(No Model.) 2 Sheets—Sheet 1.

J. JOHNSTONE.

SAW SET.

No. 438,927. Patented Oct. 21, 1890.

Fig. 1.

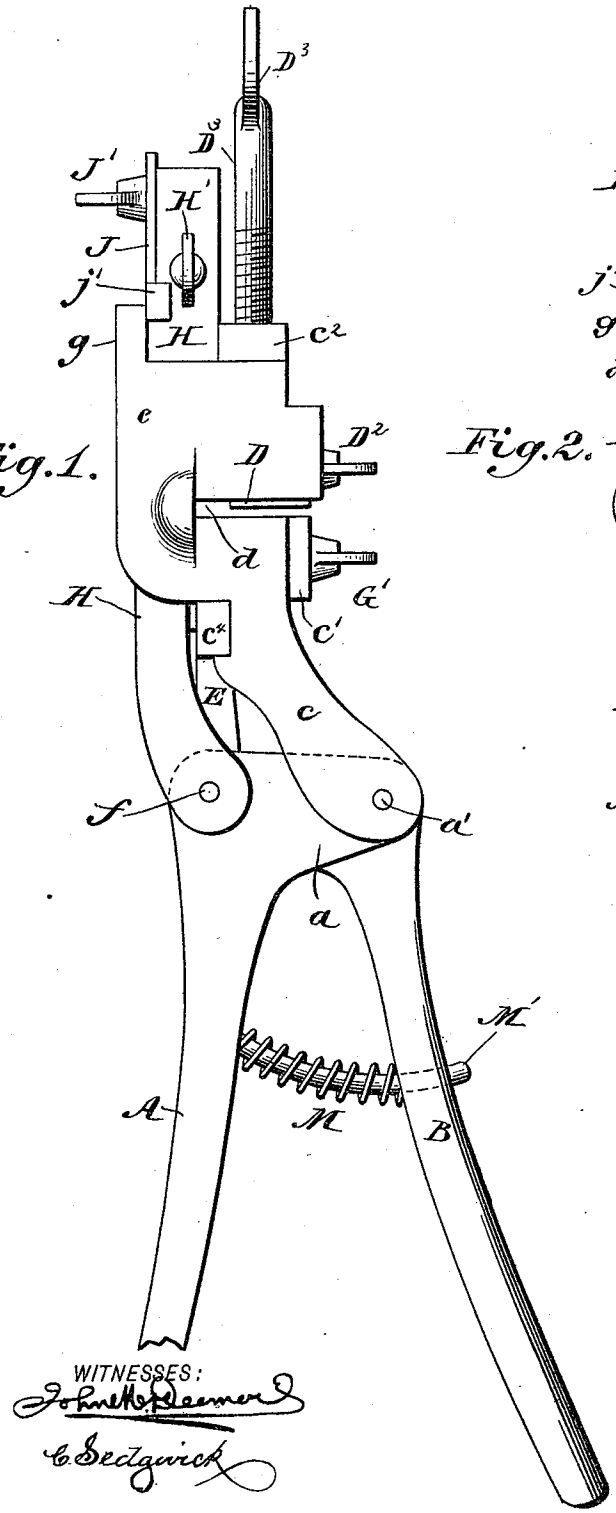
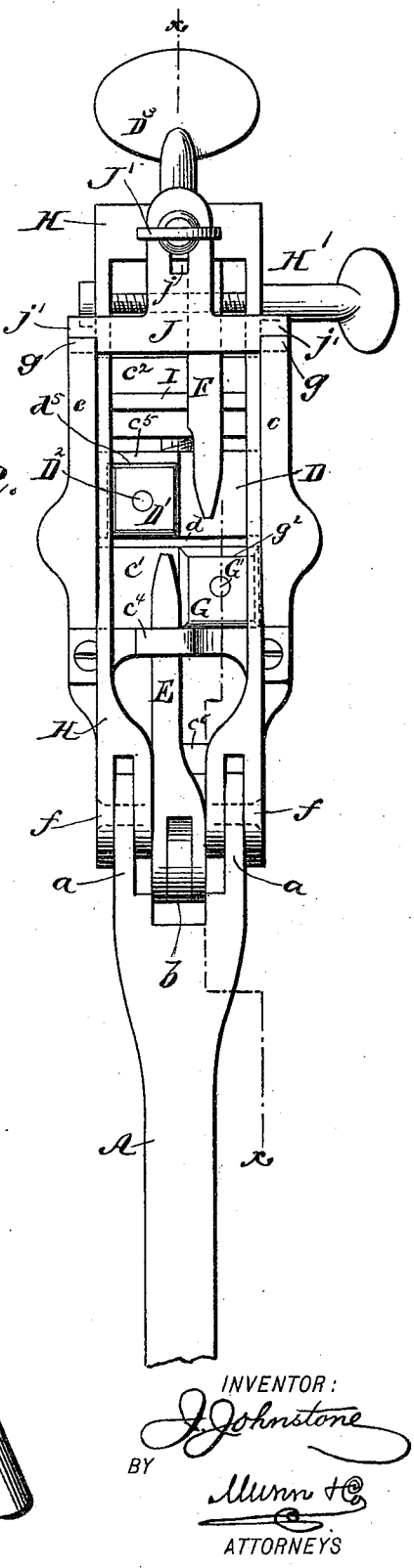


