(No Model.)

J. GARLAND.

SAW SET.

No. 282,304. Patented July 31, 1883.

FIG. 1.

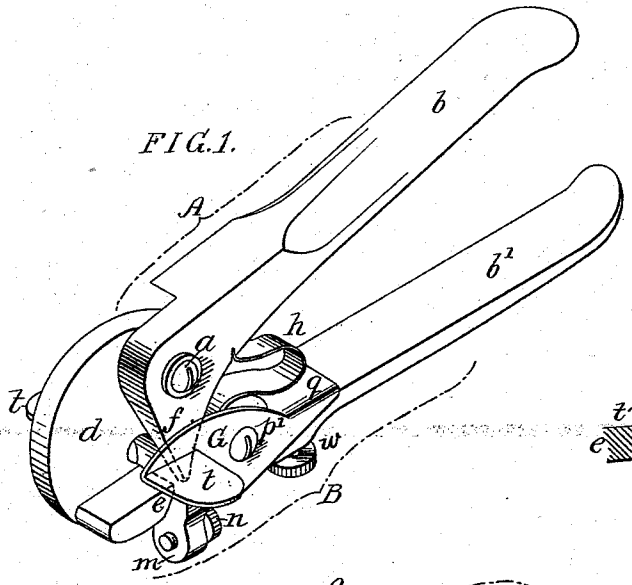


FIG. 5.

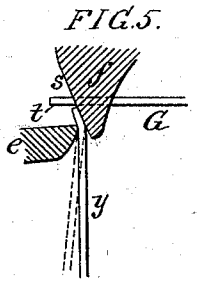


FIG. 2

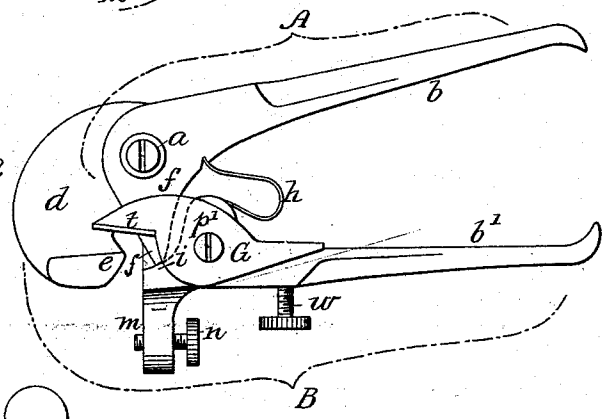


FIG. 3.

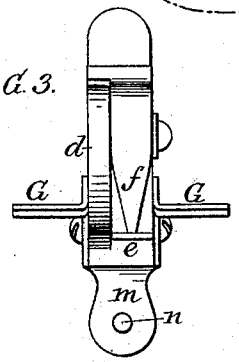
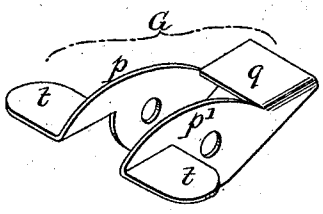


FIG. 4



WITNESSES:
Harry Drury
David Williams.

INVENTOR:
James Garland
by his Attorneys
Howson and Sons

UNITED STATES PATENT OFFICE.

JAMES GARLAND, OF PHILADELPHIA, PENNSYLVANIA.

SAW-SET.

SPECIFICATION forming part of Letters Patent No. 282,304, dated July 31, 1883.

Application filed March 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES GARLAND, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Saw-Sets, of which the following is a specification.

My invention consists of a saw-set constructed in the peculiar manner fully described hereinafter, the objects of my invention being to effect the accurate setting of the teeth of the saw by bending the same, and to determine the extent to which they shall be set and how much of each tooth shall be bent.

In the accompanying drawings, Figure 1 is a perspective view of my improved saw-set; Fig. 2, a side view; Fig. 3, an end view; Fig. 4, a perspective view of the guard, and Fig. 5 a diagram illustrating the operation of the instrument.

Two levers, A and B, are pivoted together by a pin, *a*, the long arms *b b'* of the levers being formed for convenient manipulation. The short curved arm *d* of the lever B terminates in an inwardly-projecting **V**-shaped anvil, *e*, and the short arm *f* of the lever A forms the jaw by and between the inclined face of which and the anvil a saw-tooth is bent or set. A spring, *h*, tends to maintain the jaw and anvil apart from each other to the extent permitted by a projection, *i*, on the lever B, with which projection the jaw comes in contact when the long arms or handles of the levers are released.

On the lever B is a lug or projection, *m*, through which passes the threaded stem of a set-screw, *n*.

A guard, G, (best observed by reference to the perspective view, Fig. 4,) is pivoted to the lever B, this guard consisting of two cheek-pieces, *p p'*, connected together by a cross-piece, *q*, each cheek-piece having a projection or lip, *t*. A set-screw, *w*, passes through the arm *b'* of the lever B, and bears against the under side of the cross-piece *q* of the guard.

When the instrument is adjusted to a saw-blade, the lips of the cheek-pieces bear on the teeth, one lip on one side and the other lip on the opposite side of the jaw and anvil—an arrangement which insures the lateral steadiness of the saw-set.

Guards for serving the same purpose as the guard G have been combined with saw-sets; but such guards have not been constructed in the manner which I have described.

The action of the instrument when operated may be best explained by reference to the diagram Fig. 5, in which the line *t* represents the under side of the lips of the guard G, *e* being the above-mentioned anvil on the short arm of the lever B, *f* the jaw forming the short arm of the lever A, and having an inclined front face, *s*, and *y* being part of a saw-blade, the upper toothed edge of which is between the anvil and jaw, the lips of the guard bearing on the said teeth and the inclined face of the said jaw having been forced against the side of one of the teeth, thereby bending it against the anvil and imparting to it the desired set, the extent of which will be determined by the inclination of the face *s* of the jaw *f* in respect to the face of the saw-blade. If, for instance, the saw-blade be adjusted to the inclined position indicated by dotted lines, the tooth will be bent to a greater extent than if the blade should be in the vertical position indicated by plain lines; hence the adjusting-screw *n*, by which the relation of the saw-blade to the inclined face of the jaw *f* may be altered at pleasure.

Adjusting devices other than the set-screw will readily suggest themselves to expert mechanics; but the set-screw is to be preferred on account of its simplicity.

More or less of each tooth of a saw-blade may require to be bent, as the character of the teeth and that of the desired set may suggest. It is the duty of the guard G to determine how much of each tooth shall be bent, for the toothed edge of the blade should always be in contact with the under side of the lips of the guard in operating the instrument, and the more these lips are depressed by manipulating the set-screw *w* the less will be the extent of the portion of each tooth which is bent by the combined action of the jaw and anvil.

It will be observed that the action of the inclined face of the jaw, in conjunction with the comparatively sharp edge of the anvil, is that of simply bending the tooth, and that there is no crushing or rubbing of the tooth against an extended base.

I claim as my invention—

1. A saw-set in which a lever, B, having a short arm provided with an inwardly-projecting anvil, *e*, having a comparatively sharp edge, is combined with a lever, A, having a jaw, *f*, with an inclined face, moving past the edge of the anvil, substantially as described.

2. The combination of the lever B and its anvil *e*, the lever A, having a jaw, *f*, the lever-guard G, pivoted to the lever B, and having two cheek-pieces, each provided with a lip, *t*, one cheek-piece being on one side and the other on the opposite side of said jaw and anvil, and a set-screw, *w*, for adjusting the lever-guard, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES GARLAND.

Witnesses:

HARRY L. ASHENFELTER,

HENRY HOWSON, Jr.