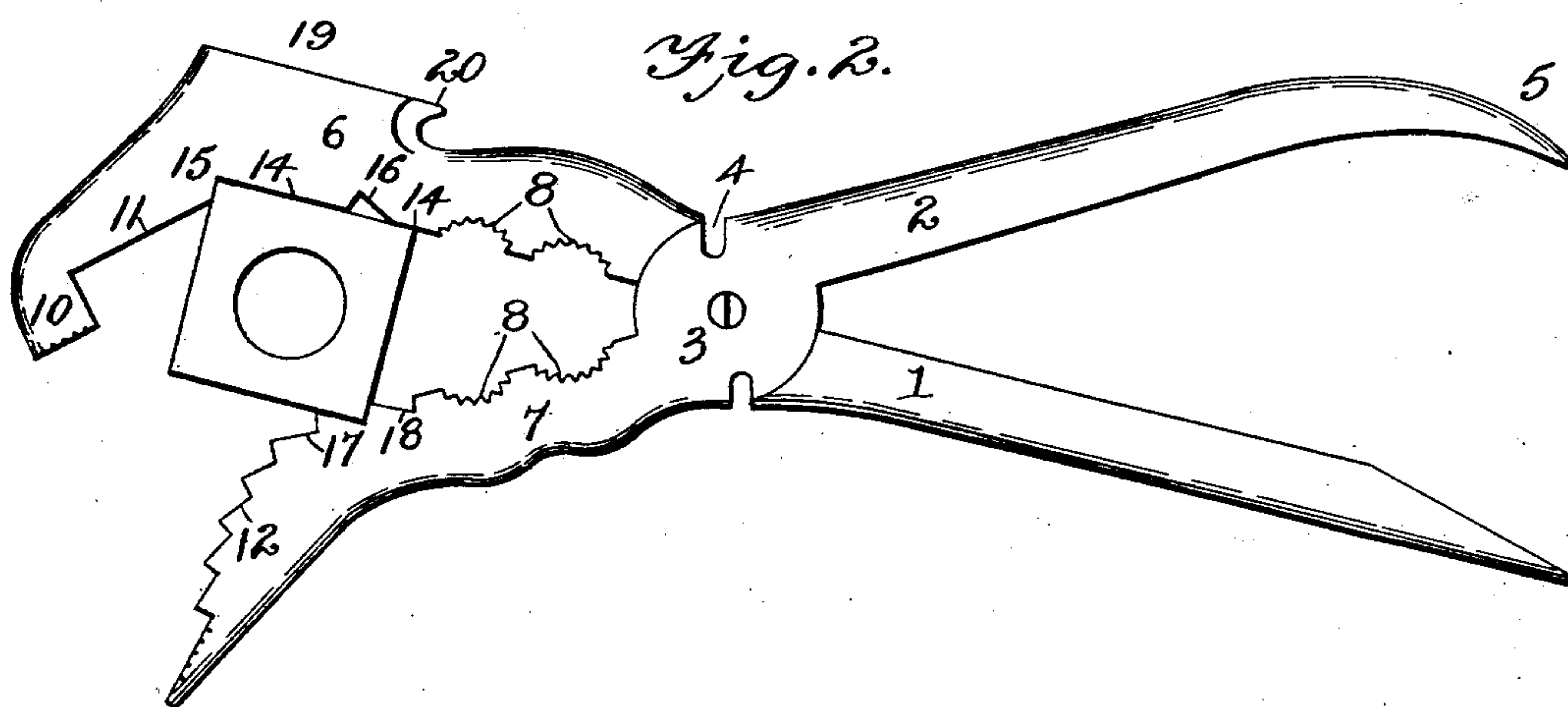
