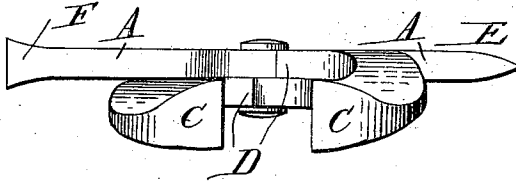
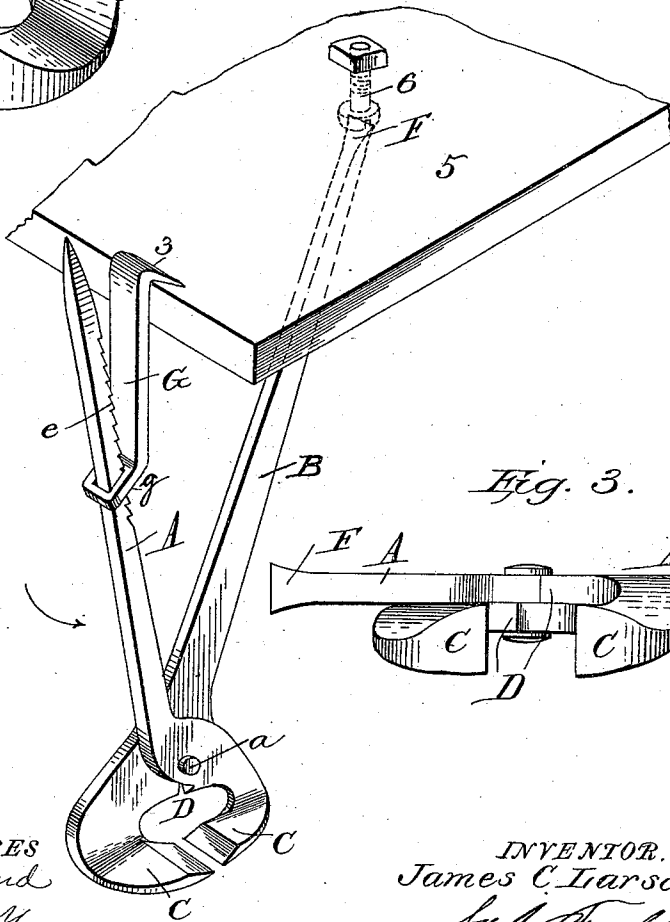
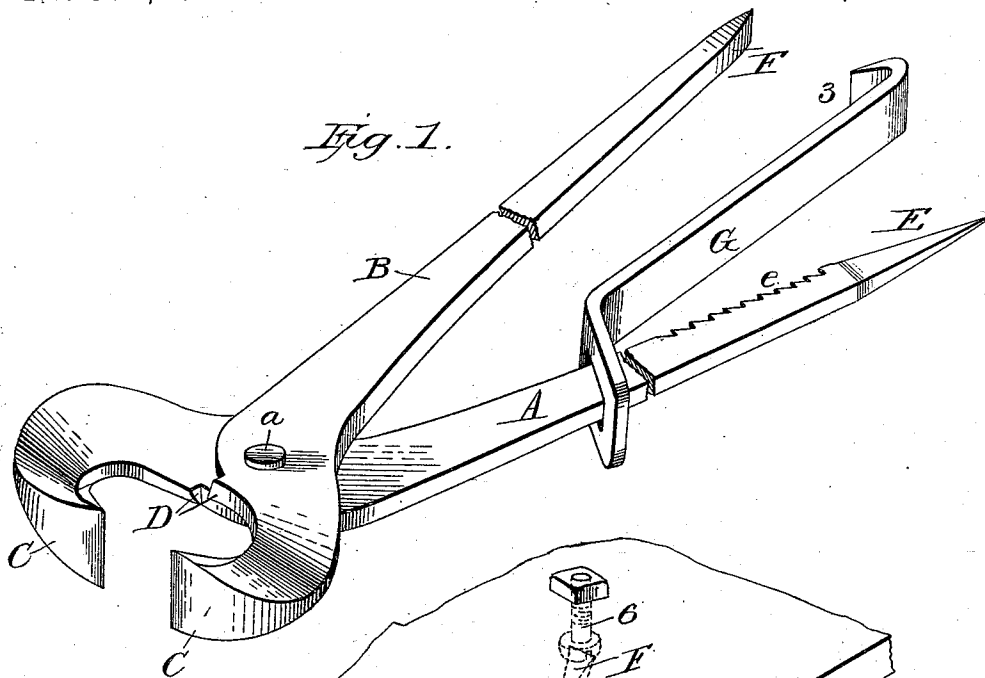


(Model.)

J. C. LARSON.
COMBINATION TOOL.

No. 552,130.

