

(No Model.)

J. A. FISCHER.

SAW SET.

No. 318,712.

Patented May 26, 1885.

FIG. 1.

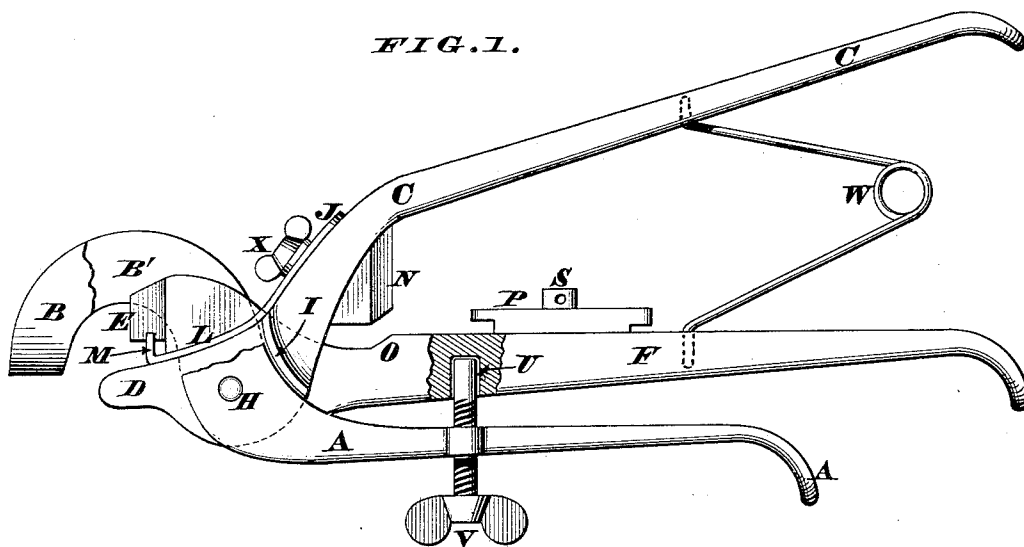


FIG. 2.

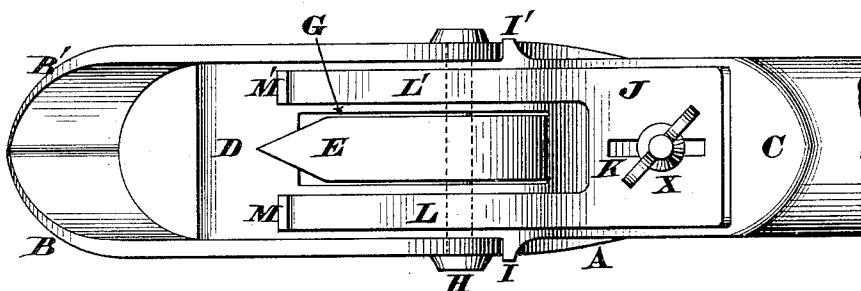


FIG. 3.

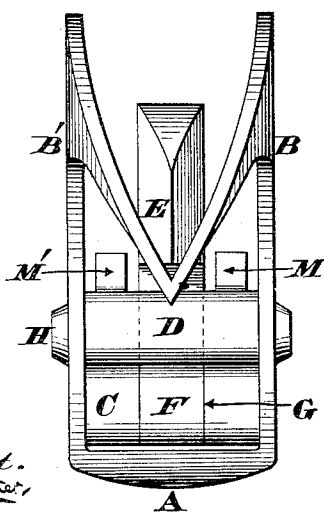
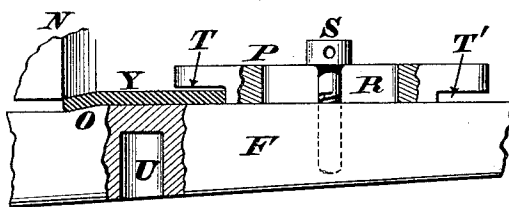


FIG. 4.



Attest.
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UNITED STATES PATENT OFFICE.

JOHN A. FISCHER, OF COVINGTON, KENTUCKY.

SAW-SET.

SPECIFICATION forming part of Letters Patent No. 318,712, dated May 26, 1885.

