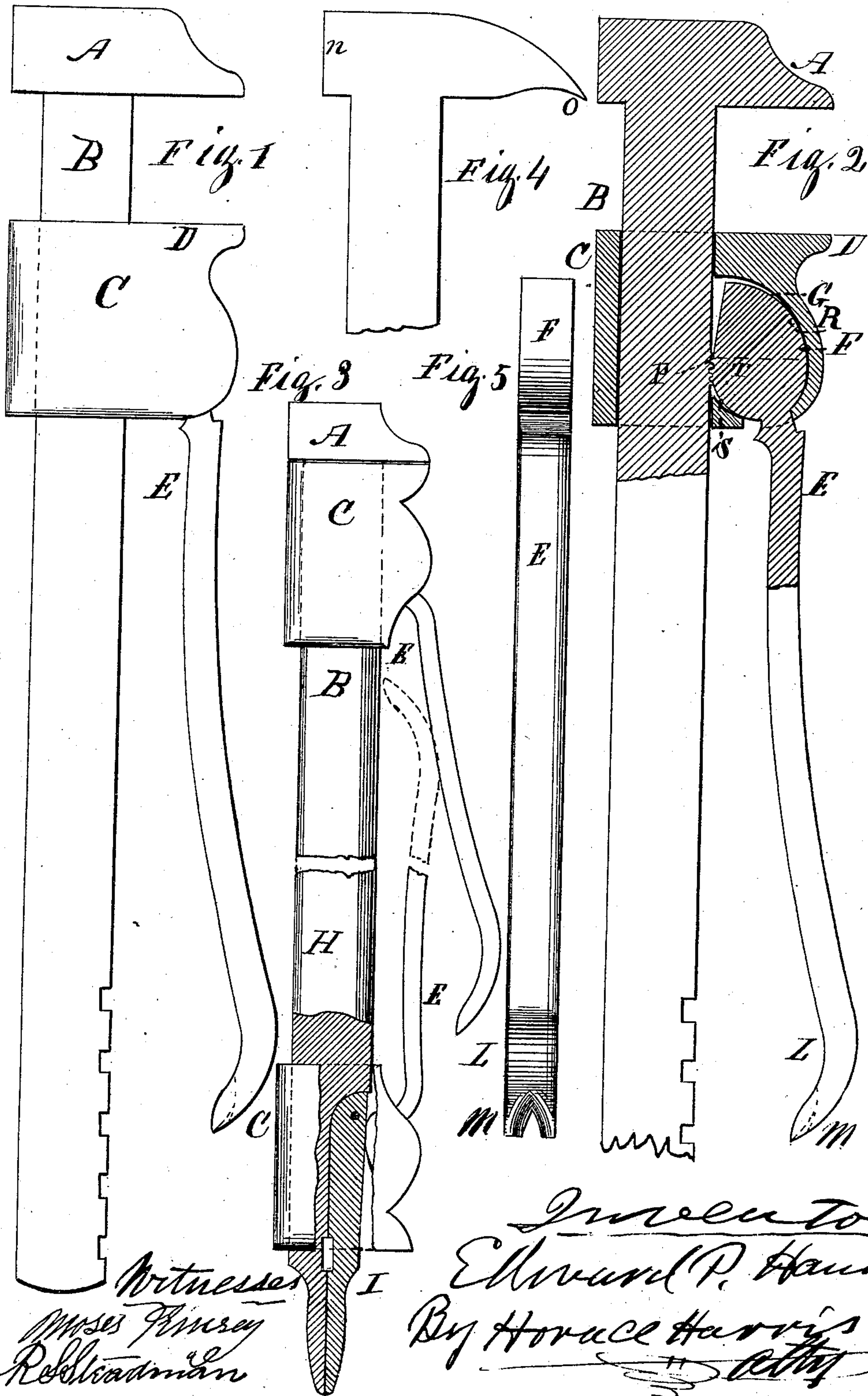


(No Model.)

E. P. HAND.  
WRENCH.

No. 260,479.

Patented July 4, 1882.



Witnesses  
Moses Finney  
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# UNITED STATES PATENT OFFICE.

EDWARD P. HAND, OF NEWARK, NEW JERSEY.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 260,479, dated July 4, 1882.

Application filed February 27, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD P. HAND, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My invention relates to an improvement in combination-wrenches wherein the adjusting-jaw is held at a given point by an eccentric-lever and pinchers are connected and operated by the same, and wherein the parts are detachable, to be used, when desired, separately for other purposes, as for a hammer and tack-lifter; and it consists in the devices substantially as hereinafter set forth.

Figure 1 is a side elevation. Fig. 2 is a sectional elevation of the same. Fig. 3 shows a side elevation with the combination of pinchers. Figs. 4 and 5 are detailed views.

In my construction A is a jaw secured to the bar or handle B. C is a sliding case, in which said bar is adjusted, and D is the part of said case forming the counter-jaw.

E is a lever, having a double eccentric-head, F, lying in a recess, G, in the case. These eccentrics S and R are arranged one on each side of the axis of action and at an oblique angle from a transverse line, T, across the end F, one forward and the other back of said line, so that when the lever is pressed close down toward the bar B the eccentric S will press against the bar and the eccentric R against the inside of the recess G and hold the jaws at any desired point relatively, and it will be seen that when the lever is raised the pressure on the bar will cease, and it may be moved along in the case or taken out, at pleasure; or the eccentric-head may become more effective by having teeth P in the lower edge of it, with corresponding teeth on the top edge of the bar.

This makes a very strong and easily-adjusted wrench.

In addition to the use of this eccentric lever for the purposes of a wrench, I prepare the handle end H of the bar B with a division and joint a loose section, I, to the fixed portion of the bar to form pinchers. I may then remove the case and lever from the bar and reverse the order, sliding it again on the bar with the lever end toward the jaw B. Then the eccentric-head F, when the lever is pressed down, will bind and hold the pinchers firmly together. (See Fig 3.)

The end L of the lever is fitted with a tack-lifter claw, M, so that at any time, if desired, by removing the bar the lever may be slipped out of the case and be used as a tack-lifter.

The jaw A and bar B are arranged as a hammer, having the head W and claw O, and yet it is not affected for use as a wrench.

I claim—

1. The combination of the bar B, having the jaw A and pinchers I, the reversible case C, provided with the jaw D, and the lever E, substantially as and for the purpose specified.

2. The combination-wrench embracing the reversible case C, having the jaw D and recess G, adapted to be used in combination with the pinchers part I on the end of the handle or bar B, the lever E, having the double eccentric head F, operating in the recess G, and adapted, in combination with the jaws D and A, to operate as a wrench, and provided with the claw M, adapting it to be used as a tack-lifter, all substantially as specified.

EDWARD P. HAND.

Witnesses:

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