

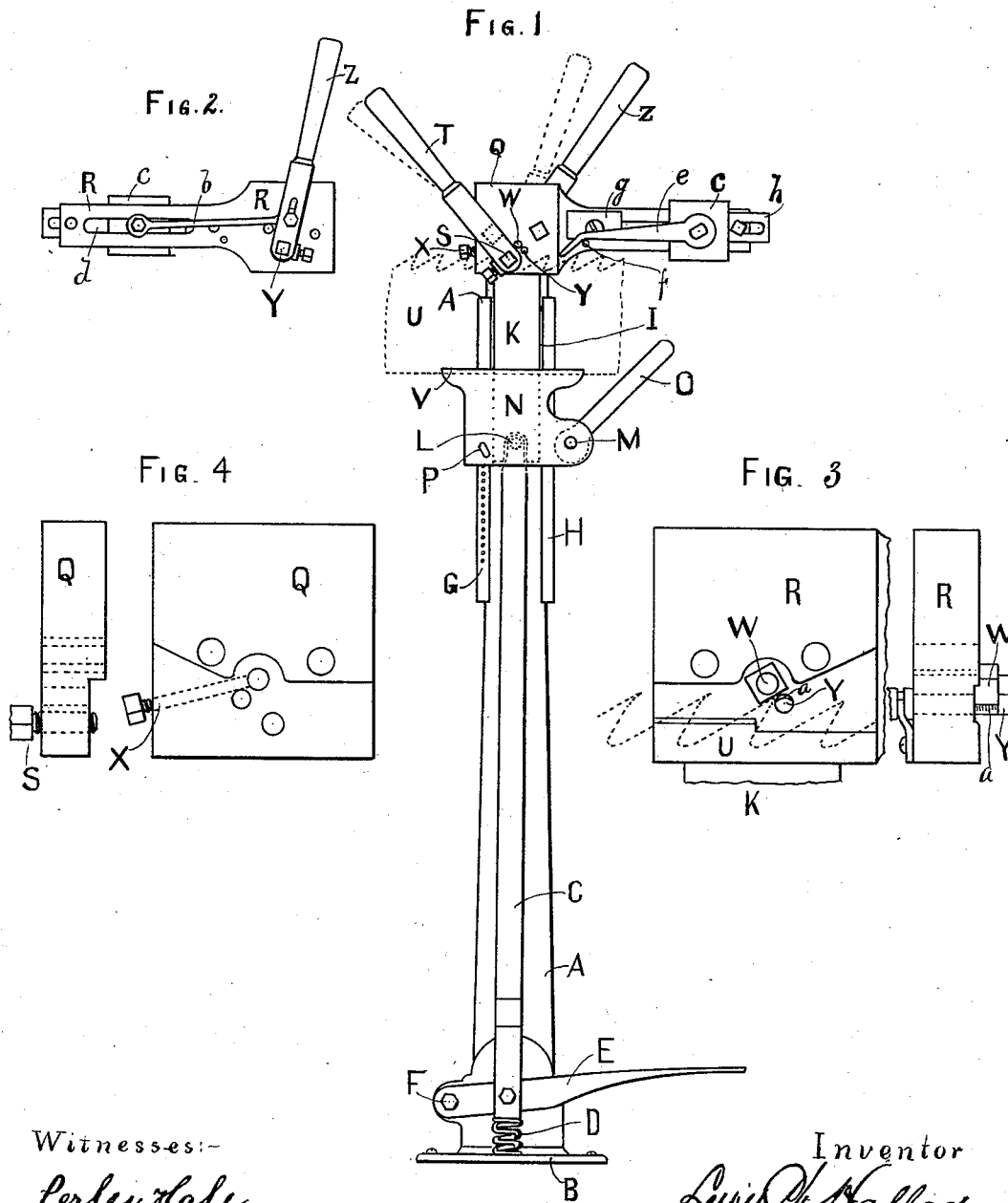
(No Model.)

2 Sheets—Sheet 1.

L. P. HALLADAY.
SAW SWAGE.

No. 418,715.

Patented Jan. 7, 1890.



Witnesses:-

Perley Hale.
L. P. Halladay.

