(No Model.)

C. MORRILL.

ANVIL FOR SAW SETS.

No. 577,559. Patented Feb. 23, 1897.

Fig. 1.

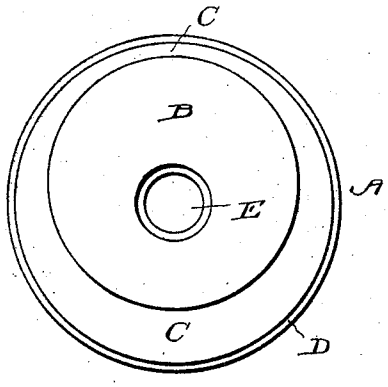

Fig. 2.

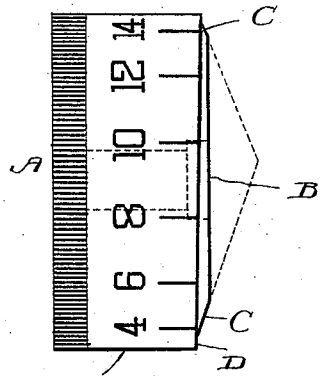

Fig. 3.

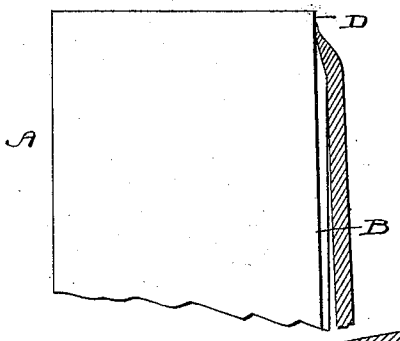

Fig. 4.

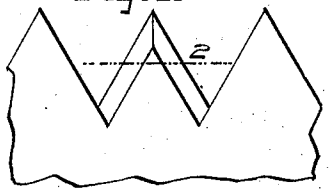

Fig. 6.

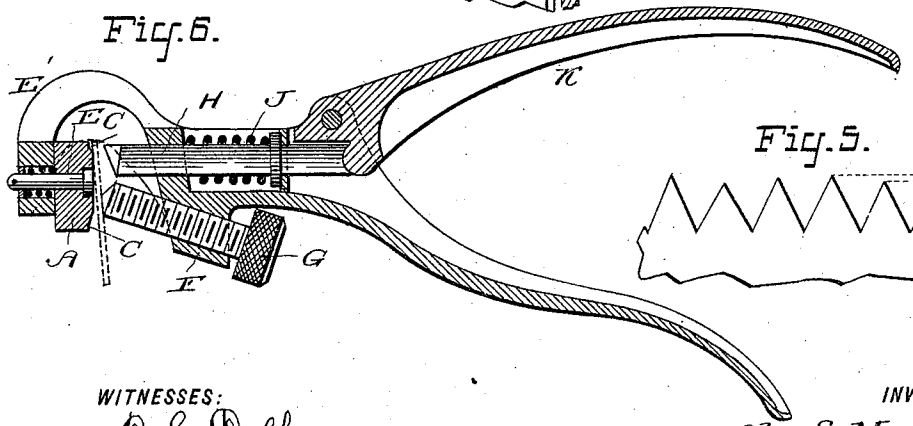

Fig. 5.

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ANVIL FOR SAW-SETS.

SPECIFICATION forming part of Letters Patent No. 577,559, dated February 23, 1897.

Application filed January 18, 1896. Serial No. 576,014. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MORRILL, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented a new and useful Improvement in Anvils for Saw-Sets, of which the following is a specification.

My invention relates to an adjustably-rotative anvil for saw-sets, and has for its object the production of a saw-set anvil that requires no further adjustment than turning the round disk to the number indicated on its periphery to correspond to the number of teeth in the saw to be set, and that when such adjustment is made the anvil will present a face having sufficient slant to meet the requirements of the thickness of metal, the coarseness of teeth, and unequal depth of the teeth's surface, as found in old saws; and to that end the invention consists of a round disk of steel having its rear surface at right angles to its sides, to its axis, and to its line of thrust, and its face and outer edge or working surface turned eccentrically and slanting with relation to the circumferential line of its sides, the eccentric plane diverging into an incline which terminates in a plane arranged obliquely to the axis of the anvil, said obliqueness differing in all parts of the circumference of the face thus chamfered off.

