No. 708,841. Patented Sept. 9, 1902.

E. N. SPERRY.

NAIL EXTRACTOR.

(Application filed June 3, 1902.)

(No Model.)

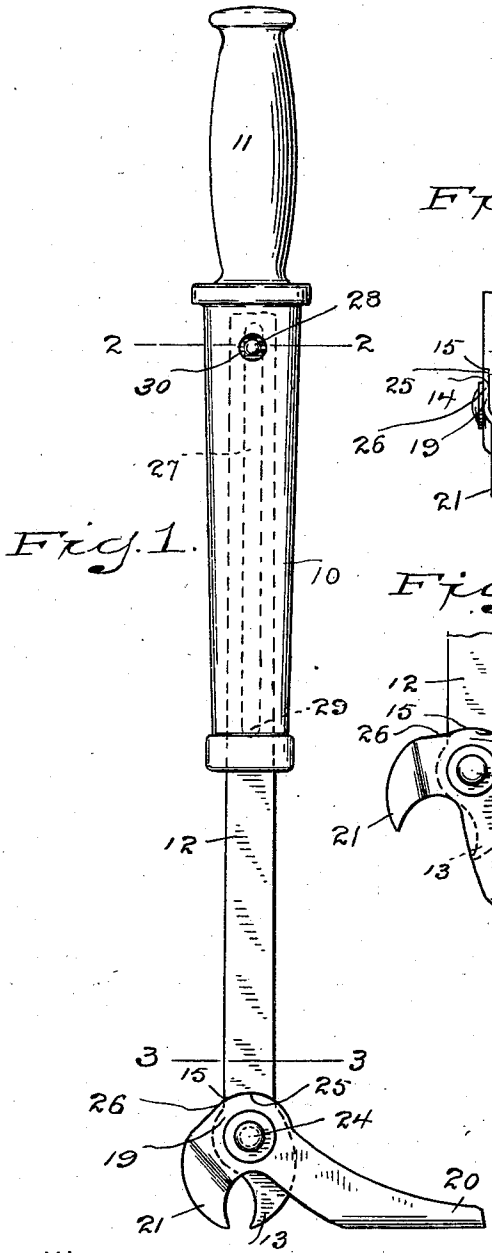

Fig. 1.

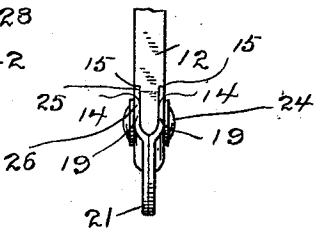

Fig. 5.

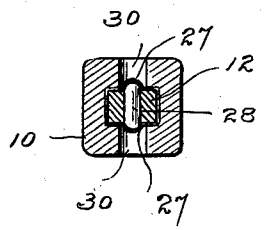

Fig. 2.

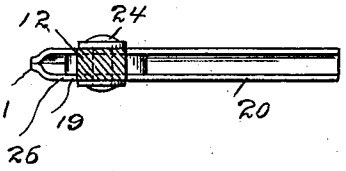

Fig. 3.

Fig. 6.

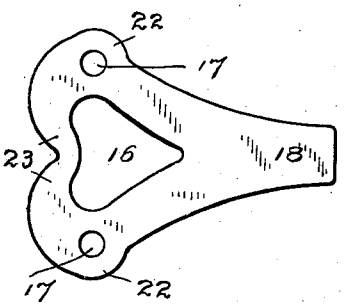

Fig. 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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NAIL-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 708,841, dated September 9, 1902.

Application filed June 3, 1902. Serial No. 110,073. (No model.)

To all whom it may concern:

Be it known that I, ELLIE N. SPERRY, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented a new and useful Nail-Extractor, of which the following is a specification.

My invention has for its object to simplify and strengthen and at the same time to cheapen the construction of nail-extractors and, furthermore, to greatly improve their operation in use.

With these and other objects in view the invention consists in certain parts, improvements, and combinations, which will be hereinafter described, and then specifically pointed out in the claims hereunto appended.

In the accompanying drawings, forming part of this specification, Figure 1 is an elevation of my novel nail-extractor, the movable jaw being in position as when gripping the head of a nail; Fig. 2, a section on the line 2 2 in Fig. 1; Fig. 3, a section on the line 3 3 in Fig. 1; Fig. 4, a plan view of the blank from which the movable jaw is formed; Fig. 5, a front elevation corresponding with Fig. 1, and Fig. 6 is a side elevation showing the movable jaw and lever in the extreme open position.

