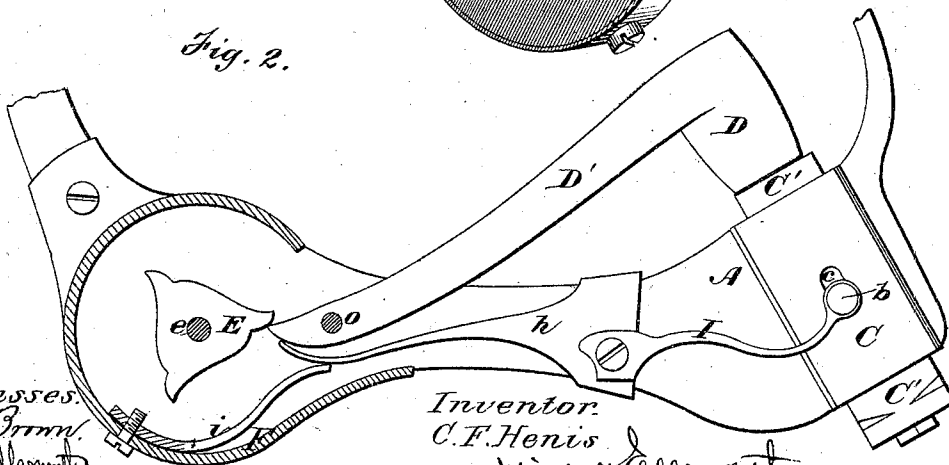
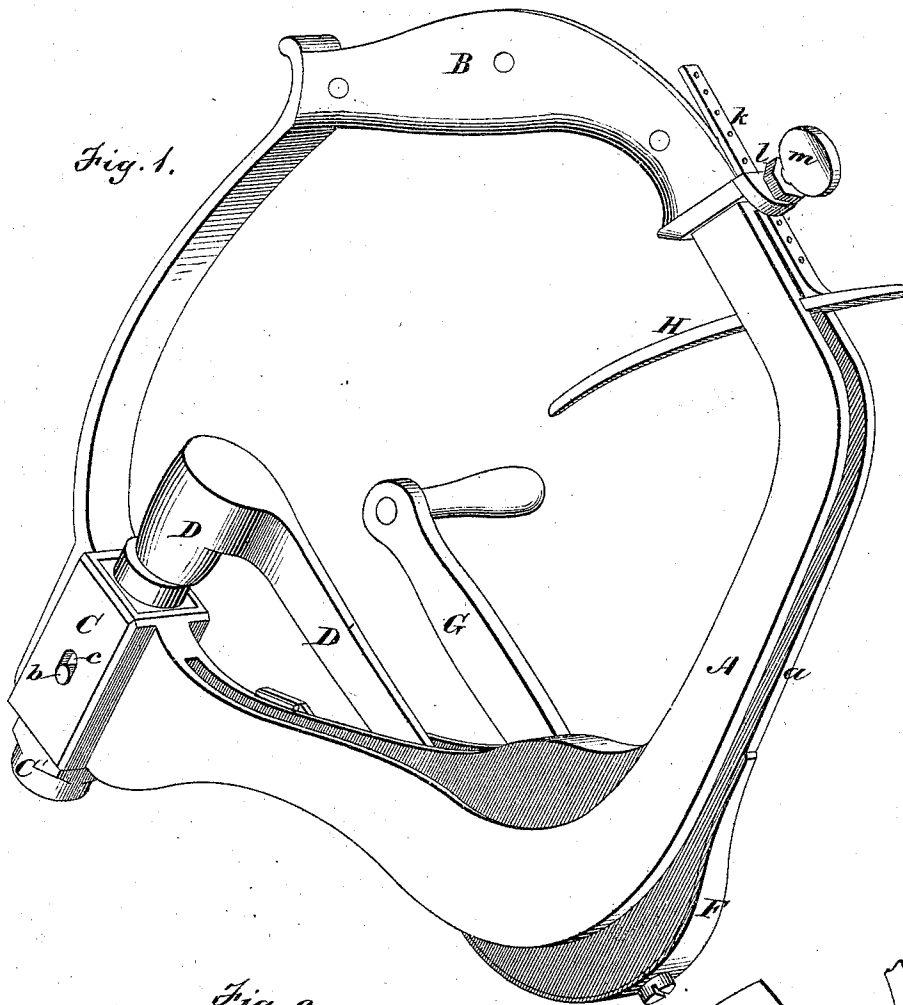


C. F. HENIS.

Saw-Swaging Machines.

