

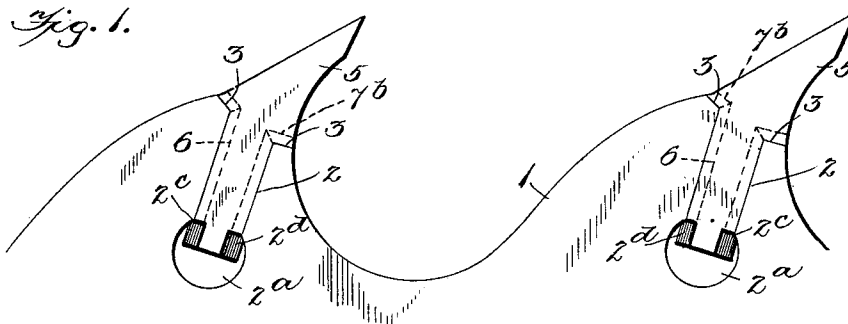
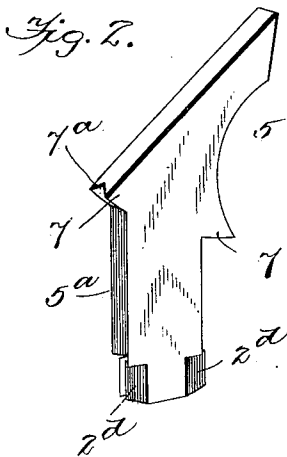
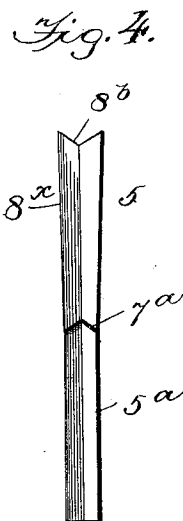
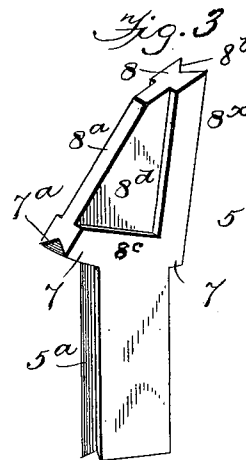
No. 659,094.

Patented Oct. 2, 1900.

J. OLDHAM.
SAW.

(Application filed July 27, 1899.)

(No Model.)



Witnesses
T. L. Mooker
Herbert K. Lawson.

Inventor
Joshua Oldham,
per *J. M. Whitaker*
Attorney

UNITED STATES PATENT OFFICE.

JOSHUA OLDHAM, OF NEW YORK, N. Y.

SAW.

SPECIFICATION forming part of Letters Patent No. 659,094, dated October 2, 1900.

Application filed July 27, 1899. Serial No. 725,265. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA OLDHAM, a citizen of the United States, residing in the city of New York, borough of Brooklyn, State of New York, have invented certain new and useful Improvements in Saws; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

The present invention relates to improvements more particularly upon the subject-matter of my Letters Patent No. 571,200, issued November 10, 1896, for insertible teeth for saws—band, circular, gang, and crosscut.

It has for its objects, in common with said subject-matter, in part, to dispense with the use of additional or separate means for securing or holding the teeth in place in the blade—as, for instance, the use of the primitive rivet, the curved separate shank or throat-piece, and the like—to economize space in the arrangement of the teeth in the blade; also, to avoid the crowding of the teeth, consequently preventing interference with their cutting action by the accumulation of sawdust in the throat of the teeth; also, to increase the efficiency of the individual teeth, and accordingly the cutting capacity of the saw, more especially of large circular saws used in the manufacture of lumber, and to secure a greater amount of throat room or space between the teeth than has heretofore been obtainable by insertible teeth now commonly in use, which cannot be held in place without the use of movable shanks or like fastenings.

The nature of these improvements lies in the peculiar construction of the fastenings for the teeth-shanks; also, in the peculiarities of construction as relates to the tooth itself, all substantially as hereinafter more fully disclosed, and specifically pointed out in the claims.

It will be understood that latitude is allowed herein as to details, as they may be varied or changed at will without departing from the spirit of my invention and the same yet remain intact and be protected.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a view showing the same as applied for use. Fig. 2 is a detached view of a tooth more fully disclosing the form the tooth-shank is caused to assume to secure it in place. Figs. 3 and 4 are views disclosing a bifurcated form of tooth embodying my invention.

In carrying out my invention I provide a blade 1, having tooth-receiving slots or sockets 2, each terminating in an opening or enlargement 2^a, substantially in its general outlines or contour as disclosed in my Letters Patent above referred to, the same differing, however, therefrom in having at the open or outer ends of said slots seats or depressions 3, forming forward and rearward extensions or elongations of said slots or sockets, more fully described further on. The openings 2^a in my present improvements are, however, of greater cross-section than the tooth-receiving slot or socket 2 and adapted to furnish or form shoulders at 2^c immediately at the inner end of said slot or socket, the purpose of which will be apparent hereinafter. I also employ an insertible tooth 5, which may have any desired form of point to adapt it for crosscut, circular, band, or gang saws. The shank of said tooth has its forward and rear edges provided with longitudinal channels or grooves 5^a, adapted to receive or engage ribs or fins 6 on the walls of the tooth-receiving slots or sockets 2 of the blade 1. Instead of the above arrangement of said channels or grooves and ribs or fins the same may be reversed, said channels in that case being produced in the walls of said tooth-receiving slots or sockets and said ribs formed upon the forward and rearward edges of said tooth. It will be seen that the inner end of the tooth-shank is caused, as in said patent, to project or extend within the opening of the tooth-receiving slot or socket, but is not laterally or otherwise thickened, as in said patent, to secure it against outward or radial displacement. In my present invention I, however, by the use of suitable means, as a pliers or punch, operate upon or compress said inner end of the tooth-shank at opposite points near the edges, as at 2^d, whereby the walls of the grooves or channels at said points are as they are thus

