Lyon, Shumard & Robbins.

Saw-Set.

No. 77,825. Patented May 12, 1868.

Fig. 1.

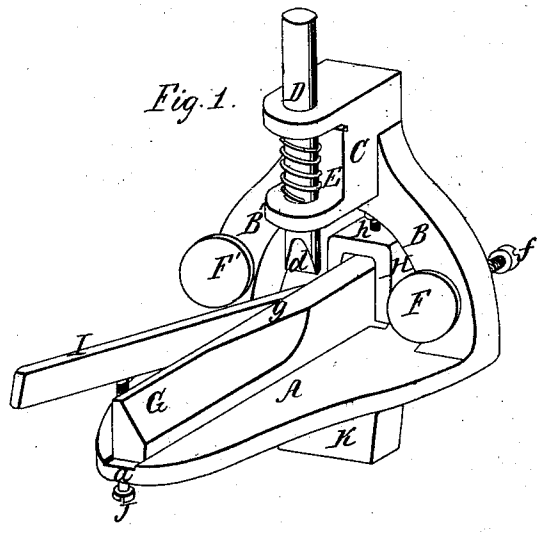


Fig. 2.

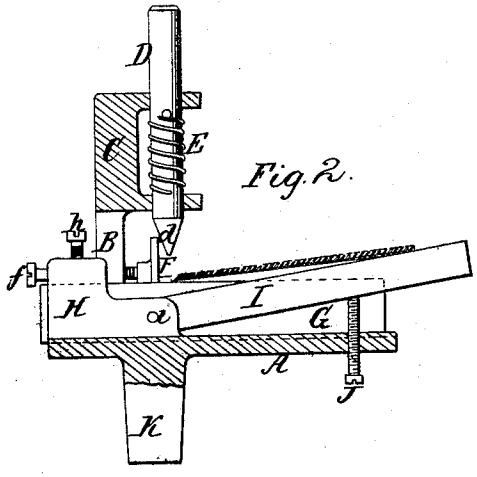
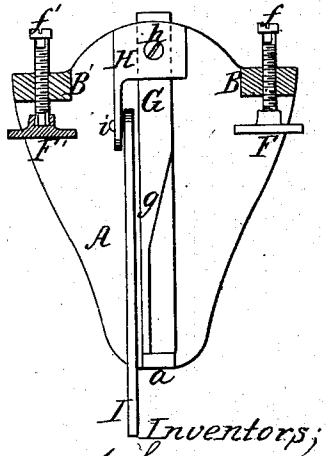


Fig. 3.



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Letters Patent No. 77,825, *dated May* 12, 1868.

IMPROVEMENT IN SAW-SET.

The Schedule referred to in these Letters Patent and making part of the same.

TO WHOM IT MAY CONCERN:

Be it known that we, ARTHUR LYON, WARREN SHUMARD, and JASPER N. ROBBINS, of Goshen, Clermont county, Ohio, have invented certain new and useful Improvements in Saw-Sets; and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification.

Our invention relates to that class of saw-sets in which the proper inclination, or, in other words, the "set of the teeth," is effected by a vertically-acting tool, which is operated by a hammer or other suitable implement.

And the first part of our invention consists in a simple and effective device for imparting the inclination to the teeth without injury thereto.

The second part of our invention relates to a peculiar form of anvil, whose upper surface or face tapers toward one end, so as to be adjustable to suit saws whose teeth are broader or narrower at their bases or roots.

A represents the bed-plate of our instrument, having standards B B′, which terminate in a head, C, and the latter contains the operating-tool or set-punch D, of steel or other hard metal, and the lower end of this set-punch is tapered, as shown, on opposite sides *d d*, so as to terminate in a chisel-point, whose direction of greatest extension is longitudinal with the saw-set, for a purpose that will presently appear.

The set-punch is brought into its depressed or operating position by being struck on its upper end by a mallet or hammer, and it is retracted by the spiral spring E.

The standards B B′ are tapped, so as to receive the set-screws *f f′*, and the ends of these screws, which project through towards the set-punch, are provided with stops F F′, and these stops should be of brass, copper, or other soft metal, so as to prevent the saw-teeth becoming dulled, when they impinge against them.

The stops are adjusted to or from the standards, as occasion may require, by the set-screws *f f′*.

The anvil which receives the impact of the set-punch, consists of a bar of steel, G, whose lower portion is confined within the longitudinal recess or groove *a* of the bed-plate, and the face of this bar, instead of being of a uniform width throughout its entire length, has a tapering portion, *g*, for a purpose which will be hereafter described.

One end of this anvil is confined within a yoke, H, and the anvil can be adjusted longitudinally in a groove, *a*, and retained at any desired position by the set-screw *h*. This longitudinal adjustment is for the purpose of bringing any part of the tapering portion *g* of the anvil immediately under the centre of the set-punch.

Pivoted to the yoke H at *i* is a bar, I, which serves to support the blade of the saw, as shown in fig. 2, and this bar is raised or lowered, so as to set the saw-blade at a greater or less inclination by means of the adjusting-screw J. Projecting downwardly from the bed-plate A is a stem, K, which enables the instrument to be attached to a bench or table.

Our saw-set is operated in the following manner:

The saw-blade is first laid upon the supporting-bar I, and the stops F F′ are adjusted in such a manner that when the points of the saw-teeth are in contact with them, the base of the teeth will be directly under the centre of the set-punch. The anvil G will exactly correspond in width with the base of the saw-teeth, and in case the saw has large teeth, the broadest part of the tapering anvil will be employed, but if the teeth should be small, the narrower part is used.

A blow is now struck upon the upper end of the set-punch, and the tooth is "set" at an angle, depending upon the inclination of the supporting-bar I, and if, after inspecting the saw, it is found that the tooth has been set out too far, the bar I is lowered until the exact pitch has been obtained, and, by simply shoving the saw along transversely of the anvil, and striking the set-punch as fast as each tooth is brought under it, the operation is effected in the most rapid and uniform manner. A little experience will enable any person to set the supporting-bar I at the proper inclination at once, thereby insuring a uniform "set" to all of the teeth.

The tapering portion *g* of the anvil being adjusted so as to coincide with the width of the base of the teeth,

there is no danger of the set-punch injuring any of the adjacent teeth by striking them before they are brought to rest upon the anvil.

It will be seen that our chisel-pointed punch acts to strike only the base of the tooth, and thus avoids the very injurious action of reducing the breadth of the tooth's point incident to the use of the common punch.

We also bring the tooth to a more uniform and perfect set than do those punches which strike flatly on the entire tooth.

We claim herein as new, and of our invention—

1. The chisel-pointed punch D *d*, so guided as to strike the teeth at their bases only.

2. The tapering anvil G *g*, adjustable to fit teeth of different widths, as explained.

3. The combination of the anvil G, supporting-bar I, punch D, and stops or gauges F F′, substantially as and for the purposes set forth.

In testimony of which invention, we hereunto set our hands.

ARTHUR LYON,
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