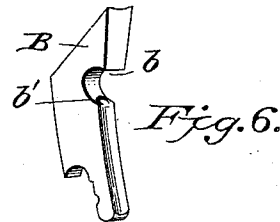
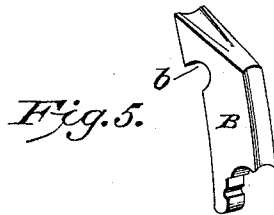
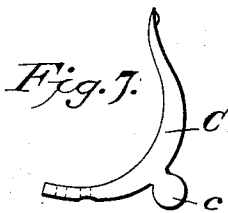
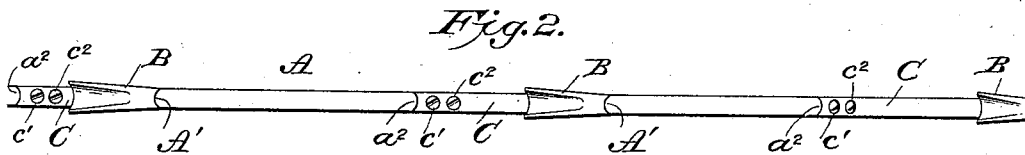
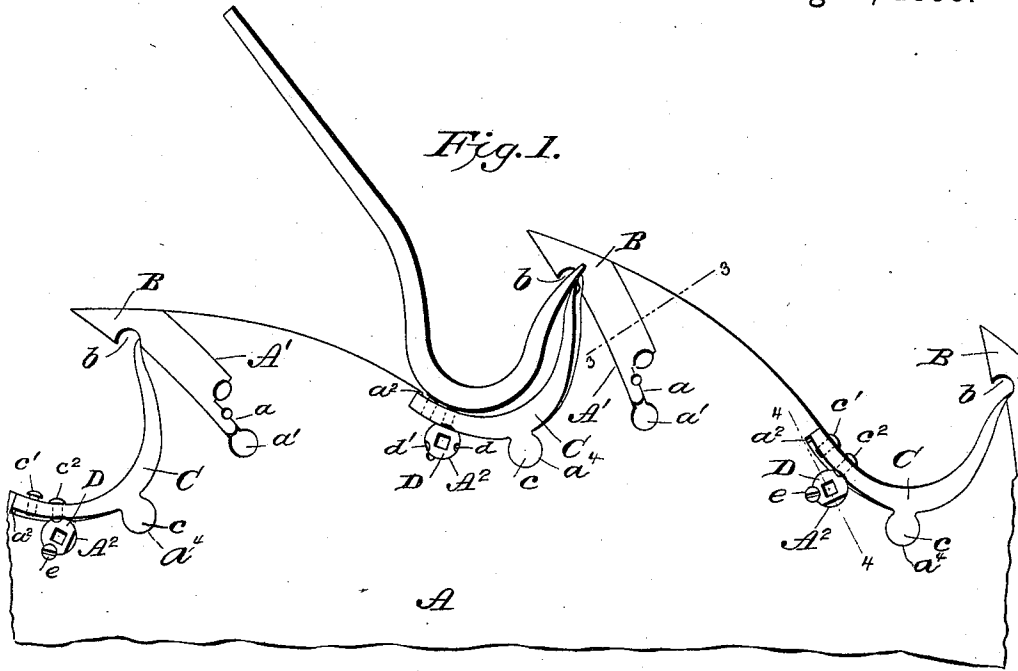


(No Model.)

J. R. LUCE.
SAW TOOTH.

No. 565,288.

Patented Aug. 4, 1896.



WITNESSES
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UNITED STATES PATENT OFFICE

JAMES ROOT LUCE, OF EVERETT, WASHINGTON.

SAW-TOOTH.

SPECIFICATION forming part of Letters Patent No. 565,288, dated August 4, 1896.

Application filed May 14, 1896. Serial No. 591,544. (No model.)

To all whom it may concern:

Be it known that I, JAMES ROOT LUCE, a citizen of the United States of America, residing at Everett, in the county of Snohomish and State of Washington, have invented certain new and useful Improvements in Saw-Teeth; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in that class of saws in which the teeth or cutting-points are removable; and it consists in providing the saw-plate with recesses to receive insertible cutting-teeth or bits, the saw-plate being also constructed to receive a lever and means for locking said lever in engagement with a tooth or bit to retain the same within the recess in the saw-plate.

The invention further consists in providing the lever with a nib at one end, which engages a recess in the tooth or bit, the opposite end of said lever having set-screws and a recess, which in connection with the nib prevent lateral movement of the lever in the saw-plate.

The invention further consists in the special construction and combination of the parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

This invention is designed more especially as an improvement upon my patent dated February 17, 1878, No. 211,029.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation showing the application of my invention. Fig. 2 is an edge view. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is a sectional view on the line 4 4 of Fig. 1. Figs. 5 and 6 are detail perspective views of the cutting-teeth or bits. Fig. 7 is a detached view of the lever; and Fig. 8 is a side elevation, partly in section, of the cam carried by the saw-plate and adapted to engage the locking-lever.

