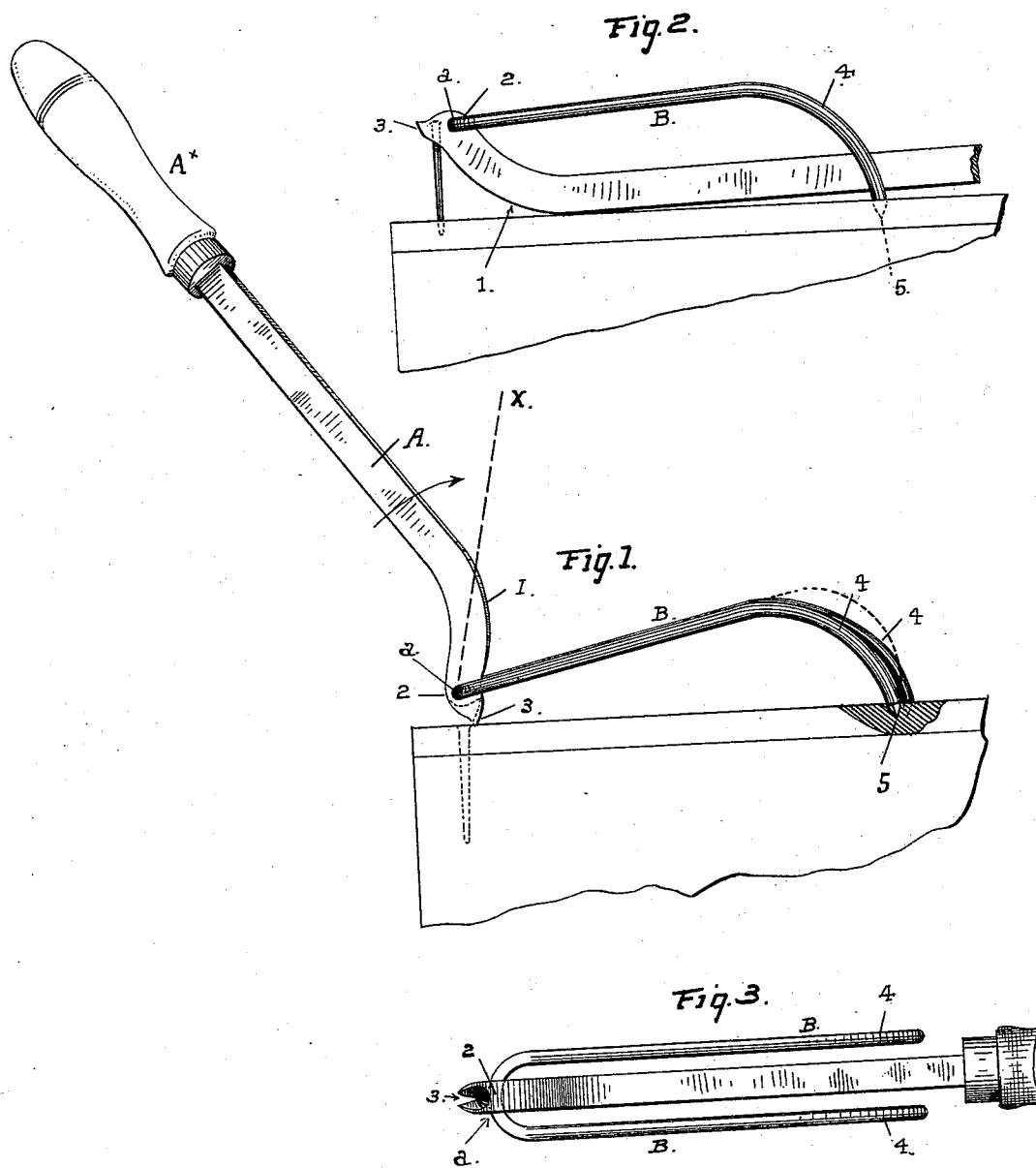


(No Model.)

T. C. CREIGHTON.
NAIL EXTRACTOR.

Patented Oct. 20, 1896.

No. 569,958.



Witnesses:

L. Osborn

M. Regnier

Inventor:

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Attys.

UNITED STATES PATENT OFFICE.

THOMAS C. CREIGHTON, OF HAYWARDS, CALIFORNIA.

NAIL-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 569,958, dated October 20, 1896.

Application filed February 14, 1896. Serial No. 579,317. (No model.)

To all whom it may concern:

Be it known that I, THOMAS C. CREIGHTON, a subject of the Queen of Great Britain, residing at Haywards, in the county of Alameda and State of California, have invented certain new and useful Improvements in Nail-Extractors, of which the following is a specification.

This invention relates to an improved construction of nail-extracting tool that is especially designed for drawing nails from packing-boxes and for similar work.

The object sought to be attained is the production of a tool that will extract a nail without breaking or tearing the wood of the box-cover; that can be entered beneath the head of the driven nail to take a firm grip upon the body below the head, and in which the power is applied to the best advantage to draw the nail straight.