In the drawings, Figure 1 represents an enlarged view of the adjustable anvil. Fig. 2 is a face view of the same. Fig. 3 is an enlarged view showing part of the anvil, a section of the saw, and a tooth which has been swaged or set over onto the beveled edge of the anvil-face. Fig. 4 is an enlarged view of several saw-teeth, the dotted line indicating the line upon which the teeth are set. Fig. 5 is a similar view of several teeth of unequal length, given to illustrate the capability of equal setting regardless of irregularity; and Fig. 6 represents a longitudinal sectional view of a saw-set in which is shown the manner of applying my invention thereto and its relation to the working parts of the same.

Similar letters refer to similar parts throughout the drawings, in which—

A represents the adjustably-rotative anvil; B, the vertically-arranged eccentric and concentric plane, and C the beveled surface having varying angles of obliqueness around its entire surface.

The anvil is held in place in the head of the saw-set by any suitable means. In the present instance I use a pin having a head the body of which passes through the opening E, provided in the center of the anvil, and the head filling the countersunk space flush with the face of the anvil. The front part of the pin passes through an opening provided in the head of the frame. The projecting part of the pin has an opening through its side for the reception of a latch-pin, and the pin is surrounded by a coiled spring which draws the back of the anvil with considerable friction against the head of the frame, thus insuring a tight bearing which prevents the anvil from working loose when once set and in use.

In order to illustrate the practical operation of the invention, I connect it to a saw-set frame such as now in use and for which Letters Patent have been granted to me.

By reference to the drawing Fig. 6 it will be seen that the anvil A is mounted vertically to the head of the frame E′, the lower depending lip F, carrying the adjusting-screw G, the setting bar or plunger H passing longitudinally through its body and surrounded by a coiled spring J, located in a cavity provided in the casting, and the pivoted lever-handle K, secured to the projecting shoulders by a pin or screw.

I do not limit the scope of my invention in its application to this particular construction of saw-set frame, as it is obvious that it could be applied to a saw-set frame having a horizontally-located bed-plate, to which my anvil could be attached, in combination with a vertically-moving plunger sliding between guideways and acted upon by a weight, a cam, a spring, or any mechanical equivalent, and yet produce the same result with saws of a heavier-gage steel which could not be bent by hand.

To operate the saw-set, it is first necessary to ascertain the number of teeth to the inch the saw contains. The adjustable anvil should then be turned around until the number indicated on its side to which you desire to set it shall have reached the place where the

plunger-point comes into action and the blade of the saw is placed against the face of the anvil, the amount of incline it should have being regulated by the adjusting-screw point. The handles are pressed together, forcing the plunger forward to where it engages the upper part of the tooth, as shown at 2 in Fig. 4, forcing it against the incline C on the anvil and thence upon the obliquely-arranged plane D, thus turning the point of the tooth in an oblique direction corresponding to the degree of obliqueness that particular part of the anvil might possess at that time.

It is obvious that saw-teeth of any depth of irregularity caused by careless filing will be set perfectly on the same pitch-line regardless of their inequality of length.

I am aware that rotative anvils have heretofore been made and provided with a series of radially-arranged inclined and plane surfaces for bending the teeth of saws from the plane thereof and bending a portion of the tooth back parallel therewith. This invention could not be used for setting the teeth of hand-saws as designed by my invention.

I claim—

1. In a saw-set the combination of the frame, the inclined adjusting-screw mounted in the frame, the setting bar or plunger, the handle for operating the plunger, the rigid handle and the rotary adjustable anvil; said anvil having indices or figures on its periphery and having the inclined oblique working surface and the flat edge contiguous to said surface for turning up the teeth of the saw and fixing the angle thereof, substantially as described.

2. In a device for setting the teeth of saws comprising a supporting-frame, and plunger, a rotary adjustable anvil provided with the annular inclined oblique working surface and the flat annular edge contiguous to said surface for turning back the teeth of saws and fixing the angle thereof, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 13th day of January, 1896.

CHAS. MORRILL.

Witnesses:
D. S. DOLBEAR,
W. H. VAN VOORHIS.