10 denotes the socket, 11 the handle ordinarily cast integral therewith, and 12 the shank, which moves freely in the socket longitudinally, is made angular to prevent rotation, and has formed integral therewith a fixed jaw 13. The metal of the shank on opposite sides of the jaw is removed to form recesses 14, which terminate in arc-shaped shoulders 15.

The essential feature of the invention is that the movable jaw and jaw-lever are formed integral from a blank of sheet metal. This blank, which is illustrated in Fig. 4, somewhat resembles the conventional heart shape, with concave instead of convex sides, and is provided with an approximately heart-shaped opening 16, with two holes 17 in the wings 22 thereof and with a central tailpiece 18. To form the integral jaw and jaw-lever, the blank is folded at its mid-length, the wings lying parallel, but at just sufficient distance apart to permit the fixed jaw to pass between them. The wings of the blank form the side pieces 19 of the movable jaw, which side pieces when assembled lie in the recesses 14, the edges of the side pieces being curved, as at 25, to correspond with the curvature of shoulders 15. The tailpiece of the blank is after being folded U-shaped in cross-section and forms the jaw-lever 20 of the integral jaw and jaw-lever. The movable jaw proper, which I have specifically indicated by 21, is formed by closing together the two plies of metal (indicated by 23) on opposite sides of a central longitudinal line and between wings 22 at the end of the blank opposite to the tailpiece. In assembling, the fixed jaw is passed between the side pieces of the movable jaw and a pivot 24 is passed through holes 17 in the side pieces and through a hole in the fixed jaw. It will be noted that the portions of the edges of side pieces 19, which are specifically indicated by 25 and which lie contiguous to shoulders 15, likewise the shoulders themselves, are arcs of circles of which the pivot is the center. Just beyond portions 25 of the edges of the side pieces the outline of said side pieces changes, so as to form stops 26, (see Fig. 6,) which engage the front ends of shoulders 15 and limit the opening movement of the jaw, and consequently the downward movement of the jaw-lever when not in use, it being important that no spring is used and that the jaw drops to the open position by gravity. The opposite sides of the socket are provided with grooves 27, and the shank is locked in the socket by a pin 28, whose ends lie in the grooves and engage the lower ends of the grooves, as at 29 in Fig. 1, to limit the outward movement of the shank. Holes 30 are provided in the walls of the socket in order to permit the pin to be driven through the shank after the shank has been passed into the socket.

The operation in use is identical with other nail-extractors of this general type, the special advantages in use being that no springs are used, that the leverage is central, so that

the jaws cannot get out of alinement, and that the shank cannot rotate in the socket, so that the implement is caused to lie in any position in which it may be placed.

Having thus described my invention, I claim—

1. In a nail-extractor the combination with a shank carrying a fixed jaw, of a movable jaw and jaw-lever formed integral from a blank of sheet metal having a central opening and folded longitudinally to place the sides parallel but separated, one end of the blank when folded forming a U-shaped jaw-lever and the plies of metal at the other end being closed together to form the movable jaw, the fixed jaw in assembling being passed through the opening.

2. In a nail-extractor the combination with a shank carrying a fixed jaw and having recesses on opposite sides terminating in arc-shaped shoulders, of a movable jaw and jaw-lever formed integral from a blank of sheet metal having a central opening and folded longitudinally to place the sides parallel but separated, one end of the blank when folded forming a U-shaped jaw-lever, the metal on opposite sides of the opening forming side pieces adapted to lie in the recesses and having curved edges corresponding with the arc-shaped shoulders and the plies of metal at the end opposite to the jaw-lever being closed together to form the movable jaw.

3. The integral jaw and jaw-lever formed from a blank of sheet metal having a central opening and folded longitudinally to place the sides parallel but separated, one end of said folded blank forming a U-shaped jaw-lever and the plies at the other end being closed together to form the jaw.

4. In a nail-extractor the combination with a shank carrying a fixed jaw, of a movable jaw and jaw-lever formed integral from a blank of sheet metal having a central opening and folded longitudinally to form a U-shaped jaw-lever, the movable jaw being formed by closing together the two plies of metal on opposite sides of the center of the blank at the end opposite to the jaw-lever, and the fixed jaw being passed through the opening.

In testimony whereof I affix my signature in presence of two witnesses.

ELLIE N. SPERRY.

Witnesses:
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A. M. WOOSTER.