Application filed December 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. FISCHER, a citizen of the United States, residing at Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Hand Saw-Sets, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention comprises a hand saw-set which is made in the shape of an ordinary pair of pliers or pinchers, but is provided with three levers instead of two, and each of these levers has a separate and distinct duty to perform, whereby the implement is adapted for a greater variety of uses than has heretofore been attainable with saw-sets as usually constructed. These levers are jointed together by a common pivot, and the shorter end of the outer or lower lever takes the shape of a jaw, against which the saw bears when the implement is closed for the purpose of setting the teeth, the angle or pitch of the set being regulated by a screw that is tapped into this lower lever and bears against the under side of the inner or central lever. This inner or central lever plays within a suitable mortise or slot of the upper or intermediate lever, and has at its shorter end the main punch or swage, that bends the teeth down upon the anvil, the latter being situated at the shorter end of said intermediate lever. Furthermore, the shorter end of this intermediate lever has an adjustable gage applied to it for the purpose of determining how near the saw shall approach to the punch or swage, as hereinafter more fully described.

The above-described combination of devices is adapted for setting saws in general; but for operating on band or scroll or other saws which are of uniform width from end to end the upper lever is provided with a secondary punch or swage situated in the rear of the common pivot, and arranged to act against an anvil formed on or attached to the inner or central lever. An adjustable gage on the inner lever is capable of being either advanced or retracted, according to the width of the saw, and the opposite ends of said gage are arranged to

receive saws of different thicknesses, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a side elevation of my improved hand saw-set, a portion of one-half of the jaw of the lower lever being broken away to expose the punch or swage, and part of the inner or central lever being sectioned. Fig. 2 is an enlarged plan of the front end of the implement. Fig. 3 is an elevation of the same. Fig. 4 is a sectioned elevation showing the secondary swage or punch in the act of setting a saw-tooth.

A represents the outer or lower lever of the implement, the front end of said lever being forked at B B', to constitute a jaw or bearing for the saw to rest against. Furthermore, this forked portion B B' serves as a mortise for the upper or intermediate lever, C, to play in, the front or shorter end, D, of this lever being arranged to serve as an anvil that resists the strain of the swage or punch E. This punch is either made with or is attached to the front or shorter end of the inner or central lever, F, which lever plays within the vertical slot G of the upper lever, C.

H is a common pivot wherewith these three levers A, C, and F are jointed together.

I I' are shoulders on the sides of the upper lever, C, which shoulders limit the opening of the members C and A. J is a plate slotted at K, and attached to the upper side of lever C by a thumb-screw, X, said plate being forked at L L' to clear the punch E, and being provided with upturned extremities M M', that serve as stops to regulate the insertion of the saw-blade. Projecting from the under side of this lever and in rear of the fulcrum H is the secondary punch or swage N, adapted to operate against an anvil, O, on the upper edge of the central lever, F.

P is a stop or gage for the saws which are to be set by this secondary punch, said gage being slotted longitudinally at R, as seen in Fig. 4, and being secured to the upper surface of lever F by a suitable screw, S. The opposite ends of this gage are rabbeted or undercut at T T' to admit the back of a saw-blade. Furthermore, the under-cut T is adapted to receive a comparatively thick blade, while

the other rabbet, T', admits a relatively thinner saw. The under side of lever F has a smooth or unthreaded socket, U, to receive the point of a screw, V, the latter being tapped into the lower lever, A, and being used for the purpose of regulating the opening of said lever A, and thus determining the distance between the anvil D and the end of jaw B B', while said socket U prevents lateral play of these members A and F.

W is a suitable spring that keeps the levers C and F in their open position.

