(No Model.)

C. MORRILL.

Saw Set.

No. 235,374. Patented Dec. 14, 1880.

Figure 1.

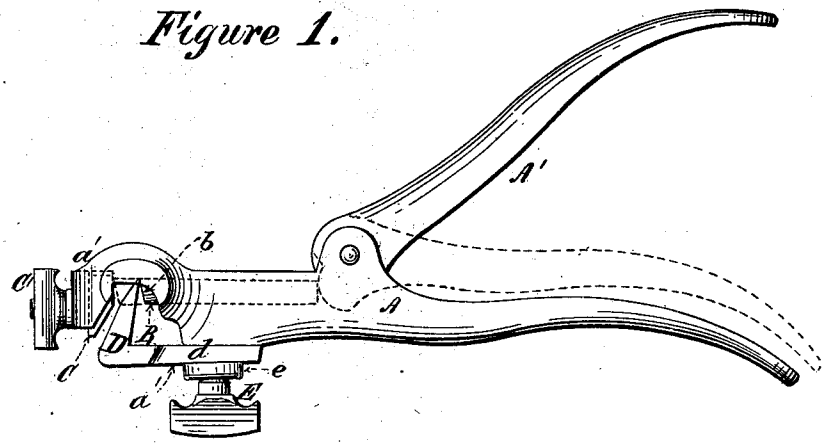


Figure 2.

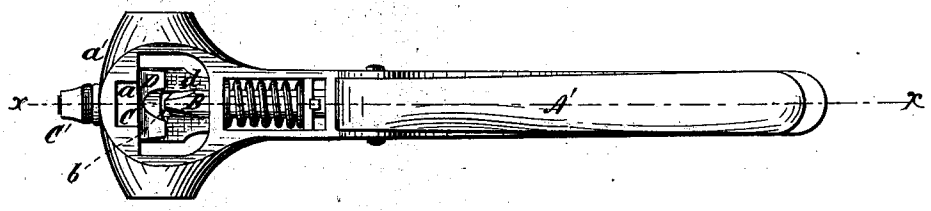
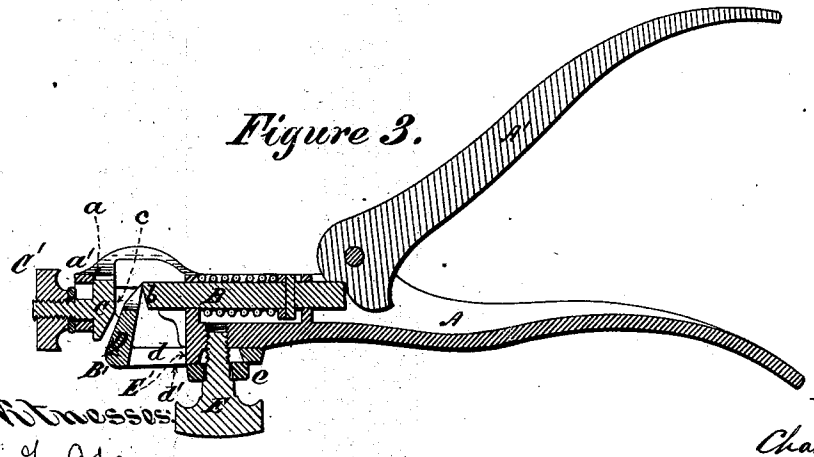


Figure 3.



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UNITED STATES PATENT OFFICE.

CHARLES MORRILL, OF NEW YORK, N. Y.

SAW-SET.

SPECIFICATION forming part of Letters Patent No. 235,374, dated December 14, 1880.

Application filed June 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MORRILL, of the city and State of New York, have invented a certain Improvement in Saw-Sets, of which the following is a specification.

