

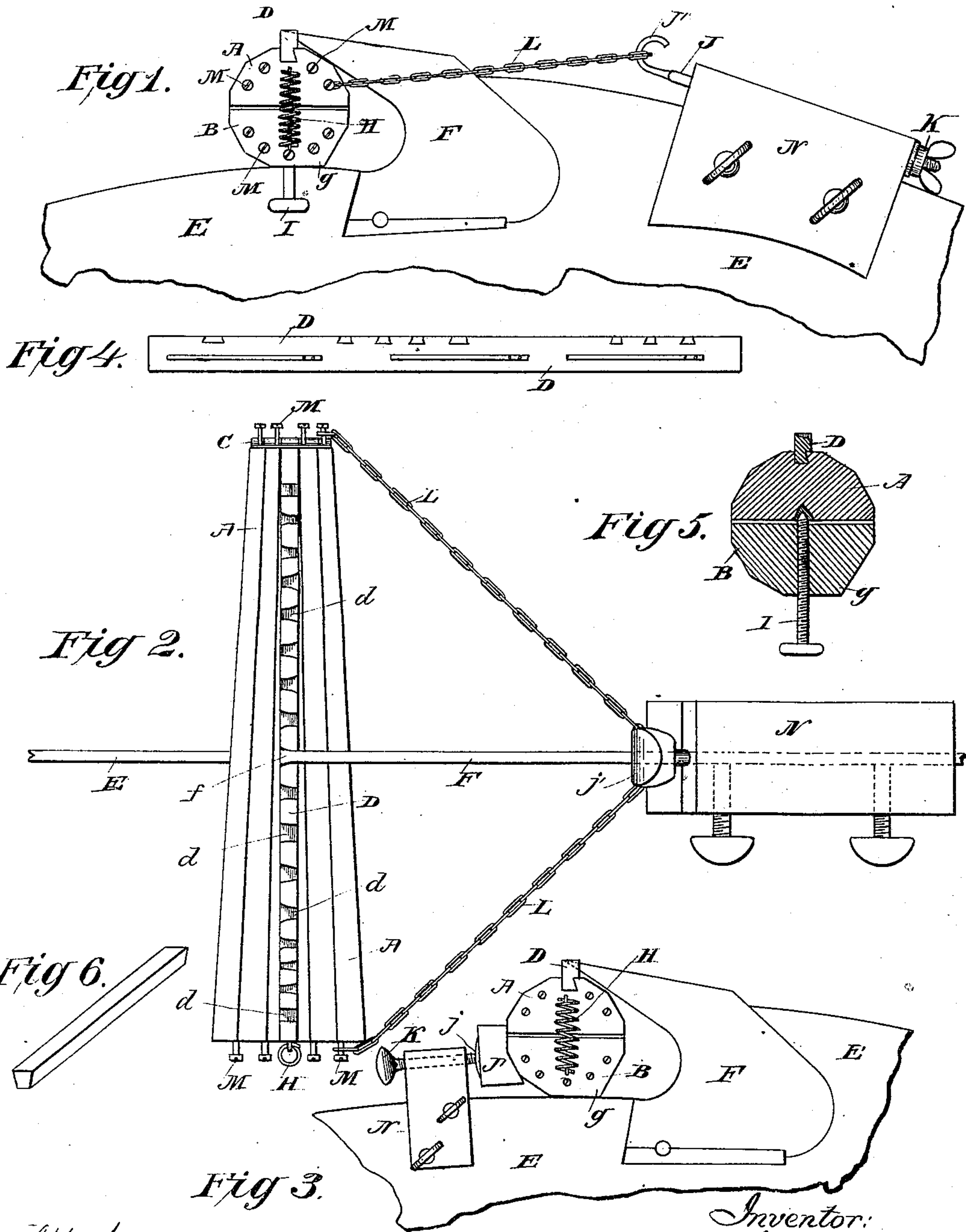
(No Model.)

N. JOHNSON.

SAW SWAGE.

No. 251,597.

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UNITED STATES PATENT OFFICE.

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SAW-SWAGE.

SPECIFICATION forming part of Letters Patent No. 251,597, dated December 27, 1881.

Application filed August 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, NELSON JOHNSON, a citizen of the United States, residing at Jasper, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Saw-Swages, of which the following is a specification.

