S. KINNEY.

Saw-Swage.

No. 210,127. Patented Nov. 19, 1878.

Fig. 1.

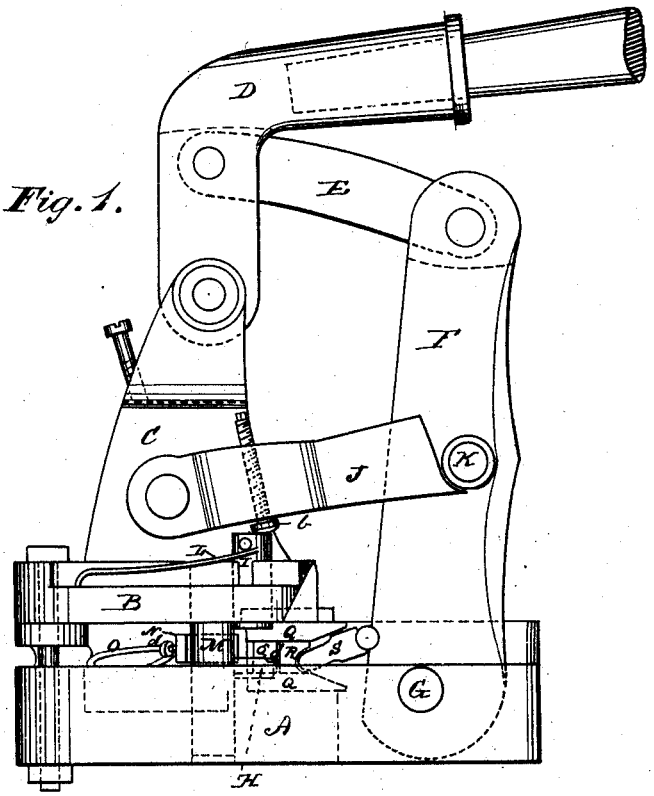
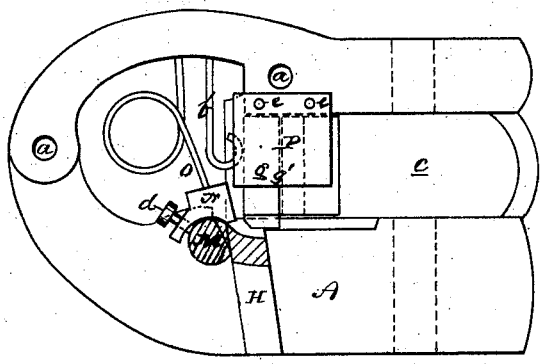


Fig. 2.



Witnesses.

John Grist,

F. J. Ross

Inventor

Simon Kinney

By Henry Grist

Attorney.

UNITED STATES PATENT OFFICE.

SIMON KINNEY, OF BAY CITY, MICHIGAN, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHAUNCY SPEARIN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN SAW-SWAGES.

Specification forming part of Letters Patent No. **210,127**, dated November 19, 1878; application filed July 8, 1878.

To all whom it may concern:

Be it known that I, SIMON KINNEY, of Bay City, in the county of Bay, in the State of Michigan, have invented certain new and useful Improvements in Saw-Swages; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of this invention is to cause the swaging of a saw-tooth to be more effectually performed by the operation of a lever mechanism; and my invention consists in a peculiar construction and combination of parts, which will first be described, and then pointed out in the claims.

Figure 1 is a side view of my improved swage. Fig. 2 is a plan view of the bed detached from the lever mechanism.

The frame is composed of a bed, A, to which a cap, B, is secured by bolts passing through the holes *a a*, said cap cast with a vertical standard, C, to which is fulcrumed the main lever D, connected by a horizontal lever, E, to the top end of a post, F, the lower end of which is pivoted in the bifurcation *c* in the bed-plate by a horizontal pin, G.

H is a horizontal clamp-plate, secured to the bed A, and I a clamp, sliding vertically in the cap B, to hold the saw-tooth interveningly when the clamp I is forced down by a cam-arm, J, one end pivoted to the standard C and the opposite end beveled to engage with a roller, K, pivoted to the post F, so that when the lever D is depressed the cam-arm J is moved downward, thereby causing the clamp I to descend. *b* is a set-screw in the cam-arm J, above the head of the clamp I, to adjust the length of the stroke of its depression according to the thickness of the saw-plate. L is a spring to raise the clamp I after the pressure thereon has been removed.

M is the anvil-bar, adjustable vertically in the base A and cap B, and held fixedly by a suitable key. The anvil M is flattened on the side in juxtaposition with the clamp I, and has a recess of the width of the thickness of a saw-plate, which recess is brought to a level with the plate H when hooked teeth are to be swaged; and when straight teeth are to be swaged the anvil M is adjusted so that the recess shall be below the plate H, whereby the saw-tooth will be pressed against its plain face.

N is a guide-block, held in contact with the anvil M by a spring, O, and it has a screw, *d*, to adjust it to suit the saw-tooth, so as to stop at the required place. This guide-block is caused to recede from contact with the anvil M by the swage when it is advanced to its work by the pressure of the block R, the spring O being forced back by the same operation to allow of such backward movement.

P is a flat plate, secured to the bed by bolts *e e* or other means, and lies in a recess in the cap B, for the purpose of holding the underlying swage-block Q in place when the pressure of the levers is on the side clamps H I, which pressure causes the cap B to slightly yield or spring from the base A during the swaging operation. The swage-block Q bears on a recess in the base A, and is retrograded, after swaging pressure is removed, by a spring, *f*. The swage-block is constructed of upper and lower plates, and an intervening bar, *g*, having a beveled swaging end integrally formed or bolted thereon.

R is a block lying loose between the upper and lower plates of the block Q, so as to allow of a thin packing, *g'*, to be inserted between it and the swage-bar *g*. S is a knuckle-block between the block R and post F, so that when the lever D is depressed the post F is drawn inwardly, and causes the knuckle S to push against the block R, and thus thrust the swage-block against the saw-tooth inserted against the anvil M.

In operation, the depression of the lever D slightly moves the post F, which causes the cam-arm J to move downward by the roller K pressing on its beveled end, and forces the clamp I to hold the saw on the clamp H fixedly. The roller K then passes on top of the cam-arm J without relaxing its pressure thereon, and the continued movement of the post F acts on the knuckle S and forces the swage-block Q, by its bar *g*, to swage the saw-tooth against the anvil M.

I claim as my invention—

1. The combination, with the base A, having clamp-plate H, and cap B, having standard C, of the cam-arm J, post F, roller K, link E, and lever D, to operate the clamp I, the swage-block Q, and anvil M, as set forth.

2. The combination of the vertically-adjustable anvil M, guide-block N, spring O, screw *d*, swage-block Q, and clamps H I, arranged and operating substantially as and for the purposes set forth.

SIMON KINNEY.

Witnesses:
R. B. ZEIGLER,
J. F. LANG.