(No Model.)

J. H. BROADFIELD.

SAW SWAGE.

No. 262,925. Patented Aug. 22, 1882.

FIG. 1.

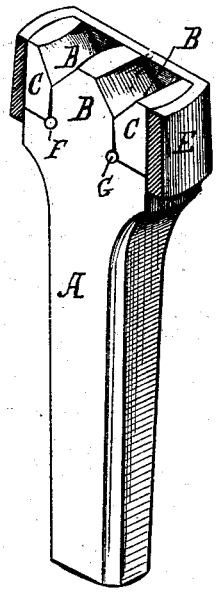

FIG. 7.

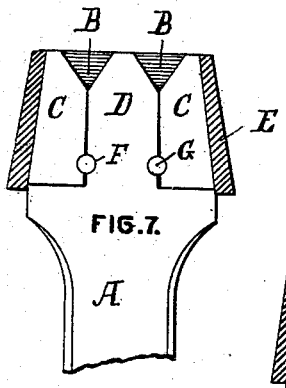

FIG. 2.

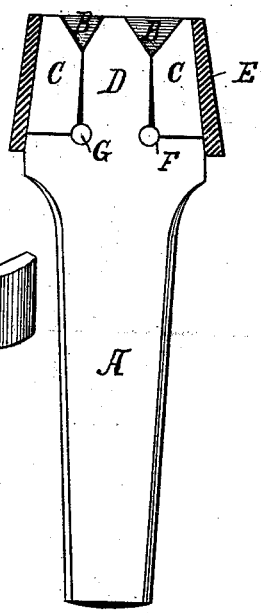

FIG. 3.

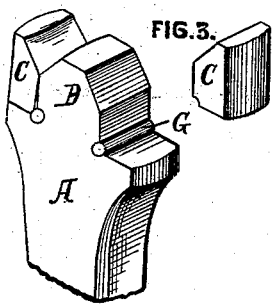

FIG. 4.

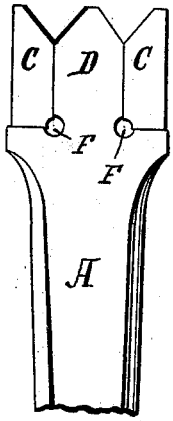

FIG. 6.

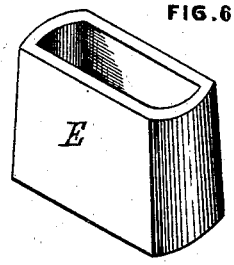

FIG. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN H. BROADFIELD, OF PHILADELPHIA, PENNSYLVANIA.

SAW-SWAGE.

SPECIFICATION forming part of Letters Patent No. 262,925, dated August 22, 1882.

Application filed April 28, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BROADFIELD, of Philadelphia, Pennsylvania, have invented an Improvement in Saw-Tooth Swages, of which the following is a specification.

My invention consists in the swage hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents in perspective a swage embodying my improvements, that side of the ferrule which is nearest the eye being removed. Fig. 2 is a side elevational view of a similar character. Fig. 3 is a view in perspective of the upper portion of the swage, one of the detachable jaw-pieces being shown removed, but the setting-pins being shown in place. Fig. 4 is a side elevational view of the position which the detachable jaw-pieces would assume were the setting-pins removed. Fig. 5 is a view in perspective of one of the setting-pins; Fig. 6, a similar view of the ferrule, and Fig. 7 a view of another construction of my device.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the block or handle of the tool, which is of proper dimensions and proportions to be grasped by the hand, and which is, moreover, of any preferred form. The block is adapted at its outer end to receive the blows of a hammer. The swaging end of the instrument is provided with two angular notches, B, formed by the application of two detachable jaw-pieces, C, on opposite sides of a fixed central jaw-piece or projection, D, the latter being a part of the block.

E is a ferrule, slightly tapered internally to adapt it to be fitted over the three jaw-pieces, which together form the notches, and to surround and retain the detachable pieces.

Such a swage as has been above described has long been known in the arts.

