H. Disston,

Saw.

No. 108,011. Patented Oct. 4. 1870.

FIG. 1.

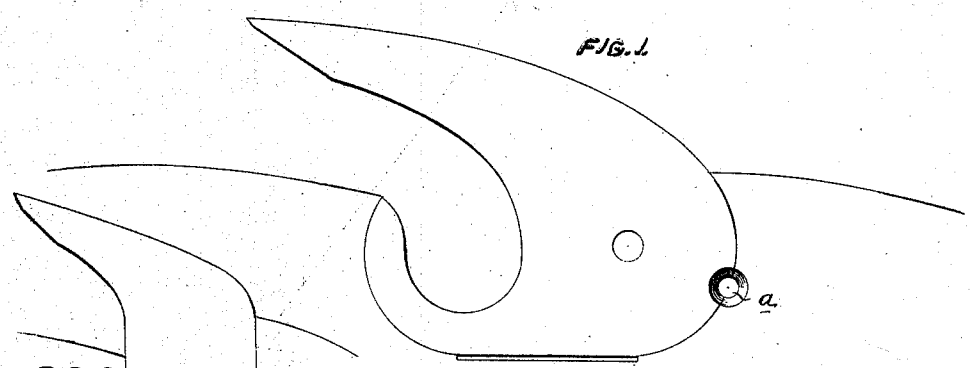

FIG. 6.

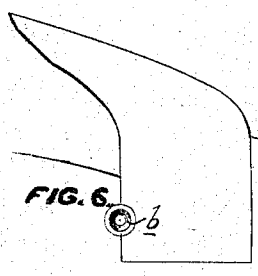

FIG. 7.

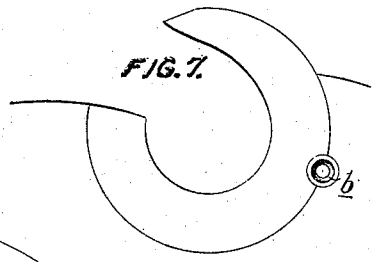

FIG. 2.

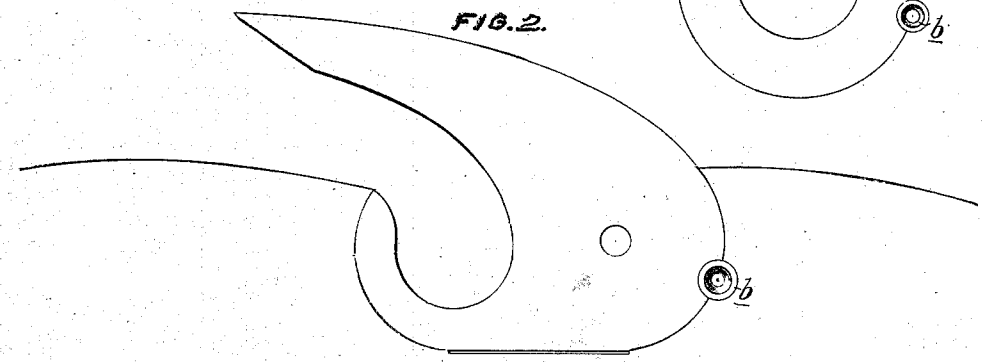

FIG. 3.

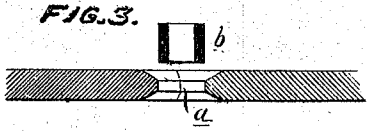

FIG. 5.

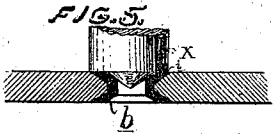

FIG. 4.

WITNESSES { Wm. A. Steel
John Parker

Henry Disston
by his attys.
Howson and Son

UNITED STATES PATENT OFFICE.

HENRY DISSTON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SAWS.

Specification forming part of Letters Patent No. **108,011**, dated October 4, 1870.

I, HENRY DISSTON, of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented an Improvement in Securing Detachable Teeth to Saw-Blades, of which the following is a specification:

Nature and Object of the Invention.

My invention consists of a detachable saw-tooth secured to a blade by an eyelet composed of metal or alloy softer than the blade or tooth, and applied and distended under pressure, substantially as described hereafter, so as to secure the tooth to its place without resorting to the percussions which are demanded by ordinary rivets, and which tend to strain and warp the blade.

Description of the Accompanying Drawing.

Figure 1 is a side view of a detachable saw-tooth adjusted to recess in a blade and prepared for being secured therein; Fig. 2, the same with the tooth secured in its place; Figs. 3, 4, and 5, sectional views (drawn to an enlarged scale) of part of the tooth and blade, and showing the mode of securing the former to the latter; and Figs. 6 and 7 illustrate my invention as applied to different styles of detachable teeth.

General Description.

The greatest objection to circular saws with detachable teeth has been the strains to which the blade is subjected in securing the teeth to their places. The use of rivets, either hollow or solid, for fastening the teeth has proved to be especially objectionable, as, in hammering these rivets, the blade must necessarily be subjected to such percussions and strains as tend to warp it. The main object of my invention has been to dispense with these objectionable rivets, and at the same time to effectually secure the teeth in their places.

In carrying out my invention I drill a small hole, *a*, one half in the tooth and the other half in the edge of the recess in the blade, and countersink this hole on both sides, as best observed in Fig. 3. Into this hole I introduce an eyelet, *b*, as shown in Fig. 4, the eyelet being of softer metal than that of the tooth or blade. By a suitable tool, X, Fig. 5, which has a pointed end to enter the eyelet, and is secured within a press, so as to be operated in the same manner as the distending tool of an eyelet-machine, I apply such a gradual pressure that the eyelet will be expanded and fit tightly in the hole and fill the countersinks. Owing to the softness of the eyelet and to the distension of the same under gradual pressure, it cannot strain and distort the blade as rivets do when secured in the usual manner by the blows of a hammer.

The eyelet may be made of brass, Babbitt metal, or other tough alloy, or of copper, wrought-iron, or even steel, providing it be softer than the tooth or blade, and soft enough to be distended under the pressure of dies, and fill the hole and its countersinks. The eyelet, instead of being a plain tube, as shown in Figs. 3 and 4, may be prepared with an inclined flange at one end, to fit one of the countersinks, before it is introduced into the hole.

In securing a detachable tooth to its place by means of an eyelet to which a gradual pressure is applied, the percussions which ordinary rivets require, and which, however light they may be, have straining or warping influences on the blade, are avoided.

The application of my invention is not limited to the securing of detachable teeth of the character illustrated in Figs. 1 and 2, for it will be readily understood that the eyelet described is well adapted to the securing of teeth of the style shown in Fig. 6, or of that shown in Fig. 7. In fact, my invention may be adopted with advantage in securing any form of detachable tooth to the blade.

Claim.

The eyelet *b*, in combination with a detachable saw-tooth and with the saw-blade, as herein described, and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY DISSTON.

Witnesses:

A. H. SHOEMAKER,

WM. H. WRIGHT.