

J. E. EMERSON.
Saw-Swages.

No. 142,779.

Patented September 16, 1873.

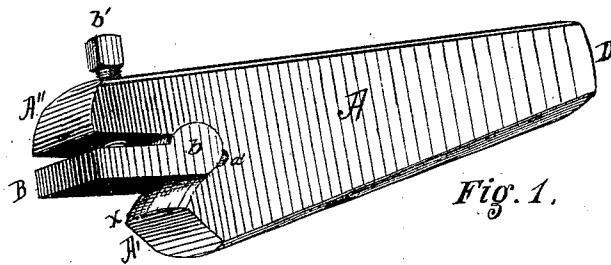


Fig. 1.

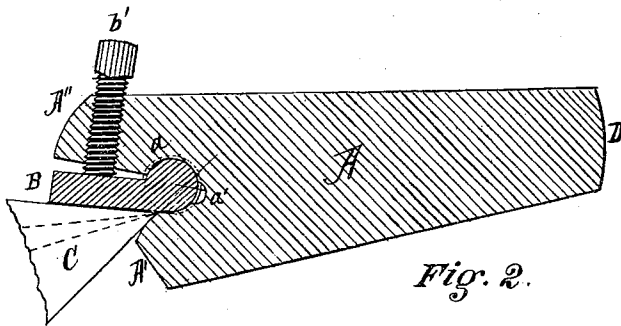


Fig. 2.

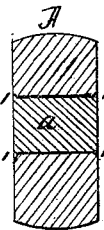


Fig. 3.

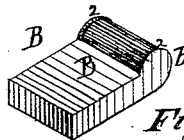


Fig. 4.

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UNITED STATES PATENT OFFICE.

JAMES E. EMERSON, OF BEAVER FALLS, PENNSYLVANIA.

IMPROVEMENT IN SAW-SWAGES.

Specification forming part of Letters Patent No. 142,779, dated September 16, 1873; application filed August 22, 1873.

To all whom it may concern:

Be it known that I, JAMES E. EMERSON, of Beaver Falls, in the county of Beaver, in the State of Pennsylvania, have invented certain Improvements in Swages for Forming and Sharpening the Teeth of Saws, of which the following is a specification:

My invention consists in the construction of the swage, as will more fully hereinafter be described.

In the drawings, Figure 1 is a side view, in perspective, of the swage; Fig. 2, a longitudinal sectional view; Fig. 3, a cross-section; and Fig. 4, a part in detail removed from the body of the swage.

A represents the body of the swage, and has two standing or fixed and diverging jaws, A' and A'', as seen in Figs. 1 and 2. A', or the jaw that is to be in contact with the under side of a saw-tooth, when applied to act upon a tooth, is convex in form, as seen in Fig. 1 at *x*. Transversely through the body A of the swage, and at or about where the lines forming the interior faces of the fixed jaws A' and A'' would intersect, a circular hole, *a*, is made, and on its outer sides is countersunk at 1 1, as seen in Fig. 3. *a'* is an oil aperture or opening in hole *a*, by means of which oil or other lubricator is inserted. B is a movable or swinging jaw, having two parallel and flat sides, and a round part, *b*, to fit into hole, *a*, of the body of the swage A. Part *b* of jaw B is made a little longer than the thickness of the body A of the swage, so that when inserted in the hole *a* the ends of part *b* can be upset or riveted into the countersink 1, as seen in Fig. 4 at 2 2, which will secure the movable jaw B in the body A, so that it cannot be disengaged or loosened, but allow the jaw to turn in hole or seat *a*. *b'* is a temper-screw, passing through jaw A'', and bears upon the movable jaw B, and adjusts the jaw B to different angles with relation to the face of the lower jaw, so as to accommodate the different angles of the teeth

of a saw that the swage is being used upon. C is a saw-tooth, inserted in position in the swage, and shows by dotted lines the different shapes that the teeth may have on different saws, and still the movable jaw B will adapt itself to operate on any of them, and shape their cutting-edges exactly and uniformly where the angles of the teeth are the same.

In use the movable jaw is adjusted to the shape of the teeth by the temper-screw *b'*, and then the swage placed on a tooth with the upper side or edge of the tooth against the face of jaw B and firmly held in this position, when a blow is struck by a hammer on the body A, at D, hard enough to upset the tooth and give it the desired form and sharpness at its cutting-edge.

The convexity of the face of the jaw A' tends to more easily and readily expand the edge of the tooth into the necessary and required form to cut the wood in sawing.

In saws that are used in gangs the teeth either have or should have the same angle of cutting-edge, and when this is the case the movable jaw is set to that angle and held by the screw *b'*, and where the teeth are not all of the exact angle the jaw is not held by the screw *b'* rigidly to a definite or fixed angle, but is allowed to adjust itself to the differing angles of the different teeth.

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

1. The saw-swage, composed of the body A, fixed jaws A' and A'', movable jaw B, and temper-screw *b'*, constructed and operating substantially as described.

2. In a saw-swage the convex fixed jaw A' in combination with the plane-faced movable jaw B, in the manner and for the purpose described.

Witnesses: JAMES E. EMERSON.
JOHN MCCARTY,
JOHN SMITH.