F. P. PETZOLD.

INSERTED SAW TOOTH.

APPLICATION FILED JAN. 17, 1914.

1,120,969. Patented Dec. 15, 1914.

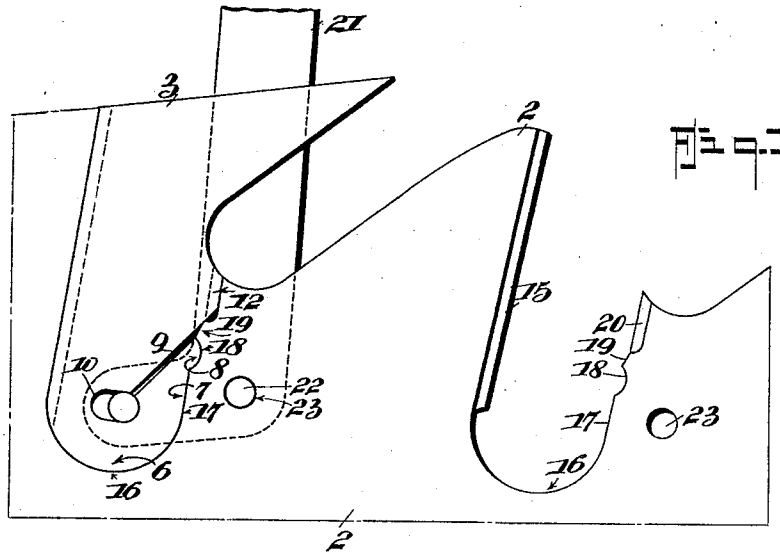

Fig. 1.

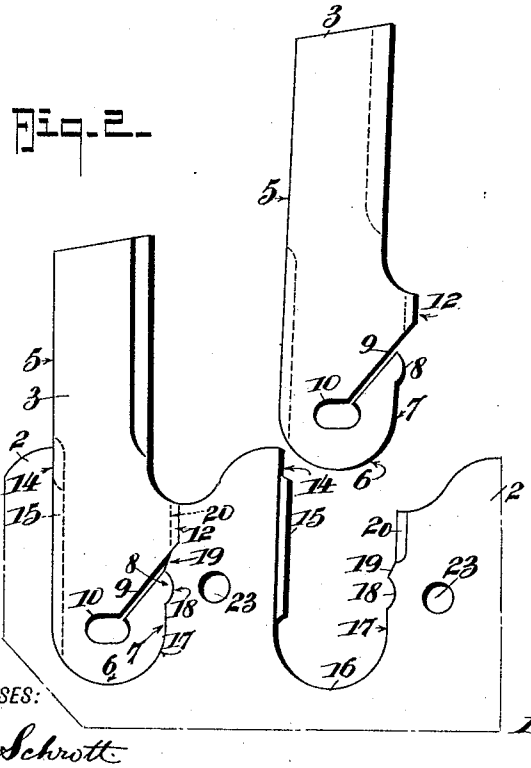

Fig. 2.

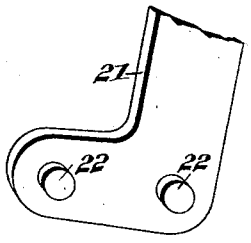

Fig. 3.

WITNESSES:

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INSERTED SAW-TOOTH.

1,120,969. Specification of Letters Patent. Patented Dec. 15, 1914.

Application filed January 17, 1914. Serial No. 812,654.

To all whom it may concern:

Be it known that I, FERDINAND P PETZOLD, a citizen of the Dominion of Canada, residing at Vancouver, in the Province of British Columbia, Canada, have invented certain new and useful Improvements in Inserted Saw-Teeth, of which the following is a specification.

This invention relates to an inserted tooth for saws and the improvement is particularly directed to the manner of securing the bit in the plate or blade of the saw without the necessity of providing a separate locking piece or the use of any supplementary attachment, such as a rivet, which requires to be cut or forcibly removed to release the bit.

The invention is particularly described in the following specification, reference being made to the drawings by which it is accompanied, in which:

Figure 1 shows the application of the invention to a hook tooth of recognized form. Fig. 2, the application to a straight or pillar tooth, one tooth being withdrawn from its seat in the plate, and Fig. 3 is a perspective view of the end of the lever key by which the bits are inserted or removed.

In these drawings 2 represents the blade or plate of the saw and 3 the cutting bit which may be of any approved form according to the work required from it. That portion 5 of the back of the tooth bit, which is inserted in the plate of the saw, has a bevel groove along it in which fits the beveled edge 15 of the bit seat in the plate. This groove of the bit and beveled edge of the bit recess terminate adjacent to the lower end of the bit, which end is rounded to a semicircle, as at 6.