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

J. JOHNSTONE.

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Fig. 5.

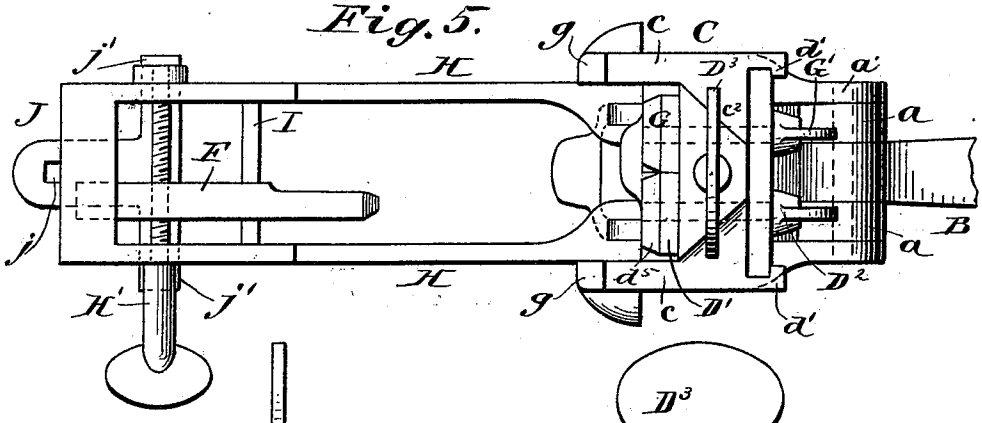


Fig. 3.

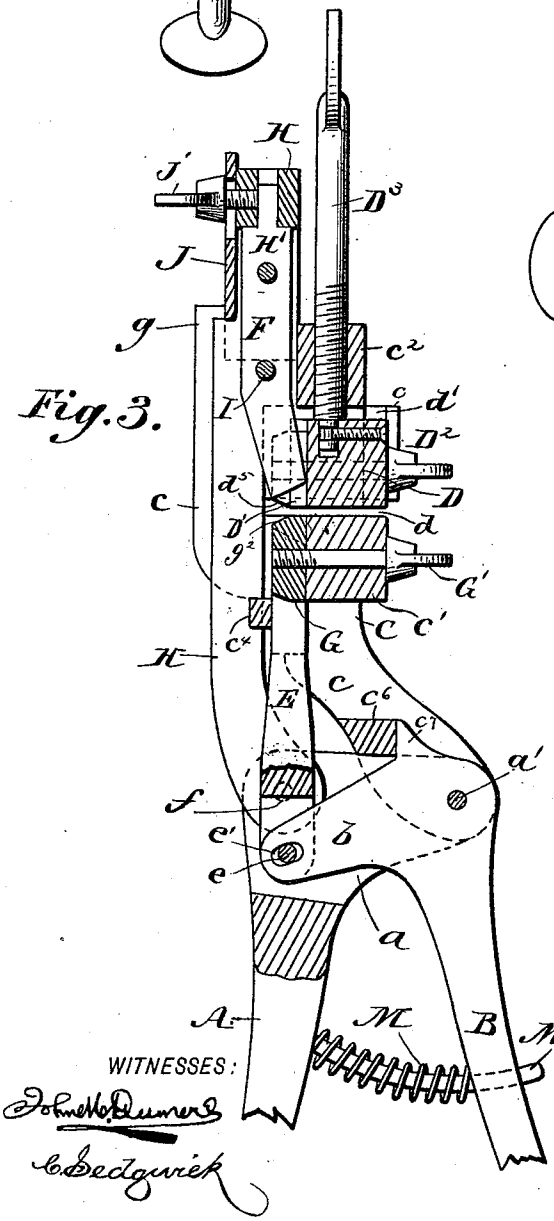
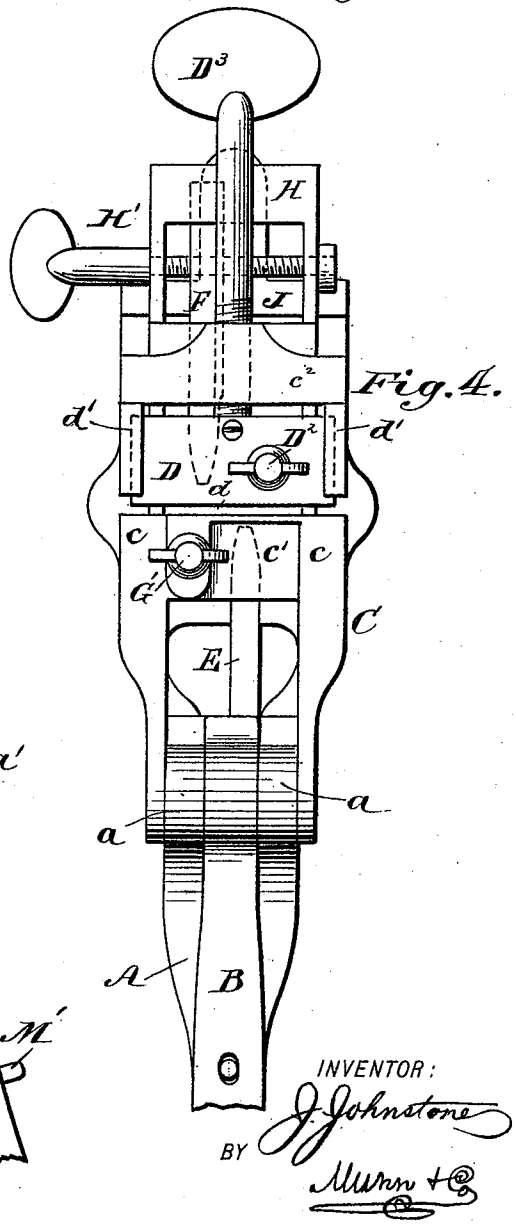