My invention relates to a swaging tool or apparatus intended for drawing the points of saw-teeth and swaging them to a determined and uniform width and shape. For this purpose I employ a stock of tapering form, adapted to fit beneath the saw-tooth, resting on the edge of the saw-plate, and having on one or more of its faces a sliding bar formed with a number of swaging seats or dies of various widths, so as to be adapted to different widths of teeth or to the various forms which it may be desired to impart to the points thereof. In order to adapt the tool to the space between the edge of the saw-plate and the under side of the tooth, the stock is made in two parts, preferably hinged together, provided with one or more set-screws for the purpose of spreading it to the required width. As a further means of seating the tool firmly underneath the point of the tooth, I employ a screw-brace connected with a clamp adapting it to be fixed in proper position to the saw-plate, said brace being adapted to bear with a thrust against the swaging-tool or to draw the same into position by means of a chain or bail connection, as hereinafter described. The sliding bar is provided with springs to hold it with sufficient friction against spontaneous movement while permitting its ready adjustment.

In the accompanying drawings, Figure 1 is a side view, showing my improved swage applied to a circular saw. Fig. 2 is a top view. Fig. 3 is a side view, showing the thrust-rod for holding the swage-stock firmly under the tooth of the saw. Fig. 4 is a side view of the sliding die-bar detached. Fig. 5 is a vertical transverse section of the swage-stock. Fig. 6 is a view of the swaging pins or punches hereinafter described.

A B represent two parts of a stock, of tapering form and polygonal or other angular section. Said parts are connected together by a hinge, C, at their smaller end. The stock is

made of steel, and its various flat faces form suitable surfaces for the simple drawing out of saw-teeth; but in order to produce the required final finish, shape, and spread of the tooth-point, I provide my swaging-tool with a sliding bar, D, formed with numerous dies or matrices, of the various shapes and widths necessary to suit the thickness of the tooth and the desired spread and form thereof. I make the matrices, as shown, wider at bottom than at top, so that when the metal of the tooth is hammered down to fill the matrix the upset portion will be wider at bottom also, and so have a better cutting-edge.

The saw-plate is shown at E E and the tooth at F, f representing a spreading-point such as produced by my improved tool.

In order to set the swaging-tool underneath the saw-tooth, two of its adjacent faces are extended so as to form nearly a right angle, as shown at g, to adapt the tool to rest firmly on the edge of the saw-plate beneath the tooth, as indicated in Figs. 1 and 3. The two parts of the stock are held together at the base or larger end by a spring, H, and are spread apart, as required, by a set-screw, I, or a wedge in lieu thereof. By the use of a set-screw working in the lower member, A, of the stock, and having its point socketed in the flat face of the upper member, said screw serves as a stay to hold the parts against relative lateral motion.

J represents a stay-rod, formed with a pivoted head, J', adapted to fit two of the faces of the stock A B, so as to bear the said stock firmly home beneath the point of the tooth, as represented. When said stay-rod is turned up, as required, by means of screw-head K, the head J' of the brace or thrust rod J, being connected to it by the knuckle or swivel joint j, as shown in Fig. 3, permits the said head to adjust itself automatically to the shape of the stock, and the latter to adjust itself to the space underneath the saw-tooth point while receiving the thrust of the screw-rod J imparted by the screw-head K. As in some places it is inconvenient to place the brace-rod in the above-described position, so as to act with a thrust on the swaging-tool to hold it home to its place beneath the saw-tooth point, I further provide a stay-rod with a hook, j', adapted for

the reception of a chain or bail, L, the ends of which are connected to any one of the pins M provided for it at each end of the stock A B. When the chain or bail L is thus arranged and the clamp-block N fixed in place, as indicated in Fig. 1, by turning the screw-nut K the screw-rod J is made to apply tension to the chain or bail L, so as to draw the swaging-tool firmly beneath the tooth, as represented and described.

The apparatus may be used with a hammer, as above described; but I prefer to use swaging pins or punches, as shown in Fig. 6, the faces of which are variously shaped, so as to impart any special form desired to the upper side of the tooth.

Instead of the hook and pivoted block being applied to separate screw-rods, as described, they may both form parts of one pivoted head, the same screw being used for this purpose as is shown in Fig. 3.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A swaging-tool for insertion beneath the point of a saw-tooth, consisting of a tapering stock divided longitudinally, having a seat or seats for the tooth while being swaged, and one or more set-screws for spreading said stock apart to adapt it to the space under the tooth, substantially as shown and described.

2. The combination, with the swage-stock, of the adjustable bar, formed with seats of various shapes or sizes for imparting the required width and shape to saw-teeth points, as described.

3. The combination, with the swage-stock, of the adjustable bar provided with springs to retain it in position while permitting ready adjustment, as explained.

4. The combination, with the swaging-tool, of the clamp and holding-screw for bringing said tool to a bearing beneath the point of the saw-tooth, as described.

NELSON JOHNSON.

Witnesses:

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HARRY E. KNIGHT.