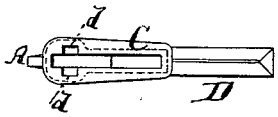
M. D. CONVERSE.

Nail-Extractor.

No. 162,274. Patented April 20, 1875.

Fig: 4



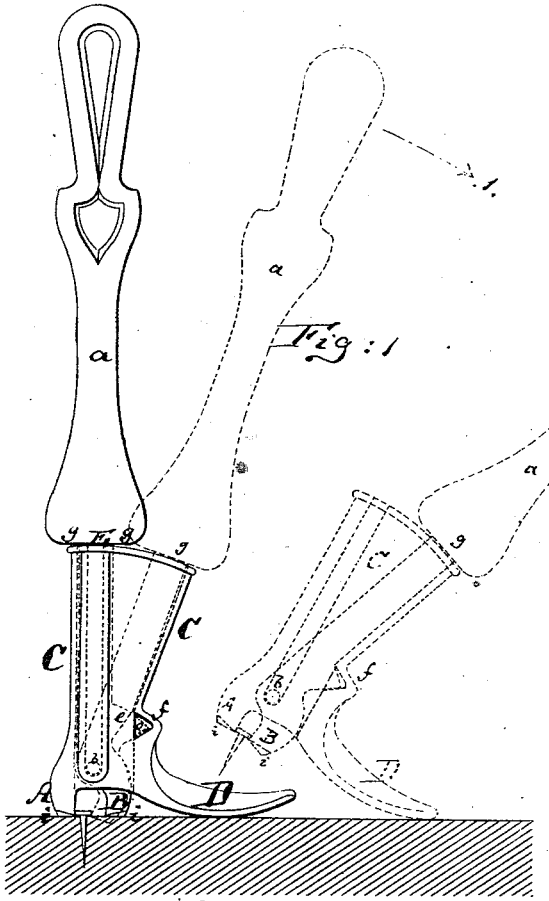




Fig: 1

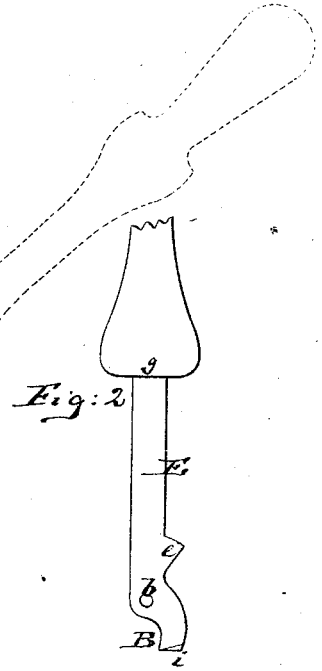



Fig: 2

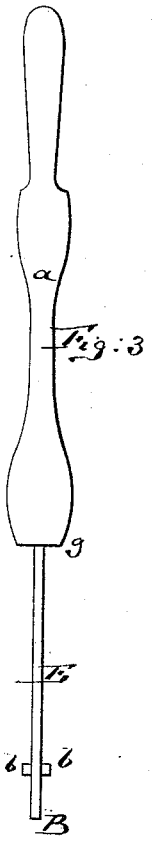



Fig: 3

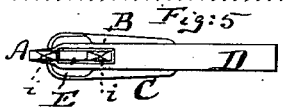



Fig: 5

**Witnesses:**

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E. C. Webb

**Inventor:**

M. D. Converse

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A. V. Briesen

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

# UNITED STATES PATENT OFFICE.

MASCHIL D. CONVERSE, OF JERSEY CITY, NEW JERSEY.

## IMPROVEMENT IN NAIL-EXTRACTORS.

Specification forming part of Letters Patent No. **162,274**, dated April 20, 1875; application filed January 20, 1875.

*To all whom it may concern:*

Be it known that I, MASCHIL D. CONVERSE, of Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Nail-Extractors, of which the following is a specification:

Figure 1 is a side view of my improved nail-extractor. Fig. 2 is a side view of the lower part of the movable jaw. Fig. 3 is an edge view of the said movable jaw. Fig. 4 is a top view of the standing jaw, and Fig. 5 a bottom view of the entire instrument.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to a new tool for extracting nails; and consists in the combination and arrangement of the parts, as hereinafter described.

