top view of one of the teeth, and also shows the thickness of the saw-blade.

Figure 6 represents different methods of entering the teeth into the slots of the saw-blade.

Figure 7 represents a face or side view of one of the saws, with the teeth curved or circular instead of straight.

Figure 8 represents, in perspective, one of the blanks, or rather the shape of one of the blanks that are placed in the rear of the teeth.

The nature of this invention first consists in making the tongued and grooved saw-teeth thicker than the saw-plate, to lessen the amount of swaging and setting required to afford free passage of the saw-blade through the timber, as also to strengthen the teeth and prevent their rapid reduction in filing and swaging.

The invention further consists in providing certain means for holding or resisting the teeth against their inward thrust.

The invention further consists in providing the saw-plate and teeth with tongues and grooves, of peculiar form, when fitted sufficiently tight, to hold the teeth firmly in the saw-plate when in motion, without the aid of other fastenings.

Although the invention is applicable to all kinds of saws, I have adopted the circular saw to illustrate my invention by.

In fig. 1, *a a a a* represent saw-teeth or cutters, made thicker than the body or blade of the saw, and projecting equally on both sides of the saw, as shown at fig. 5, where H H shows the extra thickness of the teeth. The slot S, figs. 1 and 2, is provided with chamfered edges, as seen at D D, &c., and it is made slightly narrower at its outer extremity (A, fig. 1) than at its base, so that when the tooth (which is made to fit snugly) is driven into the slot S, the gum B will act as a spring against the front part of the tooth, and thus effectually and firmly secure said tooth in the blade or body of the saw. The teeth *a a a a*, fig. 1, are made thicker than the body of the saw, to lessen the amount of swaging or setting required to insure the free passage of the saw-blade through the timber. This extra thickness of the teeth also gives strength to them, and, from their thickness, are not reduced so rapidly in filing and swaging. The heel-point (*m*, fig. 1) of the teeth is allowed to project a distance above the edge of the saw-plate, and when this portion of the teeth is filed away they may be set out again, and a blank of suitable size placed behind them, as shown by *c*, in connection with the tooth *a*, fig. 1, to hold them out, and every time they are thus filed off and set out, a longer blank must be used, and thus two-thirds of the length of the tooth may be worn away by use before it need be replaced by a new one. By the use of the blanks behind the teeth, the latter are held firmly in their positions, and are prevented from being driven inward by the cutting action of the saw, or by the process of swaging or spreading the points of the teeth.

Another method of holding the teeth firmly to the saw-plate, and in different positions, is shown at *a'*, fig. 1. In this plan a revolving rivet is inserted in the saw, as seen at K, fig. 1. This rivet is flattened on one side, as seen at T, and is furnished with a groove, L, to enable the operator, with a suitable instrument, to turn it. In the tooth *a'* are notches P P P P, and by turning the flattened part of the rivet K, so as to bring it on a line with the under side of the tooth *a'*, the latter is free to slide back and forth; but when it is desirable to hold the tooth in position, then the rivet is turned so that its round part will fit into one of the depressions P, which firmly holds it in that position.

In fig. 6 are shown several different methods of or shapes for preparing the edges of the slots made in the

saw-plate, and in the edges of the teeth, a tongue and groove being preferable; the groove being made either in the edge of the saw or in the tooth. I, however, prefer to make the groove in the tooth. The grooves may be made sufficiently small to gripe the tongue and hold the tooth firmly in the saw without the aid of any other fastening, or they may be hammered or pressed down to make a firmer connection or adhesion of the parts, by making the outer part of the groove smaller than the inner or bottom portion.

Having thus fully described the invention, what is claimed therein as new, and desired to be secured by Letters Patent, is—

1. Making the tongued and grooved teeth thicker than the saw-plate, as and for the purpose described.

2. The devices, or their substantial equivalents, for holding the teeth against their inward thrust, constructed substantially as described.

3. The tongues and grooves on and in the edges of the teeth and saw-plate, when the grooves are made smaller than the tongues, by hammering, pressing, or otherwise, so that the sides of the grooves form a spring to clasp or gripe the tongues sufficiently tight to firmly hold the teeth in the saw when in motion, without the aid of any other fastening, substantially as described.

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Witnesses:

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CYRUS KRAUSER.