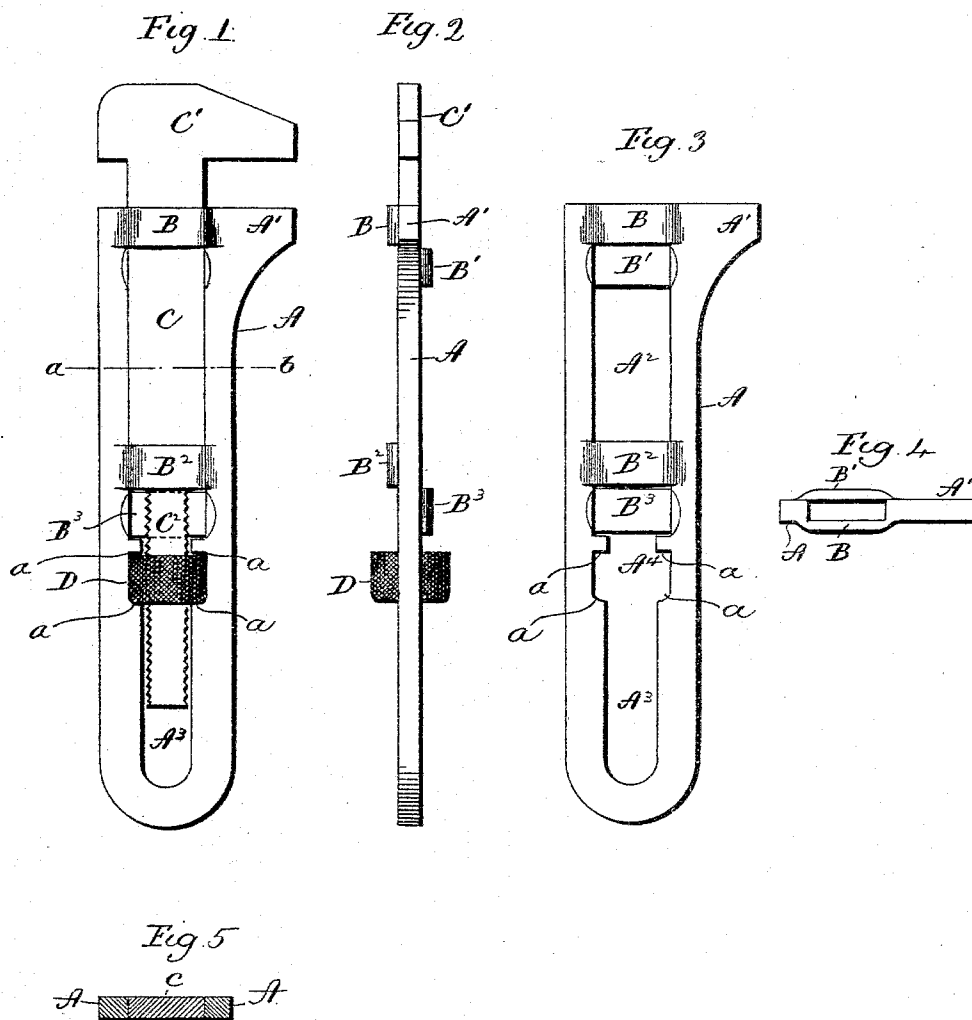


(No Model.)

J. P. LAVIGNE.
MONKEY WRENCH.

No. 533,712.

Patented Feb. 5, 1895.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOSEPH P. LAVIGNE, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE
LAVIGNE & SCOTT MANUFACTURING COMPANY, OF SAME PLACE.

MONKEY-WRENCH.

SPECIFICATION forming part of Letters Patent No. 583,712, dated February 5, 1895.

Application filed November 26, 1894. Serial No. 530,033. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. LAVIGNE, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Monkey-Wrenches; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in side elevation of a wrench constructed in accordance with my invention; Fig. 2, a forward edge view thereof; Fig. 3, a detached view inside elevation of the body of the tool; Fig. 4, a plan view thereof; Fig. 5, a view in transverse section on the line *a-b* of Fig. 1.

My invention relates to an improvement in that class of wrenches known as monkey-wrenches, the object being to produce at a low cost for manufacture, a simple, strong, compact durable, convenient and effective wrench, composed of the minimum number of parts.

With these ends in view, my invention consists in a wrench having a sheet-metal body, which is made of a single piece of metal, struck up to form integral oppositely projecting transverse housing straps, which extend beyond its opposite faces and which is constructed at its open end with an integral offsetting jaw.