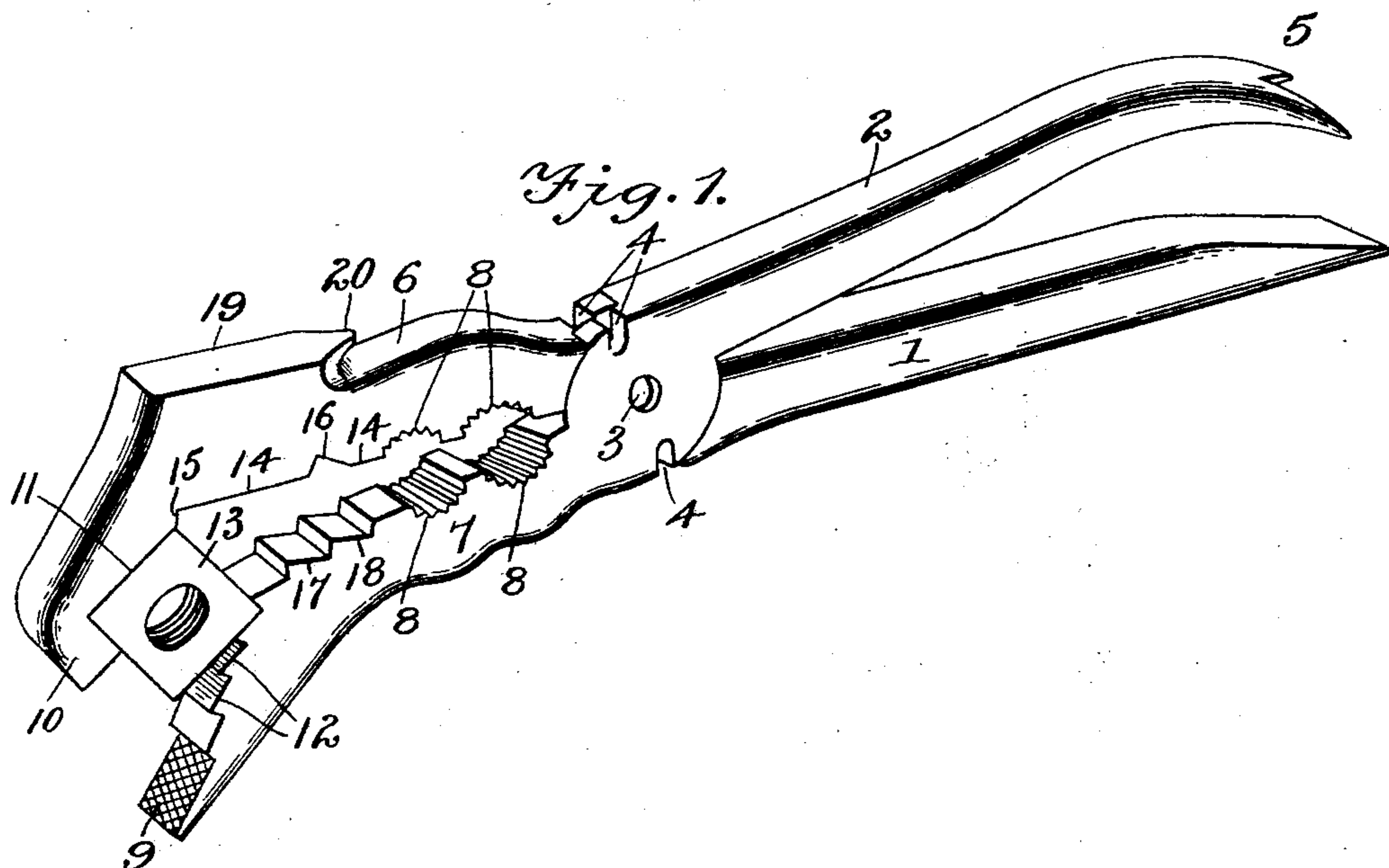


