W. P. MILLER.

Improvement in Saw-Tooth Swages.

No. 127,182. Patented May 28, 1872.

Fig. 1

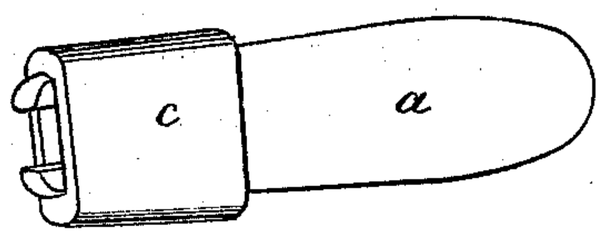


Fig. 2

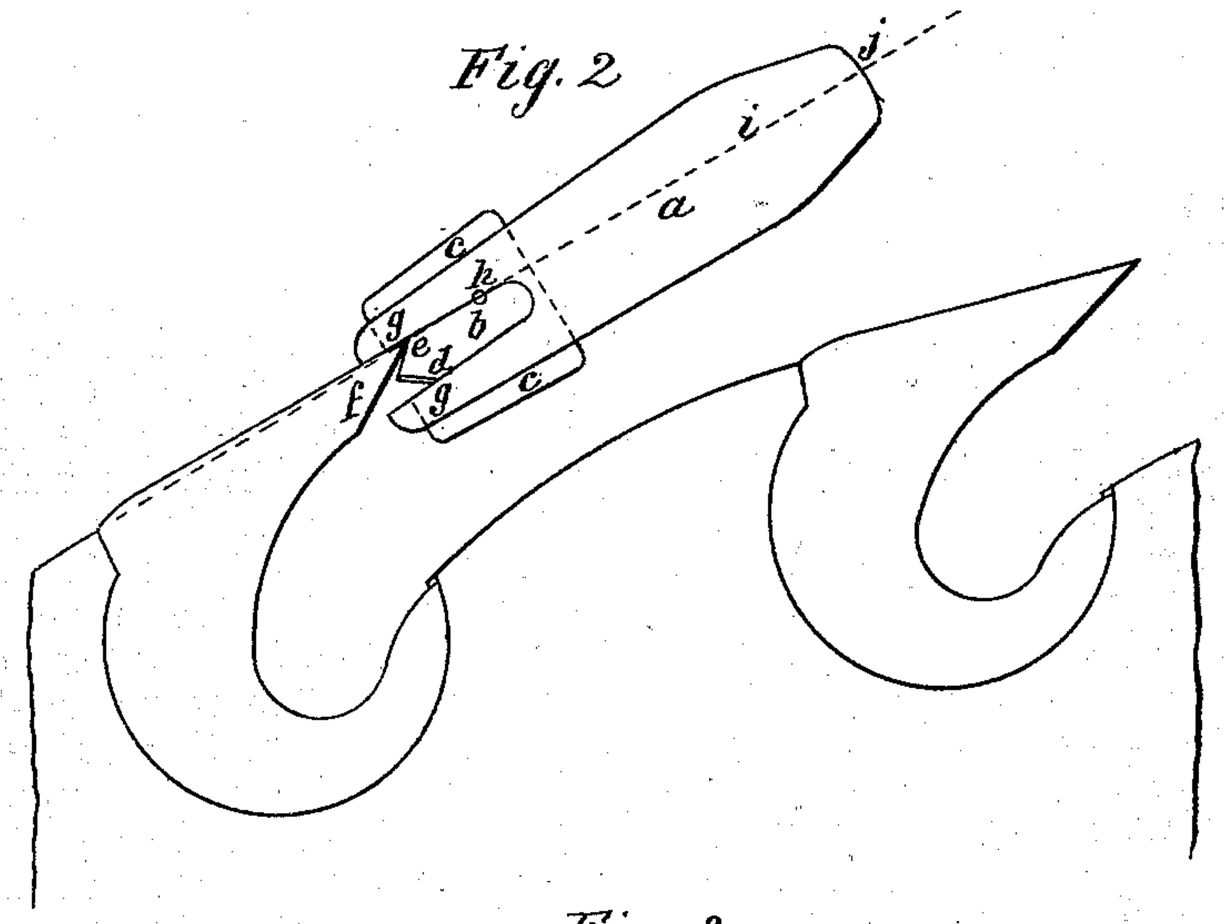
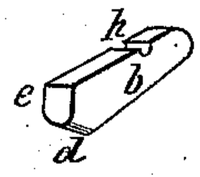


Fig. 3



Witnesses

Jno Sterrett

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UNITED STATES PATENT OFFICE.

WARREN P. MILLER, OF NEW YORK, N. Y.

IMPROVEMENT IN SAW-TOOTH SWAGES.

Specification forming part of Letters Patent No. 127,182, dated May 28, 1872.

Be it known that I, WARREN P. MILLER, of the city, county, and State of New York, have invented a new and useful Improvement in the Construction of Swages for Spreading and Sharpening Teeth for Saws; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a longitudinal section, showing the swage as applied to a saw-tooth in its proper position; Fig. 3 is a perspective view of the center piece that forms half of the two dies.

Letter *a* is the shank or handle of the swage. Letters *b b* is the center piece that forms the dies in connection with jaws *g* and *g;* letters *c c*, the collar; letters *d d*, the round die; letters *e e*, the straight die; letter *f*, saw-tooth; letters *g g*, jaws, forming half of each of the two dies, and solid on the shank.

The nature and object of my invention is to provide a cheap, reliable, and efficient tool for the use of sawyers, with which they may spread and sharpen the teeth of their saws without the annoyance of its being broken or disarranged.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I forge the shank *a* from a bar of cast-steel and remove enough of the center to receive the center die *b*, and thus form the jaws *g g*, the sides of which are not parallel, but form an angle with a line drawn through the center of the shank, so as to fit the wedge-shaped die *b*. The die *b* is formed of the piece out from the shank between the jaws, and is nicely fitted to the opening so made. By this plan of construction I save in cost of manufacture about fifteen per cent. The center die being fitted between the jaws, the front end is to be cut to an acute angle, as shown, to form one side of the straight-faced die *e*, and the opposite side the circular or round-faced die *d*. A hole is next drilled through the joint, as shown at *h*, and a pin inserted. The object of the pin is to prevent the center die from getting out of its proper place. The collar *c* is forged of iron, and fitted to the jaws in form as represented, to prevent the jaws *g* from springing, cracking, or breaking. The jaws *g g* and center die *b* must be hardened and tempered, and the collar driven on very tight. It is indispensable in the use of a swage that the end *j*, when struck with the hammer, should be elevated, so that the force of the blow will act in a line with the point of the tooth and its back, thus preventing the point from springing up. The object of making the jaws *g g* flaring is that their planes may rest in line with the top of the tooth, and secondly, it allows the lines of the dies *e* and *d* to intersect a plane, which insures forming the edge on a line with the top of the tooth.

Whenever a tooth requires much spreading the round die is first applied, which, when struck a few light blows with a hammer will force the steel out from the center of the tooth, leaving its front slightly concave. The straight die is then applied, and, after receiving a few strokes of a hammer, the edge will be formed perfectly straight and sharp.

I claim—

The saw-swage, herein described, consisting of the shank *a* having flaring jaws *g g*, the wedge-shape die *b* tapering toward the end of the shank, and the collar *c*, as and for the purposes set forth.

WARREN P. MILLER.

Witnesses:

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