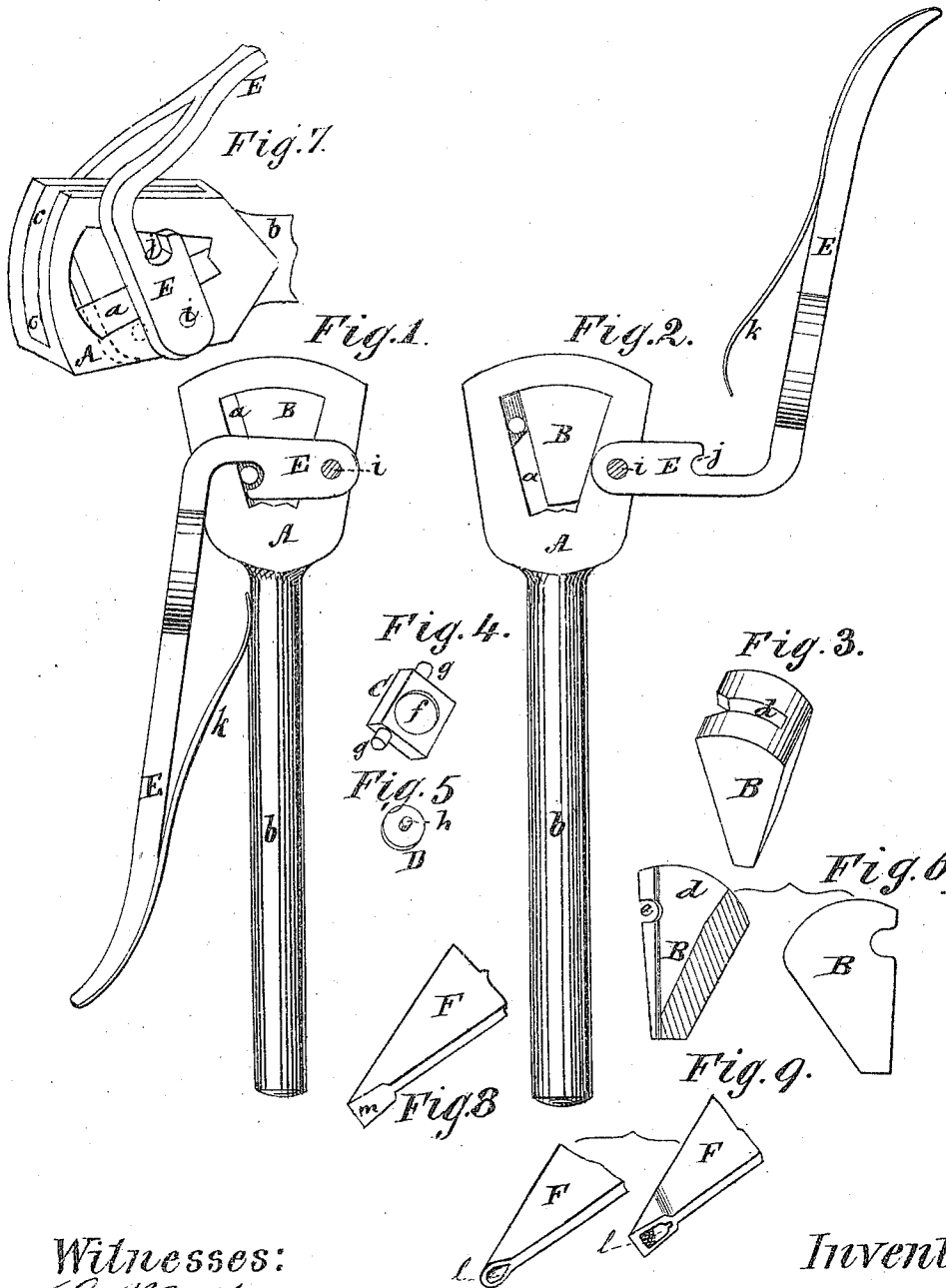


A. PICKETT.

Devices for Swaging Saw-Teeth.

No. 134,395.

Patented Dec. 31, 1872.



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UNITED STATES PATENT OFFICE.

AARON PICKETT, OF ANDOVER, OHIO.

IMPROVEMENT IN DEVICES FOR SWAGING SAW-TEETH.

Specification forming part of Letters Patent No. 134,395, dated December 31, 1872.

To all whom it may concern:

Be known that I, AARON PICKETT, of Andover, county of Ashtabula and State of Ohio, have invented an Improvement in Swages for spreading or grooving and spreading the under or forward edge of a saw-tooth, of which the following is a specification:

The object of the invention is to spread or to make a groove or hollow and spread the under or forward edge of a saw-tooth, the cutting-edge as distinct from the point; and the nature of the invention is in combining a slotted tooth-holder with a die-punch so as to hold the tooth firmly while the die is driven against the under or forward or cutting face or edge as distinct from the point of a saw-tooth.