compressed projected or offset forwardly and rearwardly beyond their original plane and caused to take under or engage the shoulders 2^c of the openings 2^a, and thus firmly secure said shank as against outward or radial displacement, as is apparent. The tooth-shank is also provided beyond the outer edge of the blade at the base of the point with opposite projections 7, extending forwardly and rearwardly and adapted to engage or rest in the seats or depressions 3 in the outer edge of said blade to aid in strengthening or reinforcing the point of the tooth proper and to limit the inward or radial insertion of said shanks and combine or unite with the offsets or projections 2^d at the inner end of said shank to prevent the endwise or radial displacement of the tooth. These shoulders 7 are formed to correspond with the outline or surface of the seats or depressions 3, the contacting points or surfaces between them being produced in right lines, angular, or circular, preferably, however, as last stated, to provide for readily varying or changing the angle of presentation of the points of the teeth, according to the kind or character of the wood to be operated upon, without altering the dimension of the tooth or bit or the angle of contact between the blade and the tooth or the radius of the circle, the contacting surfaces always being in the arc of the same circle. The projections 7 are formed in their ends with grooves or notches 7^a, preferably continuations of the grooves or channels in the shank of the tooth, and I produce tapered or rounded ribs 7^b at the ends of the seats or depressions 3 in the blade 1 to engage said grooves or notches 7^a to form a solid joint or connection between the tooth or point and the blade and to prevent lateral displacement of the tooth.

The tooth proper or point, as disclosed in Figs. 3 and 4, has its extreme upper edge sloped gradually a short distance rearward, as at 8, and thence sloped precipitately or at a more acute angle in the same general direction clear to the base, as at 8^a, with its forward edge portion 8^x flared from its base upward and bifurcated on the front edge from the base to the apex, as at 8^b, providing it with a duplex or double-cutting edge. Said forward edge portion 8^x is laterally offset, as at 8^c, from the rear portion 8^d, which latter is of a uniform but less thickness than the shank, a shoulder or offset 8^c thus being left at the base of said rear portion 8^d to strengthen the same there, said shoulder or offset 8^c, however, ranging flush with the forward portion 8^x. This construction of point I have found in practice to cut or operate to greater advantage than that disclosed in my above-referred-to patent, the principal feature of difference comprising the uniform thickness of rear plate portion serving to better clear the kerf than the rearward tapering or vanishing portion of the point of said patent. It

will also be observed that by my arrangement of the teeth upon the blade proportionately-greater clearing or throat space or room than heretofore obtainable is provided between the teeth, thus preventing choking or crowding from sawdust, &c., which would otherwise accumulate in said throats.

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

1. In a saw, the combination, with a blade having a slot or socket terminating in an enlargement at the inner end, of an insertible tooth having a channeled or grooved longitudinal edge, the walls of the groove or channel being of uniform cross-sectional area throughout, being compressed and extending or projecting at the inner end of the tooth into said enlargement of slot, substantially as set forth.

2. In a saw, the combination, with a blade having a slot or socket terminating in an enlargement at the inner end, of an insertible tooth having forward and rearward channeled or grooved edges, the walls of the grooves or channels being of uniform cross-sectional area throughout, being compressed and projecting or extending at the inner end of the tooth into said enlargement of slot, substantially as specified.

3. In a saw, the combination, with a blade having a slot or socket terminating in an enlargement at the inner end, of an insertible tooth having grooved or channeled longitudinal edges, the walls of the grooves or channels being of uniform cross-sectional area throughout, being compressed and extended at the inner end of the tooth into said enlargement of slot, said socket or slot and tooth having engaging grooves and ribs, respectively, substantially as described.

4. In a saw, the combination of a blade having a slot or socket terminating in an enlargement at the inner end and in seats at the outer end, extending along the edge of the blade, and an insertible tooth having forward and rearward shoulders or projections at its base engaging said seats, and channeled or grooved longitudinal edges, the walls of the grooves or channels being of uniform cross-sectional area throughout, being compressed and extending into said enlargement of slot or socket, said shoulders and seats having engaging ribs and grooves, respectively, substantially as set forth.

5. In a saw, the combination, with a blade having a tooth-receiving slot or socket, of an insertible tooth having a point, formed with a bifurcated offset forward portion and a rear plate-like portion of uniform thickness, the outer edge of said point being differently sloped rearwardly, and a shoulder being formed at the base of said rear plate-like portion ranging flush with said forward portion, substantially as set forth.

6. In a saw, the combination, with a blade having a slot or socket terminating at its in-

ner end in an enlargement of an insertible
tooth, with the walls of its grooved or chan-
neled portions projecting forwardly and rear-
wardly into said enlargement of slot, and hav-
5 ing a point formed with a bifurcated offset
forward portion, and a rear plate-like portion
of uniform thickness, the outer edge of said
point being differently sloped rearwardly, and
a shoulder being formed at the base of said

plate-like portion, ranging flush with said for- 10
ward portion, substantially as indicated.

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

JOSHUA OLDHAM.

Witnesses:

FRED HANSEL,
E. C. ROGERS.