Inventor

L. P. Halladay
By Francis W. Parker
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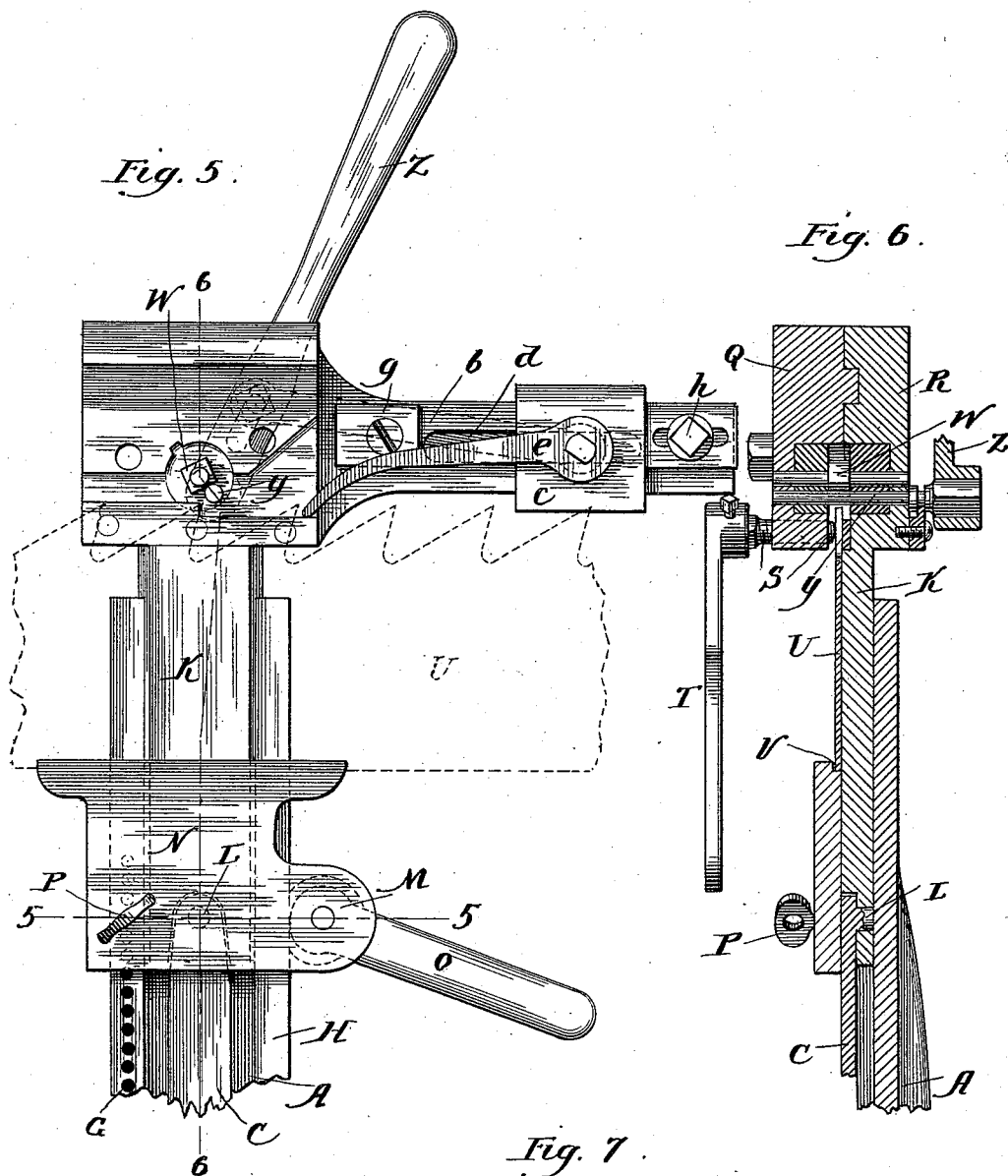
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2 Sheets—Sheet 2.

L. P. HALLADAY.
SAW SWAGE.

No. 418,715.

Patented Jan. 7, 1890.



Witnesses:

Charles P. Chapman.
Francis M. Ireland.

Inventor:

Lewis P. Halladay.

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UNITED STATES PATENT OFFICE.

LEWIS P. HALLADAY, OF CHICAGO, ILLINOIS.

SAW-SWAGE.

SPECIFICATION forming part of Letters Patent No. 418,715, dated January 7, 1890.

Application filed September 18, 1888. Serial No. 285,689. (No model.)

To all whom it may concern:

Be it known that I, LEWIS P. HALLADAY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Saw-Swage, of which the following is a specification.

My invention relates to devices for swaging saws, and has for its object to provide a cheap and convenient device for that purpose. This object I accomplish by means of the mechanism illustrated in the accompanying drawings, wherein—

Figure 1 is a side view of the machine, with a portion of the saw and parts of the machine and different positions of the machine shown in dotted lines. Fig. 2 is a back view of the hand-lever mechanism. Fig. 3 contains a view of the swaging-dies. Fig. 4 contains views of the clamping and die-securing screws. Fig. 5 is a front view with the face-plate removed. Fig. 6 is a cross-section through the head with face-plate restored. Fig. 7 is a cross-section on the line 5 5.

Like parts are indicated by the same letter in all the figures.

A is a standard supported on the base B.

C is a rod thereon, held upwardly by the spiral spring D and pivoted to the foot-lever E, which in turn is pivoted to the standard at F.

G is a perforated bar or extension of the standard, and H is an extension or similar bar on the opposite side, and they form between them a groove or recess I, in which moves the bar K, which is pivoted at L to the bar C.

M is an eccentric, pivoted to the saw-support N and provided with the handle O, whereby the support may be clamped so as to be secured to the frame.