My improvement relates to that class of saw-sets in which a retractile spring-punch operated by a hand-lever having a reciprocating movement through a notch in the edge of an oscillatingly-adjustable plate on which the saw-blade is supported bends the tooth of the saw against a die, the face of which is at a suitable angle with the surface of the supporting-plate, as shown and described in Letters Patent of the United States No. 224,789; and my invention consists, first, in making the die or anvil toward which the punch works adjustable, for the purpose of varying the length of that part of the tooth which is offset by the operation of the apparatus; second, in substituting for the oscillatingly-adjustable supporting-plate a rectilinearly-adjustable supporting-plate deriving its capacity of bodily movement toward or from the anvil by being provided with and rigidly affixed to a slotted wedge-shaped leg, which is adjustably secured to the punch-holder by means of a thumb-screw inserted through the slot into the side of the punch-holder, and provided with a shoulder or washer which bears upon the outer face of the wedge-shaped or tapering leg. The tapering slotted leg not only gives the supporting-plate a capacity of adjustment toward and from the anvil, but, in connection with the thumb-screw, affords a means of immovably holding the supporting-plate in any desired position.

By varying the elevation of the supporting-plate I vary the angle or pitch to which the saw-teeth are set, and I therefore designate the supporting-plate as the "pitch-plate."

The accompanying drawings, representing a saw-set embodying my invention, are as follows:

Figure 1 is a side elevation. Fig. 2 is a front elevation, and Fig. 3 is a longitudinal section through the line *x x* on Fig. 2.

The drawings represent a saw-set suitable to be grasped in the hand of the operator, and consisting of the punch-holder A, to which is pivoted the punch-lever A′. The punch B is provided with the usual retractile spring, and when the lever A′ is compressed toward the punch-holder A is driven upward toward the anvil or die C, thus bending that part of the tooth of a saw-blade resting upon the supporting-plate D, which may extend across the working-face *c* of the anvil. The anvil or die C, which is inserted in the transverse slot *a* on the under side of the quadrangular frame *a′*, which forms the upper part of the punch-holder, is secured in position by means of the thumb-screw C′, and is transversely adjustable. So much of the tooth of the saw as projects across the working-face *c* of the anvil will, by the operation of the punch, be bent to an angle with the blade of the saw, and this angle will be more or less obtuse, according to the degree of elevation of the adjustable pitch-plate D, upon the outer corner, B′, of which the blade of the saw rests. The effect, therefore, of the lateral adjustability of the anvil is not only to adapt the apparatus to set saw-teeth of variable sizes, but also to set a greater or less length of the same tooth.

The supporting-plate D is provided with and rigidly affixed to a leg, *d*, which is slightly tapering in a downward direction. This leg is slotted to admit the shank of the thumb-screw E, preferably provided with the washer *e*, which bears upon the outer face, *d′*, of the leg. The inner face of the leg *d* bears against the side of the punch-holder, from which there projects a lug, E′, which enters the slot in the leg, and serves as a guide for preserving the alignment of the leg *d* when the supporting-plate is being adjusted.

It will be seen that owing to the tapering or wedge-like shape of the leg *d*, it will be immovably held in any desired position by tightening the thumb-screw E.

It will also be seen that the supporting-plate D can be rapidly and easily adjusted to variable elevations for the purpose of adapting the apparatus to receive saw-blades of variable thicknesses, and also for the purpose of varying the pitch of the saw.

The working-face *b* of the punch is, it will be seen, triangular, and is so placed that it conforms approximately to the shape of the saw-tooth which is to be acted upon. It is also beveled, so that its apex or that part of

it which seizes the apex of the saw-tooth is the part which approaches nearest to the face of the anvil C. The punch is thus adapted to effectually engage and act upon a saw-tooth which has become tapering in cross-section by long-continued wear or by hammering.

I claim as my invention in a saw-set substantially such as described—

1. The rectilinearly-adjustable pitch-plate D, provided with the slotted tapering leg *d*, in combination with the thumb-screw E and the punch-holder A, substantially as and for the purpose set forth.

2. The rectilinearly-adjustable pitch-plate D, in combination with the anvil or die C and the punch B, substantially as and for the purposes set forth.

3. The adjustable anvil or die C, in combination with the pitch-plate D and the punch B, substantially as and for the purposes set forth.

CHAS. MORRILL.

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