A designates the saw-plate, which is provided with integral teeth or stubs having recesses A' for the reception of the cutting-

teeth or bits B. The recesses A' have a lower reduced portion *a*, terminating in a circular enlargement *a'*. The side edges of the upper or greater portion of the recess A' are convex, and the side edges of the insertible tooth or bit B are correspondingly shaped, or concave, so that when said tooth or bit is slipped into said recess sidewise movement of the former will be prevented.

The upper part of the forward edge of the tooth or bit B is provided with a circular recess *b*, in the lower wall of which is a depression *b'* for the engagement therewith of a nib or boss on the end of a lever C, employed to hold the tooth or bit firmly in connection with the saw-plate. The lever C is curved to correspond with the shape of the edge of the saw-plate beneath the projecting teeth or stubs, and is provided with a circular projection *c*, which fits in a corresponding recess *a'* in the saw-plate and forms a fulcrum for said lever. The rear end of the lever C is concave to fit a convex shoulder *a''* on the saw-plate to prevent lateral movement of said lever.

At a short distance in front of the shoulder *a''* the saw-plate A is provided with a circular opening A², the edge of which is convex to receive a cam D, having a concave periphery. One side of said cam or disk D is cutaway or flattened, as shown, and the periphery of the circular portion is provided with a semicircular recess *d* and opposite said recess with a depression *d'*, for the purpose hereinafter set forth. The flattened part of the disk, besides serving the purpose of a cam, also permits of the insertion of said disk or cam in the recess A², and when turned the flat portion of the cam will lie flush with the edge of the saw-plate, while a further rotation thereof will bring the circular portion above the edge of the saw-plate, thus operating or rocking the lever C upon its fulcrum to force the upper end or nib of the said lever in engagement with the tooth or bit.

The lever C carries set-screws *c'* and *c''* near its rear end, the end of the set-screw *c'* being adapted to bear in a notch in the upper edge of the saw-plate, while the set-screw *c''* bears in the depression *d'* of the cam, to thereby provide for a further adjustment of said lever, the cam being held in its adjusted position by a screw which engages a threaded

opening formed in part by the semicircular recess d in the edge of the said cam.

In inserting a cutting-tooth or bit in the saw-plate the set-screws c' and c^2 are loosened, the screw e withdrawn, and the cam D turned so that the flattened portion thereof will be flush with the upper edge of the saw-plate. The rear end of the lever C is then depressed, which will bring the upper end or nib out of the recess A' , which leaves the same free for the insertion of the tooth or bit, and after it is inserted the cam D is turned to throw the upper end of the lever C or nib c thereof in engagement with the depression b' of the tooth, and by adjusting the set-screws c' and c^2 this engagement can be made more positive, the cam being held by the screw e . This arrangement prevents any movement of the tooth in the saw-plate, and by the particular construction of the lever C and parts carried thereby lateral movement of the same is also prevented.

It will be understood that the lever C is constructed of rigid metal with very little, if any, spring or resiliency, so that when it is forced in engagement with the tooth or bit there will be a positive connection to provide against outward movement of the tooth when the saw is in operation.

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

1. The combination with a saw-plate having projecting teeth or stubs with recesses therein to receive cutting-teeth or bits, of a lever C having an intermediate projection or fulcrum c , and a nib at its upper or forward end, a cam carried by the saw-plate and in engagement with the rear end of the lever, and a cutting-tooth or bit the point of which projects beyond the saw-plate, said tooth having a recess b with a depression b' with which the nib on the end of the lever engages, substantially as shown and described.

2. The combination with a saw-plate having projecting teeth or stubs with recesses

therein to receive cutting-teeth or bits and a recess a' , of a lever C having a projection c which fits in said recess a' , and a nib at its upper or forward end for engagement with the bit; and a screw carried by the lever in the rear of its projection c to engage with the saw-plate and throw the nib of the lever in engagement with the tooth or bit, substantially as shown and for the purpose set forth.

3. The combination with a saw-plate having projecting teeth or stubs with recesses therein to receive cutting-teeth or bits, said saw-plate also having a circular opening a' , of a lever C having a circular projection which fits in said circular opening and provides a fulcrum for said lever, a nib at the upper end of said lever, and a cutting-tooth or bit having a semicircular recess and a depression in the lower edge of said recess with which the nib of the lever engages; together with set-screws carried by the lever in the rear of its fulcrum, substantially as shown and for the purpose set forth.

4. The combination with a saw-plate having projecting teeth or stubs with recesses therein to receive cutting-teeth or bits, said plate also having circular openings a' and A^2 , of a lever C having a circular projection which fits in the opening a' and a nib at the upper end thereof, a cam located in the opening A^2 to engage the lever in the rear of its fulcrum, and set-screws c' and c^2 carried by the rear end of the lever, one of said screws engaging the saw-plate and the other the cam; together with a tooth or bit having a semicircular recess with a depression at the lower edge thereof, substantially as shown and for the purpose set forth.

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

JAMES ROOT LUCE.

Witnesses:

LOUIS PATNAUD,
OSCAR E. REA.