My invention further consists in a wrench having certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In carrying out my invention, I form the body *A*, and fixed jaw *A'* of the wrench, from a suitable blank of heavy sheet-metal, which is subjected to the action of cutting and forming dies, so as to produce in the said body an oblong rectangular shank-opening *A²*, a narrower operating-screw opening *A³*, and an operating-nut opening *A⁴*, which intersects the inner end of the said operating-screw opening with the production of four shoulders *a*, as shown in Figs 1 and 3. The said body *A* is also struck up to produce at its inner end two transverse housing straps *B* and *B'*,

which extend in opposite directions respectively, and project beyond the opposite faces of the body, as clearly shown in Fig. 2. The inner edges of these straps may be cut apart, or they may be sheared apart by the action of dies. Midway of the length of the body and between the openings *A²* and *A³* thereof it is struck up to produce two more corresponding transverse housing straps *B²* and *B³*, respectively projecting beyond its opposite faces. The inner edges of these straps last mentioned may also be cut or sheared apart. The openings *A²*, *A³* and *A⁴* may be pierced, and the several straps formed at the same time, or separately, as found most convenient. By preference the said openings will first be pierced, after which the straps will be upset. As first formed, the straps will be of the full thickness of the blank, but after their formation, their inner faces are cut away by milling or otherwise, until the said faces practically coincide with the opposite faces of the body. Then, after the inner faces of the straps have been cut away or milled, as described, a broach corresponding in its dimensions to the shank *C* of the movable jaw *C'* of the wrench, is driven between the straps so as to remove any burrs or webs which may be produced in their formation. It will readily be seen that these two pairs of oppositely projecting straps will house the shank *C*, of the movable jaw *C'* of the wrench, and prevent the same from moving sidewise in either direction, while it is prevented from moving edgewise in either direction by the edges, so to speak, of the body. It will be understood that as the shank *C* of the movable jaw *C'*, corresponds in thickness to the thickness of the body, the opposite faces of the shank will be flush with the opposite faces of the body. By preference the shank and movable jaw are formed integral with each other from a single piece of sheet-metal. The operating-screw *C²* formed at the outer end of the shank, corresponds to the same in thickness, and passes between the straps *B²* and *B³*, and into the operating-screw opening *A⁴*, and through the operating-nut *D*, which has bearing against the shoulders *a* before mentioned. I would here call attention to the fact that inasmuch as the body is open,

and the screw exposed, there is no opportunity for the lodgment of dirt, or metal chips in the wrench to clog the operation of the same.

5 I might, if desired, employ more than two pairs of straps, or I might produce a wrench with two straps, or three, and their form and arrangement may be varied, but however
10 formed and arranged, they will be struck up in opposite directions, so as to project beyond the opposite faces of the body.

If desired, the nut-opening A⁴ may intersect the extreme inner end of the screw-opening, and so that the inner face of the nut will
15 bear upon the outer edge of the adjacent transverse housing strap. My improved wrench, as thus produced, is composed of only three parts, and may be produced at a low
20 cost for manufacture. It is, moreover, attractive in appearance, and convenient in use on account of its narrowness.

It is obvious that in carrying out my invention, I may make some changes in the construction herein shown and described, and I
25 would therefore have it understood that I do not limit myself to such construction, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. A monkey-wrench having its body formed from a single piece of sheet-metal and constructed with integral oppositely projecting
35 transverse housing straps which project beyond its opposite faces and receive between

them the shank of the movable jaw of the wrench and constructed at its open end with an integral offsetting jaw, substantially as 40 described.

2. A monkey-wrench having its body formed from a single piece of sheet-metal, and constructed with a shank-opening, a nut-opening and a screw-opening, and with integral op- 45 positely projecting transverse housing straps which project beyond its outer faces and receive the shank of the movable jaw between them and the said body being also constructed with an integral offsetting jaw located at its 50 open end, substantially as described.

3. A monkey-wrench having its body and fixed jaw formed from a single piece of sheet-metal, the said body being constructed with a shank-opening, a nut-opening, and a screw- 55 opening which is narrower than the shank-opening, a pair of oppositely projecting straps located at its inner end and projecting beyond its opposite faces, and a pair of oppositely projecting straps extending beyond its op- 60 posite faces, and located between its shank-opening and its nut-opening, the said straps receiving the shank of the movable jaw between them, and having their inner faces flush with the opposite faces of the body, sub- 65 stantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOSEPH P. LAVIGNE.

Witnesses:

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LILLIAN D. KELSEY.