P is a pin, which passes through a hole in the support N, and thence into the perforations of the bar G. The saw-support N has rearward dovetailed extensions, as indicated by the dotted lines in Figs. 5 and 1 and by full lines in Fig. 7, to engage the bars G and H.

Q is a face-plate, bolted to the rear plate R and having the clamping-screw S upon the handle T, which may extend above or below.

U is a saw resting upon the support N in the groove V.

W is a square-headed permanent die, against which the lock-nut or clamping-screw X may bear.

Y is a rotating die secured upon the handle Z, and having at one side the grooved portion a.

b is a rod pivoted to the lever Z and at its other end to the sliding block c. The plate R is grooved at d to receive the first pin, which connects the rod and block. To this block is pivoted the finger e, which may ride upon a pin f. The block c is limited in its motions by the adjustable stops g and h.

The use and operation of my invention are as follows: The saw-support N is secured at any convenient altitude by means of an eccentric M, pivoted to one side, and it may be very permanently fixed in position by means of a pin P, passing into the perforated bar at any position. It is grooved along its upper edge on the side toward the frame, and may have a passage-way or groove, through which the saw proper may slide. In the upper portion of the frame or the head and on the surface thereof and back of the support is a recess or wide groove, in which the bar K, which carries the head, moves. Pivoted to the lower end of this bar is a rod C or arm, which is borne upwardly by means of the spiral spring D at its base and is pivoted to the foot-lever E, so that it may be depressed to draw down the head into the position shown in Fig. 1.

Passing through this head are the two dies W and Y—one designed to remain permanently in its position, the other to rotate. The one which is fixed permanently is provided with a clamping-screw X or other device to more securely retain it in position; and it also has the square inner end, which presents one side of its surface to the rotating die. On one side of the upper frame or head is the hand-lever T, which controls the saw-clamping screw, and on the other side is the hand-lever Z, which controls the rotating die, and is provided with a rod to the sliding block c, upon which the feed-finger e is pivoted. The upper frame or head is composed of two portions R and Q, as shown, bolted together. The saw is first placed in position on the support, the height of the support being fixed as may be required. The hand-lever which controls the rotating die is moved

forward into the position shown in dotted lines on the left of the center. By this action the feed-finger is forced forward, and it engages, as indicated, the tooth next to be swaged and near its point. The upper frame or head is then depressed by the foot-lever until the tooth is brought into the position shown in dotted lines in Fig. 3. The hand-lever is now drawn backward into the position shown in full lines in Fig. 1, and by so doing the point of the tooth is spread outwardly in the groove on the rotating die, as indicated in Fig. 3. When the upper frame or head has been depressed and the tooth brought into the proper position, the clamping-screw lever-handle is drawn to the position shown in dotted lines in Fig. 1, thus securely clamping the saw. This process is continued until all the teeth of the saw have been sufficiently swaged. The stroke of the feed-finger is limited by the adjustable stops. A portion of the front side of the upper frame or head is cut away, as shown, to permit the feed-finger to enter far enough to throw the saw-tooth into position.

Having thus described my invention, what I claim, and desire to secure by means of Letters Patent of the United States, is as follows:

1. In a saw-swaging machine, the combination of a feed-finger with swaging-dies, both dies and fingers secured to a vertically-movable head, and a frame with a saw-support thereon, and on which the head moves so as to approach and recede from the saw.

2. In a saw-swaging machine, the combination of a reciprocating feed-finger adapted to successively engage the teeth next to be swaged, adjustable stops to limit the motion of the finger, a rotating die which, when rotated, swages the tooth, and a hand-lever connected with the finger and die, so that

when moved in one direction it causes the finger to feed the saw and when moved in the reverse direction rotates the die, thus swaging the tooth and returning the finger to its normal position.

3. In a saw-swaging machine, a feed-finger adapted to reciprocate to feed the saw, a hand-lever, and swaging-dies, one of the latter movable, the feed-finger and movable swage-die connected with the hand-lever, the whole supported on a vertically-movable head.

4. In a saw-swaging machine, the combination of an independently-adjustable saw-support with a movable head which carries both the swaging-dies and a frame upon which the saw-support is secured, and upon which the head moves so that the latter may approach and recede from the saw at each operation.

5. In a saw-swaging machine, the combination of an independently-adjustable saw-support with a vertically-reciprocating head, which carries the saw-feeding finger and the swaging-dies.

6. In a saw-swaging machine, the combination of a saw-support with a vertically-reciprocating head, a feed-finger, swaging-dies, and hand-lever on said head, said parts constructed so that the hand-lever may be operated to cause the feed-finger to feed the saw, the head to be depressed to bring the tooth into position, and the die then to be turned by means of the hand-lever to swage the tooth.

7. In a saw-swaging machine, a frame, in combination with a saw-support thereon, a head which carries the die and feed-finger, a spring which keeps said head normally elevated, and a lever whereby it may be depressed.

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Witnesses:

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