Fig. 4.



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JAMES JOHNSTONE, OF NEW YORK, N. Y.

SAW-SET.

SPECIFICATION forming part of Letters Patent No. 438,927, dated October 21, 1890.

Application filed February 27, 1890. Serial No. 341,938. (No model.)

To all whom it may concern:

Be it known that I, JAMES JOHNSTONE, of the city, county, and State of New York, have invented a new and Improved Saw-Set, of which the following is a full, clear, and exact description.

The object of my invention is to provide a practical saw-set whereby two contiguous teeth may be set at each operation; and to this end my invention consists, principally, in two main frames pivoted to the levers and fastened to slide together in opposite directions, one carrying two anvils, the other one of the punches, the other punch being carried by one of the levers.

The invention also consists in the construction, arrangement, and combination of parts, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my new saw-set. Fig. 2 is a plan view of the same. Fig. 3 is a sectional elevation on line $x\,x$ in Fig. 2. Fig. 4 is a view of the under side of the tool, and Fig. 5 is an end view showing the upper frame turned up to vertical position.

A represents a lever formed with two downwardly-projecting cheek-pieces $a\ a$, and B represents another lever formed with the upwardly-projecting arm b and pivoted to and between the cheek-pieces $a\ a$ on the pin a'.

On pin a' is pivoted the main frame C, comprising the cheek-pieces $c\ c$, inner bridge piece or sill c', outer bridge piece or sill c^2, and guide c^4. The cheek-pieces $c\ c$ are slotted, as shown at d, to receive the saw to be set. In front of this slot the said cheek-pieces $c\ c$ are provided on their inner sides with the ways $d'\ d'$, in which is placed the anvil-block D. This is provided with the anvil D′, held thereto by the set-screw D^2, and is adapted to be moved to and from the saw on the ways $d'\ d'$ by the large set-screw D^3, which works in the outer bridge c^2, and is swiveled at its inner end to the anvil-block, as shown clearly in Fig. 3. The edges of the anvil D′ are beveled, as shown at d^5, at different degrees or slant on different sides to suit different degrees of set to be put in the saw-teeth, and by loosening the set-screw D^2 the anvil may be turned to bring either bevel into position for use.

E is the set finger or punch, which acts against the anvil D′, and F is the opposite set finger or punch, which acts against the other anvil G, held on the bridge piece or sill c' by the set-screw G′. The set finger or punch E is held by the guide c^4, above referred to, and is reciprocated by the upwardly-projecting arm b of the lever B, to which arm it is pivoted on the pin e, which passes through slot e' in the said arm, as shown clearly in Fig. 3.