The main or outer punch, E, can be used for setting the teeth of ordinary saws, while the inner or secondary punch or swage, N, is employed exclusively for operating on band, scroll, or other narrow blades of uniform width from end to end, the method of using said main punch being as follows: If the saw has short teeth, the gage J is advanced so as to bring the stops M M' comparatively near the point of punch E, while a saw having longer teeth will necessitate a corresponding retraction of said gage. The screw V is then adjusted so as to determine the set to be given to the saw-teeth, said screw being regulated to allow the jaw B B' to approach quite near the anvil D when a steep pitch is desired, while a less inclination of the teeth is obtained by turning said screw in the opposite direction, thereby allowing said jaw to recede a proper distance from said anvil. These preliminary adjustments having been effected, the saw is inserted between the anvil D and punch E so as to bring some of the teeth in contact with the stops M M', while the special tooth that is to be set is directly under said punch. The levers of the implement are now closed, thereby grasping the tooth between the punch and anvil, and imparting the desired "set" on account of the jaw B B' holding the blade of the saw down firmly while the anvil D is forcing said tooth up against said punch. These operations are repeated until every alternate tooth has been properly set, when the blade is turned over and the remaining teeth are set in an opposite direction. From this description it is apparent that a saw of any size or shape can be set by the punch E, provided the blade is not so thick as to resist the leverage afforded by the handles A C, and as the implement can be readily carried in a workman's pocket or "kit," it is at all times ready for use, and does not require to be attached either to a vise or bench or other support.

To set the teeth of comparatively thin and narrow saws, the back of the blade is inserted within the gage P T and the levers C F are closed, so as to cause the secondary punch N to bend the saw-tooth down upon the anvil O, as seen in Fig. 4, in which illustration Y represents the saw. Finally, the extremities of the spring W may be engaged with suitable holes or sockets in the levers or handles A and C, as indicated by the dotted lines in Fig. 1, in

order that either of the ends of said spring may be readily detached from the implement, so as to allow butcher-saws to be set by the secondary punch N and without removing said saws from their frames.

I claim as my invention—

1. A hand saw-set consisting of three independently-operated levers, whose shorter ends are mortised one within the other, in the manner herein described, and united by a common pivot, the outer lever having a jaw, the intermediate lever being provided with an anvil, and the inner lever being furnished with a punch, for the purpose specified.

2. A hand saw-set consisting of three independently-operated levers, whose shorter ends are mortised one within the other, in the manner herein described, and united by a common pivot, the outer lever having a jaw, the intermediate lever being provided with an anvil, the inner lever being furnished with a punch, and said intermediate lever having an adjustable stop or gage applied to it, for the purpose specified.

3. A hand saw-set consisting of three levers, whose shorter ends are mortised one within the other, in the manner described, and united by a common pivot, the outer lever having a jaw, the intermediate lever being provided with an anvil, the inner lever being furnished with a punch, and the outer lever having a set-screw engaged with it, which screw bears against said inner lever, for the purpose specified.

4. A hand saw-set consisting of three levers, whose shorter ends are mortised one within the other, in the manner described, and united by a common pivot, the outer lever having a jaw, the intermediate lever being provided with a main anvil and a secondary punch, and the inner lever being furnished with a main punch and a secondary anvil, for the purpose specified.

5. A hand saw-set consisting of three levers, whose shorter ends are mortised one within the other, in the manner described, and united by a common pivot, the outer lever having a jaw, the intermediate lever being provided with a main anvil and a secondary punch, and the inner lever being furnished with a main punch, a secondary anvil, and an adjustable stop or gage, for the purpose specified.

6. A hand saw-set consisting of three levers, whose shorter ends are mortised one within the other, in the manner described, and united by a common pivot, the outer lever having a jaw and an adjustable set-screw, the intermediate lever being provided with a main anvil, a secondary punch, and an adjustable stop or gage, and the inner lever being furnished with a main punch, a secondary anvil, and a secondary adjustable stop or gage, for the purpose specified.

7. A hand saw-set consisting of three levers, whose shorter ends are mortised one within the other, in the manner described, and united

by a common pivot, and provided with a jaw, an anvil, and a punch, the adjustable stop or gage J K L M L' M', and retaining-screw X, for the purpose specified.

- 5 8. A hand saw - set having an adjustable stop or gage, P, attached to the lever F by a screw, S, said gage being slotted longitudinally at R, and being provided at its opposite

ends with rabbets T T', of unequal size, for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. FISCHER.

Witnesses:

JAMES H. LAYMAN,
RANKIN D. JONES.

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