The following description and accompanying drawing with their letters of reference will fully illustrate the invention.

A represents a punch, in and with which are held and combined all the parts of the swage. *a* represents a mortise through the broad tooth-end of the punch A to receive and hold a tooth-holder and die-holder. *b* represents a long, round, smooth handle-end of the punch A, whereby to hold and drive the swage. *c* represents a diagonal slot in the edge and end of the broad part of the punch A, in a plane at a right angle to the plane of the mortise *a* to go over the edge of a saw and allow a saw-tooth to enter a tooth-holder within the mortise. B represents a tooth-holder adapted to fit and go within the mortise *a* of the punch A. *d* represents a slot in the tooth-holder B to go over and hold a saw-tooth, and which slot is in the same plane and becomes part of the punch-slot *c* when the tooth-holder is within the mortise *a* of the punch A. *e* represents a hole or recess in one lip of the tooth-holder B, through from the outside to the slot *d*, to allow a die to enter to a point opposite the slot. C represents a die-holder adapted to fit and go within the mortise *a* of the punch A beside the tooth-holder B. *f* represents a step or recess in the die-holder C, in the side next to the tooth-holder B, to receive and hold a die. *g* represents a lug at each end of the die-holder C, whereby a die-mover may seize and move it along. D represents a die adapted to fit and go within the recess *f* of the die-holder C. *h* represents the working end or point of the

die D, adapted to spread or indent and spread the edge of a saw-tooth. E represents a die-mover, forked at one end, and adapted to be pivoted to opposite sides of the broad end of the punch A to embrace the punch and to seize and move the die-holder and die C D. *i* represents a pivot on which the die-mover E is fastened to the punch A. *j* represents a recess in the edge of each fork of the die-mover E, shaped like a journal-bearing, to seize and hold each of the lugs *g* and move the die-holder C to and from in the mortise *a* of the punch A, and to move the die D along the edge of the saw-tooth to be swaged. *k* represents a spring that may be, if desired, attached to die-mover E to steady the movement of the die D. F represents a swaged common saw-tooth. *l* represents a hollow or groove in the under or forward or cutting edge or face of a saw-tooth near the point, which hollow or groove may extend to and from the point, and as far back as may be desired. *m* represents an upsetting or spreading or widening of the under or forward or cutting edge or face of a saw-tooth from the point back as far as desired.

To prepare the swage for work, pivot the die-mover E to the broad part of the punch A at the edge opposite to the slot *c*; put the die-holder B within the mortise *a* of the punch, with slot *d* in the same plane and facing the slot *c*; put the die D within the die-holder C; and put the combined die and die-holder within the mortise between the die-holder and the slotted edge of the punch.

To work the swage, put the slotted edge of the punch A over the cutting edge or face of a saw, with a tooth inserted in the slot of tooth-holder B, and with the under or forward or cutting edge or face of the tooth next to the combined die C D, and then drive on the end *b* of the punch with a hammer, moving the die as the work is done by the die-mover E, as in Fig. 1.

In swaging a saw-tooth to make a hollow or groove in the cutting-face, as described, it is better to begin with a small sharp-pointed die, and to finish with a large and blunt one. Therefore the die-punch must allow a ready and convenient change of dies; and this may be done by making a series of dies, of which

D may be one, and all adapted to fit the same die-holder C; or the combined die-holder and die C D may be integrally all in one piece, instead of in two pieces, as described, and have a series of such combined dies, with the point h varied in each, as desired. The combined die may be changed as readily as a die-point in the die-holder.

An important feature of the invention is the ready movability of the combined die C D along the face of the tooth to be swaged so as to work on an infinitesimal point at a time, as, in so hard a substance as tempered steel, only in this way is it practicable to swage so large a surface as desired.

There are several swages in the art for upsetting and spreading the points or angles, and thereby setting the teeth of a saw; but I know of no other for simply upsetting and spreading or grooving, or hollowing and spread-

ing, the described part of the tooth swaged by this invention.

Having thus fully described the nature of my invention in its construction and operation, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a separable tooth-holder and punch, substantially as described.
2. The combination of a sliding die, tooth-holder, and punch, substantially as described.
3. The combination of sliding die-holder, die, tooth-holder, and punch, substantially as described.
4. The combination of a die-mover, die-holder, die, tooth-holder, and punch, substantially as described.

AARON PICKETT.

Witnesses:

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