The set-finger F is held on the transverse screw or worm H′ and rod I at the outer end of the yoke-frame H. This yoke-frame is pivoted on pins $f\,f$ to the upper ends of the cheek-pieces a of the lever A, so that when the levers A B are brought together like the handles of pinchers the yoke-frame will be moved back to cause the set-finger to approach the anvil G. In this movement said yoke-frame is guided by the projections g at the outer ends of the cheek-pieces c, and the sliding plate J, attached to the outer bridge-piece of frame H by a set-screw J′, which passes through a slot j in the said plate, the side projections j' thereof entering under the said projections g. By loosening the set-screw J′ the plate J may be withdrawn from beneath the lugs or projections g and the yoke-frame H turned up to the position shown in Fig. 5 for convenience in adjusting the anvils D′ G to suit the size of the teeth to be set. By turning the screw or worm H′ the set-finger F may be laterally adjusted to suit fine or coarse saws. The anvil G has its edge beveled, as shown at g^2, like the anvil D′, so that it is adapted to set the saw more or less by simply loosening the thumb-screw G′ and turning the anvil, selecting the appropriate bevel for the saw to be acted upon.

The levers A B are normally held apart by the spring M, held between them on the curved rod M′, attached to the lever A, and passing through a hole in the lever B.

In use the saw to be set is placed in the slot d and the set-fingers adjusted to come in line with the teeth. The screw D^3 is then turned to force the anvil-block D firmly against the saw-blade. The levers A B are then closed, which forces the set-fingers against opposite teeth and bends them against the beveled

edges of the anvils, so that two teeth are set by each operation. The screw D^3 is then turned back and the set moved to the next teeth and the operation repeated, and so on until all the teeth are set. The bridge c^4, besides holding the set finger or punch E in place, also acts as a stop for the anvil G to prevent it from turning or sliding back, and the ledge c^5 on the anvil-block D prevents the anvil D′ from slipping back or turning around. When the levers A and B are open, they rest against the bridge c^6, making both levers open the same distance. If only the lever B were to come in contact with the bridge c^6, A might open too much and B not enough to come in contact with the bridge c^6. Consequently the set finger or punch E would catch on the teeth of the saw and would not allow the saw-set to be moved along the saw. A lip c^7 is formed at the front of the jaw.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A saw-set comprising two main frames pivoted to two levers and operating in opposite directions, in combination with two oppositely-arranged anvils and two punches, one carried by the upper frame, the other by one of the levers, substantially as described.

2. The main frame having a bridge-piece on which is mounted an anvil, in combination with a sliding anvil-block, an anvil mounted thereon, a set-screw for moving the anvil-block, two opposite set-fingers, and means for reciprocating them, substantially as described.

3. The jaw A, provided with the downwardly-projecting cheek-pieces *a*, and the jaw B, formed with the upwardly-projecting arm *b*, in combination with the main frame C, pivoted to the said cheek-pieces and provided with the anvils D′ and G, the auxiliary frame H, pivoted to the lever A, and the set-finger E, pivoted to the arm *b*, and the set-finger F, held in the frame H, substantially as described.

4. The lever A, formed with the cheek-pieces *a*, and the lever B, formed with the arm *b*, combined with the set-finger E, pivoted to the said arm, and the main and auxiliary frame pivoted to the said cheek-pieces, substantially as described.

5. In a saw-set, the combination of the main frame slotted at *d* and having the bridge-piece *c′*, provided with the anvil-block G, the movable anvil-block D, and the reversible anvils D′ and G′, substantially as described.

6. The main frame formed with the slot *d*, bridge-pieces *c′* c^2, and ways *d′*, in combination with the anvil-block D, held in the ways *d′*, the anvil-block G, held on bridge-piece *c′*, the anvils D′ and G′, the set-finger E, attached to an arm of the lever B, the auxiliary frame H, attached to the lever A, and the set-finger F, adjustably attached to the auxiliary frame, substantially as described.

7. In a saw-set, the auxiliary frame H, provided with the transverse worm H′ and rod I, in combination with the set-finger F, substantially as described.

8. In a saw-set, the auxiliary frame H, provided with the transverse worm H′ and rod I, in combination with the set-finger F, the anvil G, and the levers connected to reciprocate the auxiliary frame, substantially as described.

JAMES JOHNSTONE.

Witnesses:
SUSIE JOHNSTONE,
KEZIAH CONABEER.