At the termination of the semicircular end on the front of the bit there is a short portion 7 which is parallel to the back 5 of the bit and thereabove an arc-like projection 8 from the upper end of which arc a slit 9 is cut obliquely downward to an apperture 10, which is approximate to the center of the semicircle 6 of the end.

From the upper end of the slit 9 to the edge of the blade 2, the width of the bit is increased slightly as at 12, and is V grooved. This enlargement in width of the portion at 12 is sufficient to enable the projecting arc 8 to clear the V edged seat 20 in the blade during insertion of the bit. From the end of the arc projection 8 to the adjacent end of the seat 20, which part is opposite to the slit 9 of the bit when it is in place in the blade, the recess is tapered, as at 19, to facilitate passage of the arc projection 8 of the bit.

The edges of 6, 7 and 8 of the bit and the corresponding seats 16, 17 and 18 for these parts in the plate are square across the thickness of bit and of the plate, as also in is the incline 19 of the bit recess.

The bits 3 are inserted or removed from their seats by a powerful lever key 21 having pins 22 projecting from it to enter the aperture 10 in the lower end of the bit and an adjacent aperture 23 in the plate.

It will be noticed that the arc projection 8 is at the end of the tongue left by the oblique slit 9, which tongue has sufficient resilience to yield inward when the bit is forcibly pressed into its seat in the plate and will thereupon spring into the arc-like recess 18 provided for it.

Where the tooth is of pillar form, as in Fig. 2 of the drawing, and it is necessary that all the strength available should be retained in it at the periphery of the saw plate, the V groove of the edge 5 is not carried up the bit to the periphery but terminates a short distance within it, as at 14, and this portion 14 fits square against the square edge of the plate recess at this place.

I am aware that prior to my invention saw tooth bits have been used inserted in their plates with provision in the bit itself for retaining it in the plate without the requirement of locking pieces or supplementary fastenings, but in all with which I am acquainted the retaining provision has either been at the extreme inner end of the cutting bit, or the slit affording the required resilience to the retaining projection has been lengthwise of the bit. There is a twofold objection to such construction: In the first place the cutting pressure on the bit as a turning moment tends to withdraw the retaining projection from its engagement, and the lower end of the bit is not sufficiently rigid to afford it the required support; and not only so, but the termination of the slit adjacent to the periphery of the plate weakens the bit where the strength is most required.

Having now particularly described my invention, I hereby declare that what I

claim as new and desire to be protected in by Letters Patent, is:

1. An inserted tooth for saws, comprising a cutting tooth having substantially parallel front and back edges where it is inserted in the blade, that portion of the tooth which is inserted in the blade having a tongue and groove connection with the blade, resilient means for retaining the bit in the blade recess, said resilient means flexing from the inner end of the bit, and including a projection to engage a recess in the blade, said tooth including a portion beyond the resilient retaining means to engage the blade and have a tongue and groove connection with the same.

2. In a saw, an inserted tooth comprising a body having front and back edges, a portion of the one edge of the tooth which is inserted in the saw blade having a tongue and groove connection with the blade, said bit having a projection from one edge and having a slit extending obliquely downwardly from the edge adjacent the said projection to an aperture approximately in the center of the lower end of the tooth, the body portion of the tooth above the slit being of a width corresponding approximately to the width at the projection, said last named body portion having a tongue and groove connection with the saw blade, all being arranged substantially as shown and described.

3. An inserted tooth for saws, comprising a cutting tooth, that portion of the tooth which is inserted into the blade having a tongue and groove connection along its one edge with the blade, the lower end of the tooth being rounded in profile, said tooth having an aperture in the lower end and a slit directed angularly from the aperture outwardly toward one side of the bit, that portion of the bit below the slit including an arc-like projection to fit a corresponding recess in the edge of the bit seat in the blade, that portion of the bit above the arc-like projection being of greater width than that portion below the arc-like projection, said portion of the bit above the arc-like projection having a tongue and groove connection with the blade, substantially as shown and described.

4. In a saw, an inserted tooth comprising a body having parallel front and back edges, that portion of the back edge of the tooth which is inserted in the saw blade having a tongue and groove connection with the blade, the lower end of the tooth being formed as a semi-circle, said bit having an arc like projection from its front edge at the termination of the rounded end, said bit having a slit extending obliquely downwardly from the outer end of the arc projection to an aperture approximately in the center of the end, the body of the tooth above the slit being along the front edge parallel to the back and of a width corresponding approximately to the width at the projection, said last named parallel part having a tongue and groove connection with the saw blade, all being arranged substantially as shown and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

FERDINAND P. PETZOLD.

Witnesses:
ROWLAND BRITTAIN,
MAY WHYTE.