(No Model.)

C. J. ARMSTRONG.
COMBINATION TOOL.

No. 591,720.

Patented Oct. 12, 1897.



Inventor

Charles J. Armstrong

Witnesses

Edwin G. McKee

By his Attorneys,

J. F. F. Riley

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

CHARLES J. ARMSTRONG, OF AUSTIN, TEXAS, ASSIGNOR OF ONE-HALF TO
CHARLES WOLF, OF SAME PLACE.

COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 591,720, dated October 12, 1897.

Application filed March 25, 1897. Serial No. 629,267. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. ARMSTRONG, a citizen of the United States, residing at Austin, in the county of Travis and State of Texas, have invented a new and useful Combination-Tool, of which the following is a specification.

The invention relates to improvements in combination-tools.

The object of the present invention is to improve the construction of combination-tools and to provide a simple, inexpensive, and efficient device adapted without changing any of its parts to operate as a nut and pipe wrench, pliers, hammer, screw-driver, and nail-extractor.

The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of a combination-tool constructed in accordance with this invention, the jaws being shown in engagement with a nut. Fig. 2 is a side elevation illustrating another manner of engaging a nut.

Like numerals of reference designate corresponding parts in both figures of the drawings.

1 and 2 designate bars or members connected between their ends by a pivot 3 and provided at the latter with circular enlargements, and the latter have peripheral notches 4, forming cutting edges at the contiguous faces of the enlargements and adapted for cutting wire. The notches provide a wire-cutter at each side of the tool for the convenience of the operator, and a piece of wire may be rapidly cut without changing the position of the tool in the hand and without reversing it.

The handle portion of the bar 1 is tapered to provide a screw-driver, and the handle portion of the bar 2 has a claw 5 at its end for extracting nails.

The jaws 6 and 7 of the bars 1 and 2 are provided at their inner portions with opposite serrated or toothed notches 8, which are curved and which are adapted to engage a pipe or rod in order that the device may be employed as a pipe-wrench or pliers, and by opening and

closing the jaws the device is adapted to be readily adjusted to suit the diameter of the rod or pipe to be operated on.

The outer portions of the jaws 6 and 7 are disposed at a slight angle to the inner portions thereof. The jaw 7 is provided at its outer extremity with an inner flat checkered face 9, and the other jaw 6 is provided with an inwardly-extending lug 10, having a checkered face to cooperate with the flat face 9, in order that the device may be used as a pair of pliers. The lug 10 also forms a recess and cooperates with the straight face 11 of the extension of the arm 6 in receiving and engaging one corner of a nut, as illustrated in Fig. 1 of the accompanying drawings. The other jaw is provided with a series of angular recesses 12, disposed on the arc of a circle and adapted to engage the opposite corner of the nut 13. The straight face 11 extends from the lug 10 to the inner terminus of the angular extension of the jaw 6, and the jaws are adapted to be open to a greater or less extent to bring any one of the series of notches 12 to a point opposite the recess formed by the lug 10 and the extension of the jaw 6 to suit the size of the nut to be gripped.

In order to adapt the device for engaging nuts of sizes which are not accommodated by the notches or recesses 12, the jaw 6 is provided between the extension and the recesses or notches 8 with straight faces 14 and recesses or notches 15 and 16, and the other jaw is provided with recesses or notches 17 and 18. By this construction the jaws are adapted to engage the larger sizes of nuts, as illustrated in Fig. 2 of the drawings.

The jaw 6 is provided at its outer edge with an enlargement 19, having a straight hammer-face and also adapted to strengthen the jaw. A tapering projection 20 is provided at the inner end of the hammer-face for engaging staples to enable them to be readily extracted.

It will be seen that the device is simple and comparatively inexpensive in construction, that it is adapted for use as a nut or pipe wrench, pliers, hammer, wire-cutter, staple and nail extractor, and screw-driver, and that the device does not require removal of any of its parts or the substitution of other parts in

order to adapt it for any of its uses, and that the adjustment is effected by simply opening and closing the jaws.

What I claim is—

- 5 A device of the class described comprising the pivoted bars or members provided with jaws having angular extensions at their terminals, one of the jaws being provided with a continuous curved series of notches 12, 17
10 and 18 to receive a corner of a nut, and the other jaw 6 being provided at the extension with a flat inner face 11 and an inwardly-extending lug 10, forming a shoulder to engage the outer edge of a nut, said jaw 6 being also

provided at its inner portion with the flat nut- 15
engaging faces 14 and having the notches 15 and 16, the notch 16 being interposed between the faces 14 and the notch 15 being arranged between the flat face 11 and the adjacent flat face 14, substantially as described. 20

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES J. ARMSTRONG.

Witnesses:

J. H. DANIEL,
J. E. SHIPMAN.