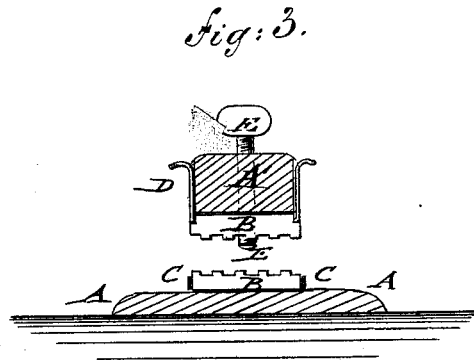
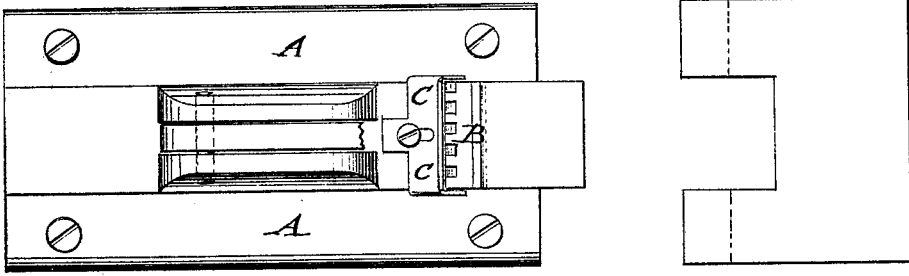
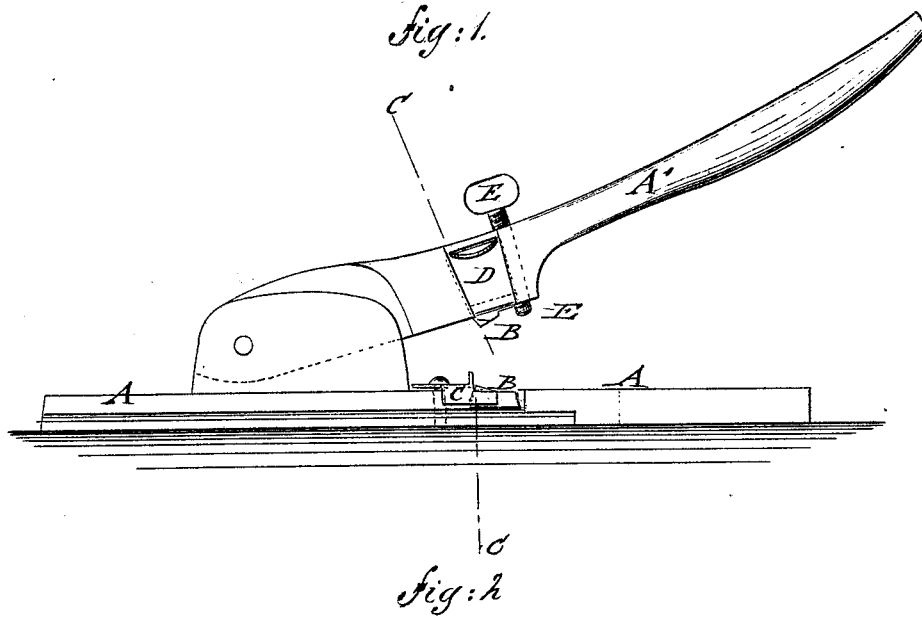


C. HEINEN.
SAW-SETS.

No. 180,878.

Patented Aug. 8, 1876.



WITNESSES:
Geo. N. ...
John Gethals

INVENTOR:
C. Heinen
BY *Munnell*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHRISTOPHER HEINEN, OF FORT LARAMIE, WYOMING TERRITORY.

IMPROVEMENT IN SAW-SETS.

Specification forming part of Letters Patent No. **180,878**, dated August 8, 1876; application filed May 9, 1876.

To all whom it may concern:

Be it known that I, CHRISTOPHER HEINEN, of Fort Laramie, in the county of Laramie and Territory of Wyoming, have invented a new and Improved Saw-Set, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side elevation of my improved saw-set; Fig. 2, a top view with lever part cut off; and Fig. 3, a vertical transverse section on-line *cc*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved saw-set, by which a number of teeth may be set in opposite direction at one operation of the device, and the same be adapted to set any kind of saw by inserting the dies fitted to the saw.

The invention consists of a lower base part and a swinging-lever part, with removable dies, gage-piece, and regulating-screw.

In the drawing, A represents the base-plate, and A' the pivoted-lever part, of my improved saw-set, which may be of any suitable width and length, according to the number of teeth desired to be set by one operation, and according to the size of the saw. The dies B are arranged to set a number of teeth, and are inserted from the side into dovetail grooves of the base and lever parts, to be readily taken out and changed, according to the size of dies required for the saw. A gage, C, with side flanges, is applied to the base-plate, and adjusted by set-screw and slot at suitable distance from the die B, according as a greater

or lesser set of the teeth is required. The side flanges of the gage secure the die rigidly in position, while sliding side or guard plates D of the lever lock the upper die. The upper and lower dies fit into each other, their bevel being equal to the length of the tooth, and made in front somewhat deeper than the ordinary set, the greater or lesser degree of which is regulated by a set-screw, E, of the lever.

The base-plate may be made short to admit the passage of a back-saw, and also be provided with an extension, to be attached at will. The extension is used to steady the saw by a pressure of the hand downward.

The saw is set into the dies from right to left, and the lever then brought down to set the teeth. The person operating the set stands in front of the same, adjusts the saw, and brings the lever down without changing his position, setting thereby the teeth directly at one operation, in opposite direction, without reversing the saw or saw-set.

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

A saw-set consisting of grooved base-plate A, grooved lever A', dies B, side flanged gage C, and guard-plates D, all constructed and arranged substantially as and for the purpose specified.

CHRISTOPHER HEINEN.

Witnesses:

JOHN G. THOMSON,
HERMAN MEERHOLZ.