The object of my invention is to improve upon a swage of the above description by providing means for forming and retaining a well-defined acute angle in the notches, and for readily re-forming such angles when worn to such extent as to be no longer sharp. This result I accomplish in the following manner:

F are seats or partially-complete tubular holes, respectively, except in Fig. 7, drilled transversely through the block a little to the inside and below the inner angular corners formed on either side of the base of the fixed jaw-piece. The inner lower corners of the detachable jaw-pieces, except in Fig. 7, are likewise drilled to correspond with but not fully complete the circle of the curvature of the holes in such manner that when said detachable pieces are set in place against the fixed piece, in the manner represented in Fig. 4, the side outlines of the holes are not a true and complete but a broken circle, such as is represented in Fig. 4.

G are setting-pins, being small cylindrical metal blocks, whose exterior diameter is equal to the interior diameter of the partially-completed holes in the block, so that when the pins are in place, in the manner represented in Fig. 2, they complete the outline of the circle of the holes and serve to spread the detachable jaw-pieces outwardly at the bottom and cause them to assume opposite and slightly angular positions with respect to the sides of the fixed jaw-piece, in the manner shown in Fig. 2. The notches formed by the application of the detachable pieces to the fixed piece correspond to those usually found in devices of this character, one of them being represented as having slightly-rounded sides, which have the effect of spreading the cutting-edges of a saw-tooth, while the other has straight sides to impart the proper straight edge to the tooth after the latter has been spread.

Such being a description of a convenient construction of devices embodying my invention, it will be readily comprehended that when the setting-pins and the detachable jaw-pieces have all been placed in position and the ferrule applied and tightly driven on, all as represented in Fig. 2, an even, accurately-shaped, and sharp corner will be formed where the angular sides of the jaw-pieces meet to form the notches.

Now, as the successful operation of the device depends entirely upon the sharpness and accurate fit of the parts together composing the bottom edge of each notch, it will be understood that the operation of the setting-pins, in conjunction with the ferrule upon the jaw-pieces, will secure exactly such operation, as the setting-pins act to spread or hold the lower inner sides of the detachable pieces away

from the sides of the fixed piece, while the ferrule operates to throw their upper inner sides in against the fixed piece, and thus in co-operation with said piece form sharp-edged notches. To resharpen the swage the ferrule is removed, the parts separated, and the angular sides of both the fixed and the detachable jaw-pieces reground to form new acute angles to the notches, and the parts again assembled, as before. The office of the holes is to serve as seats for the setting-pins, and of the setting-pins to serve as blocks to spread and hold apart the detachable pieces from the fixed piece at the bottom. It is therefore obvious that other spaces or openings may be substituted for the holes, and other devices may be substituted for the setting-pins to effect this holding apart or spreading action. I however prefer the setting-pins and holes as the simplest and cheapest construction.

In Fig. 7 I have represented a construction in which the holes are formed partially in the sides of the fixed jaw-piece and partially in the inner sides of the detachable jaw-pieces at a point above the corner. This construction and location of the holes has some advantage in cheapness of manufacture.

Having thus described my invention, I claim—

1. A saw-tooth swage composed of a block having a fixed jaw-piece formed on its swaging end, in combination with detachable jaw-pieces, a ferrule, and setting-pins or separating-blocks adapted to hold the detachable jaw-pieces apart from the fixed jaw-piece at or near their respective lower extremities, substantially as and for the purposes set forth.

2. A saw-tooth swage composed of a block having a fixed jaw-piece formed on its swaging end and provided with two holes or openings at or near the lower corners of said fixed jaw-piece, in combination with detachable jaw-pieces, a ferrule and setting-pins or separating-blocks adapted to the holes or openings, so as to hold the detachable jaw-pieces apart from the fixed jaw-piece at or near their respective lower extremities, substantially as and for the purposes set forth.

In testimony whereof I have hereunto signed my name this 24th day of April, A. D. 1882.

JOHN H. BROADFIELD.

In presence of—

J. BONSALL TAYLOR,

W. C. STRAWBRIDGE.