In the drawings, the letter A represents the fixed jaw, and B the movable jaw, of the extractor. The jaw A is attached to the lower end of a hollow shank or guide, C, from which the fulcrum D projects, as shown in Fig. 1. The jaw B constitutes the lower end of a bar or shaft, E, having a suitable handle, *a*, formed at its upper end. A pin or projection, *b*, projects from one or both faces of the shaft E close above the jaw B, as shown in Figs. 2 and 3, said projection being formed on the said shaft. For the reception of the shaft E and jaw B the shank C is made hollow, so that they may be introduced from above, and extended through an opening in the bottom of the shank C. For the reception of the projection *b* opposite sides of the hollow of the shank C are grooved vertically, as shown at *d d*, Fig. 4, so that when the jaw B and shaft E are applied from above the projection *b* will slide down in the grooves until the enlargement *g* on the shaft E comes in contact with the upper end of the shank C, which position supports the jaw B in place for operation. On the projection *b* and enlargement *g* the shaft E and jaw B can be vibrated from the position shown by full lines in Fig. 1 to that which is shown by dotted lines in the same figure, the hollow of the shank C being of segmental form to admit of such play, the enlargement *g* traveling over the arc of the top of said shank. In the latter position a lug, *e*, which projects from the edge of the shaft E, as shown in Fig. 2, enters beneath a projecting shoulder, *f*, which is formed on the shank C at or near the place where the fulcrum-piece D joins said shank, thus preventing nearly all the longitudinal play of the jaw B and shaft E while in this position. When the shaft E and jaw B are swung back from the position indicated by the dotted lines in Fig. 1 to that indicated by full lines in the same figure the lug *e* is released from under the shoulder *f*, leaving the shaft E and jaw B free to be moved up and down vertically within the hollow of the shank C. The bottom of the jaws A and B are provided with short quadrangular prismatic projections *i i*, as shown in Figs. 1, 2, and 5, extending backward and downward from the body of the jaws.

Instead of these prismatic projections at this place on the jaws a groove may be formed in the jaws, beginning just back of their griping-edges, and extending to the backs thereof. These grooves will then be deepest at the place occupied by the points of the prismatic projections shown in the drawings, forming two pointed edges on each jaw on either side of said grooves. This modification in construction may be adopted without departing from the spirit of my invention.

The distance between the bearing-surface of the shoulder *f* and the contact-edges of the arc at the top of the shank C is shorter than that between the contact-edge of the lug *e* and the bearing-surface of the enlargement *g*, in order to allow the jaws A and B to accommodate themselves to the variations of position without unduly bending the nail while extracting it. The end of the fulcrum D may be widened, if desired, and sharpened to constitute an edge for use.

In applying this extractor the parts A B D are placed so that the griping-edges of the jaws will stand close to opposite sides of the head of the nail to be extracted. By means of the handle *a*, the jaw B and shaft E are raised, and then forced downward, so that the enlargement *g* on the shaft E, in reaching the upper end of the shank C, will force the jaw A into the wood, which also serves to force the jaw B into the wood, until both jaws are in position to properly grasp the nail. The projections *b*, being held in position by the

grooves *d d*, and the enlargement *g* in contact with the arc at the top of the shank C, are then allowed to serve as bearings for the jaw B in swinging the shaft E into the first dotted position shown in Fig. 1, which motion will bring the jaw B close to the head of the nail, causing both jaws to take hold of the nail. The shaft E is then swung farther in the direction of the arrow 1, Fig. 1, and will then swing the whole implement on the contact-line of the fulcrum D into the second dotted position shown in Fig. 1. By this motion the nail is extracted.

I claim as my invention, and desire to secure by Letters Patent—

A nail-extractor composed of the hollow shank C, provided with the jaw A and fulcrum D, and of the shaft E, provided with the jaw B, capable of both a vibratory and a vertical movement within and through the hollow of said shank, substantially as and for the purpose shown and described.

M. D. CONVERSE.

Witnesses:
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A. V. BRIESEN.