Patented Dec. 31, 1895.



WITNESSES
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UNITED STATES PATENT OFFICE.

JAMES CRISTIAN LARSON, OF BIG STONE CITY, SOUTH DAKOTA.

COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 552,130, dated December 31, 1895.

Application filed December 20, 1894. Serial No. 532,490. (Model.)

To all whom it may concern:

Be it known that I, JAMES CRISTIAN LARSON, a citizen of the United States, residing at Big Stone City, in the county of Grant and State of South Dakota, have invented certain new and useful Improvements in Combination-Tools; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and numerals of reference marked thereon, which form a part of this specification.

The present invention relates to combination-tools, and aims to provide a tool for general use which will combine a reamer, screwdriver, wire-cutter, nippers, and a holder, and which can be cheaply constructed from flat bars of steel, iron or other suitable metal, the jaws or nipper ends being flattened and bent to one side, so as to occur in a plane at right angles to the length of the tongs. By thus forming the jaws to one side of the handle-bars they can readily reach into corners and other places not readily accessible, and the said jaws can be bent to either side of the handle-bars, as may be required.

The improvement consists of the novel features which will be more fully set forth hereinafter and claimed and which are shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the tool, showing the holder attached. Fig. 2 is a view showing the application of the holder. Fig. 3 is an end view of the tool, the jaws being open.

The handle-bars A and B are similarly constructed and are pivoted together near one end, as shown at *a*, from which point the short ends curve and terminate in the jaws C, the whole presenting the ordinary appearance of a pair of nippers of ordinary construction. The handle-bars are struck from flat metal bars or sheet metal of sufficient thickness to attain the required strength required of tools of this nature. The jaws C are flattened and subsequently bent to one side, preferably by a slight twist or curve, so as to obviate any sharp angles which would detract from the strength of the tool. By this formation of the

jaws their outer edges curve from the cutting ends of the jaws to the plane of the handle-bars, as best seen in Fig. 3, thereby enabling the working of the tool in corners and otherwise close places.

The wire-cutter consists of nibs D formed on the inner ends of the short arms just beyond the pivot *a*, and have their cutting-edges in the plane of the inner sides of the handle-bars, so as to operate in conjunction in practically the same plane.

The reamer E is formed on the end of the handle-bar A and is square in cross-section and tapers in its length. Ratchet-teeth *e* are provided in the inner side of the handle-bar A for a purpose presently to be more fully explained. The screwdriver F is formed by flattening the end of the handle-bar B, as clearly indicated.

The holder G is a bar having a hook 3 at one end and having its other end *g* bent outward at an obtuse angle and apertured to receive the handle-bar A, on which it slides, being held at the required point by engagement with the ratchet-teeth *e*. The hooked end of the holder is engaged with the edge of the part from which it is desired to remove a bolt, the screwdriver being fitted into the slotted head of the bolt to hold the latter while tightening or loosening the nut. In the drawings the part 5 represents a casting, and 6 a bolt to be held in a bolt-hole while the nut is being turned. The hooked end of the holder is engaged with the edge of the casting, and the screwdriver is fitted in the slotted head of the bolt and is held in place by pressing in upon the lower end of the tool in the direction indicated by the arrow. The tool swinging upon the hook 3 as a center will have its screwdriver end held firmly in the slotted end or head of the bolt so long as the pressure is exerted thereon in the direction indicated by the arrow. By moving the holder upon the handle-bar A the latter is practically lengthened or shortened, as may be required, thereby adapting the screwdriver to reach bolts remotely located from the edge with which the hooked end of the holder can engage.

A tool of the construction herein specified is capable of many uses, and the holder enables it to be used in places where a screw-

driver cannot be conveniently used for holding fast a bolt while tightening and loosening the nut thereon.

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

10 1. The herein-described combination tool, comprising a pair of nippers, one of the handle-bars of said nippers being formed into a screw-driver, the other handle bar of said nippers being provided with ratchet teeth, and an arm or holder mounted on said latter handle-bar and adapted to engage said ratchet teeth, substantially as set forth.

15 2. The herein-described combination tool, comprising a pair of nippers, one of the handle-bars of said nippers being formed into a screw-driver, the other handle-bar of said nip-

pers being formed into a reamer and provided with ratchet teeth, and an arm or holder 20 mounted on said latter handle-bar and adapted to engage said ratchet teeth, substantially as set forth.

3. The combination with a pair of nippers having ratchet teeth on one handle bar and 25 the other handle bar formed with a screw driver, of a holder having one end hooked and the other end bent outward and apertured to slide upon the toothed handle bar, substantially as described for the purpose specified. 30

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

JAMES CRISTIAN LARSON.

Witnesses:

OLIVER H. OLSON,
F. D. MILLER.