No. 134,667.

Patented Jan. 7, 1873.



Witnesses.
C. F. Henis.
D. M. Ellsworth.

Inventor
C. F. Henis
by Hill & Ellsworth.
his Attys.

UNITED STATES PATENT OFFICE.

CHARLES F. HENIS, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN SAW-SWAGING MACHINES.

Specification forming part of Letters Patent No. 134,667, dated January 7, 1873.

CASE B.

To all whom it may concern:

Be it known that I, CHARLES F. HENIS, of the city and county of Baltimore and State of Maryland, have invented a new and Improved Saw-Swaging Machine; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view of the machine; and Fig. 2 is a sectional elevation of the apparatus for operating the hammer.

Similar letters of reference in the accompanying drawing denote the same parts.

This invention has for its object to improve the construction of machines for swaging saw-teeth by the application of a striking mechanism operated by hand or other power. To this end the invention consists in a frame constructed so as to bestride a saw, and combined with a sliding swage-holder, a striking-hammer, and an apparatus for operating the same.

In the drawing, A is the frame aforesaid, the same having a handle, B, and being constructed with a long slot, *a*, in its under side, by means of which it is enabled to bestride the saw. At its front end is a socket, C, in which is placed the swage-holder C', the construction of which requires no specific description, except that it has a pin, *b*, passing transversely through it and occupying slots *c* made lengthwise of the sides of the socket C. This holder is struck by a hammer, D, the handle D' of which is pivoted to the outside of the frame A at *o*, and is operated by a cam-head, E, placed on a shaft, *e*, which is supported in a case, F, applied to the side of the frame A and covering the cam-head E. The shaft *e* is rotated by means of a crank, G, and its cams draw back the hammer and pass clear of its handle, one after another. The blow of the hammer is caused by springs *h i* fastened to the frame A, the spring *h* bearing against the inner end of handle D' and the spring *i* bearing against the spring *h*. By this means, when the crank G is turned, a succession of blows are imparted to the swage-holder. The latter is combined with a spring-arm, I, attached at one end to the pin *b* and at the other

end to the frame A. This spring serves to take off from the swage-holder a part of the force of each blow of the hammer thereon, so that the impact of the swage upon the tooth may not be too violent, and at the same time take up the recoil so as to hold the swage always on the tooth. The rider H which sits upon the edge of the saw has an arm, *k*, that extends upward through a socket, *l*, on the back of the frame A, and is held therein by a set-screw, *m*. By means of this arm and socket the rider can be raised or lowered to alter the inclination of the swage-holder.

What I claim as new is—

1. A frame constructed to bestride a saw, and combined with a sliding swage-holder, striking-hammer, and mechanism for operating the hammer, substantially as described.

2. The combination of the frame A, sliding swage-holder C', and spring I, all arranged as specified.

3. The combination of the frame A, sliding swage-holder C', vibrating hammer D, rotating cam-head E, and springs *h i*, all arranged as set forth.

4. The combination of the frame A, socket *l*, and adjustable rider H *k*, all arranged as explained.

5. A spring-swage for saw-teeth arranged within a suitable frame to receive the blows of a hammer so that the spring shall resist the force of the blows, and at the same time take up the recoil of the swage, for the purpose of holding the latter upon the teeth, substantially as described, for the purpose specified.

6. A spring-swage for saw-teeth arranged within a frame which bestrides the saw, and operated by a vibrating hammer carried within the frame, substantially as described, for the purpose specified.

7. In combination with the vibrating hammer and the spring-swage, the device for operating the hammer, substantially as described, for the purpose specified.

CHARLES F. HENIS.

Witnesses:

MELVILLE CHURCH,
N. K. ELLSWORTH.