To such end and object my said invention consists in the described construction and combination of shank or body having a curved end portion terminating in a reversely-turned nose provided with nail-gripping jaws, and an anchor or fulcrum composed of two spring-arms having downwardly-curved claws and attached to the shank or body of the tool at the head and on opposite sides of the same, so that the shank is free to work between them, all as hereinafter fully set forth, and pointed out in the claims.

The accompanying drawings, that form part of this specification, and are referred to herein by figures and letters, represent, in—

Figure 1, a nail-extractor embodying these improvements and illustrates the position of the tool on a cover when the gripping-jaws are set against a nail to cut into the wood and be entered under the head of the nail. Fig. 2 represents the position of the parts of the tool in the operation of drawing the nail after the jaws have taken hold and the handle of the tool has been pressed down to raise the nail. Fig. 3 is a top view of the spring-arms that form the anchor or fulcrum.

A indicates the shank of the tool, 1 the curved head, 2 the reversely-curved nose, and 3 3 the gripping-jaws formed on the under side of the nose.

B B are spring-arms of equal length having downwardly-turned outer portions 4, which

I term the "claws," and terminating in sharp-pointed ends 5. The said arms are loosely but permanently attached to the shank at the nose 2 and on opposite sides and are of such length that they extend back from the head 1 for nearly the entire length of the shank, or almost to the part where the wooden handle A^x joins the shank. Said arms set also about parallel with the shank A, and their downwardly-turned claws are bent on a curve to bring the points about perpendicular to the arms B. I prefer to make these arms B B in one piece, or integral, by bending a single piece of spring-wire of the proper length, after passing it through the hole or eye a, so that the arms are of equal length and extend backward parallel with each other and also with the shank A, when they are turned or folded in line with it, as seen in Fig. 3. The middle portion of this single piece of wire that lies in the eye a thus rigidly or stiffly connects the two arms B B together, and on this part the arms are free to turn in the head as the shank of the two is moved in a vertical arc while in operation. The arms B B are set also to clear the sides of the shank and allow that part to play between them, so that the shank or handle portion of the tool can be turned down into horizontal position between the arms of the anchor and while that part maintains a strong hold on the cover. This form and arrangement of the gripping-arms enables the handle or lever to be turned down closely against the cover of the box and thus give the full extent of stroke or movement whereby the nail is drawn by a single pull or movement of the tool from the vertical or nearly vertical position over to the horizontal position.

The arms are made of spring-wire, and the claws or outer ends are bent, as shown, to produce a forward pressure of the anchor against the head 2 for the purpose of giving the cutting edges of the jaws 3 a movement forward under the head of the nail and bringing the same into position to grip the body of the nail just at the beginning of the upward or lifting movement or as the handle A^x is brought over beyond the perpendicular from about the position represented in Fig. 1 to that indicated by the line X.

By referring to Fig. 1 it will be seen that

when the tool is placed in the position there shown and the jaws 3 against the head of the nail and the anchor held down against the box-cover with the points embedded in the wood there will take place a bending of the curved portions of the arms as the point *a* is moved backward or horizontally toward the outer ends of the claws, by virtue of which the arms will exert a resistance, although the point *a* yields slightly under the force exerted upon the handle by the workman to draw the lever A over the center; but when the lever passes this vertical center the cutting-points of the jaws will come directly under the fulcrum-point *a*, and at such movement from the position of the parts the spring-arms will react, with the result to press the gripping-jaws horizontally forward under the head of the nail and grip its body below the head. From this point in the movement of the tool the curved end of the shank produces a perpendicular lifting of the nail and acts to draw the same on a vertical or nearly vertical line. In this part of the operation the anchor retains its position and hold upon the cover without requiring to be held down by the workman, and thus leaves him free to use both hands to the handle of the tool.

The tool thus acts at all times in its movement with a pressure against the points of the anchor, the effect of which is to overcome the liability of tearing and breaking the wood, which cannot be prevented in those tools of similar construction where an anchor is arranged to work on the opposite side of the head and gripping-jaws.

Another advantage obtained from my construction and arrangement of anchor is the ability to work always within the edges of the cover or from the middle portion toward the outer edge, thereby securing a firm and broad rest or bearing for the curved part of the lever and a strong hold for the anchor.

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

1. The herein-described nail-extractor comprising the lever having a straight handle portion A^x, a curved head 1 terminating in the reversely-turned nose 2 and provided with gripping-jaws 3 3, and the spring-arms B B attached to the nose on opposite sides of, and parallel with, the shank and having the downwardly-curved claws 4 4 terminating in sharp points 5 5, constructed to operate as set forth.

2. In a nail-extracting tool of the character herein described, the combination, with the lever portion having a curved outer end terminating in gripping-jaws, of the anchor constructed of spring-arms attached to the said lever at a point close to and above the gripping-jaws and on opposite sides thereof, and having downwardly-curved spring-claws provided with sharp points, said arms extending parallel with each other and with the lever, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

THOMAS C. CREIGHTON. [L. s.]

Witnesses:

CHAS. E. KELLY,
M. REGNER.