

(No Model.)

J. K. DOWNIE.  
WRENCH.

No. 604,375.

Patented May 24, 1898.

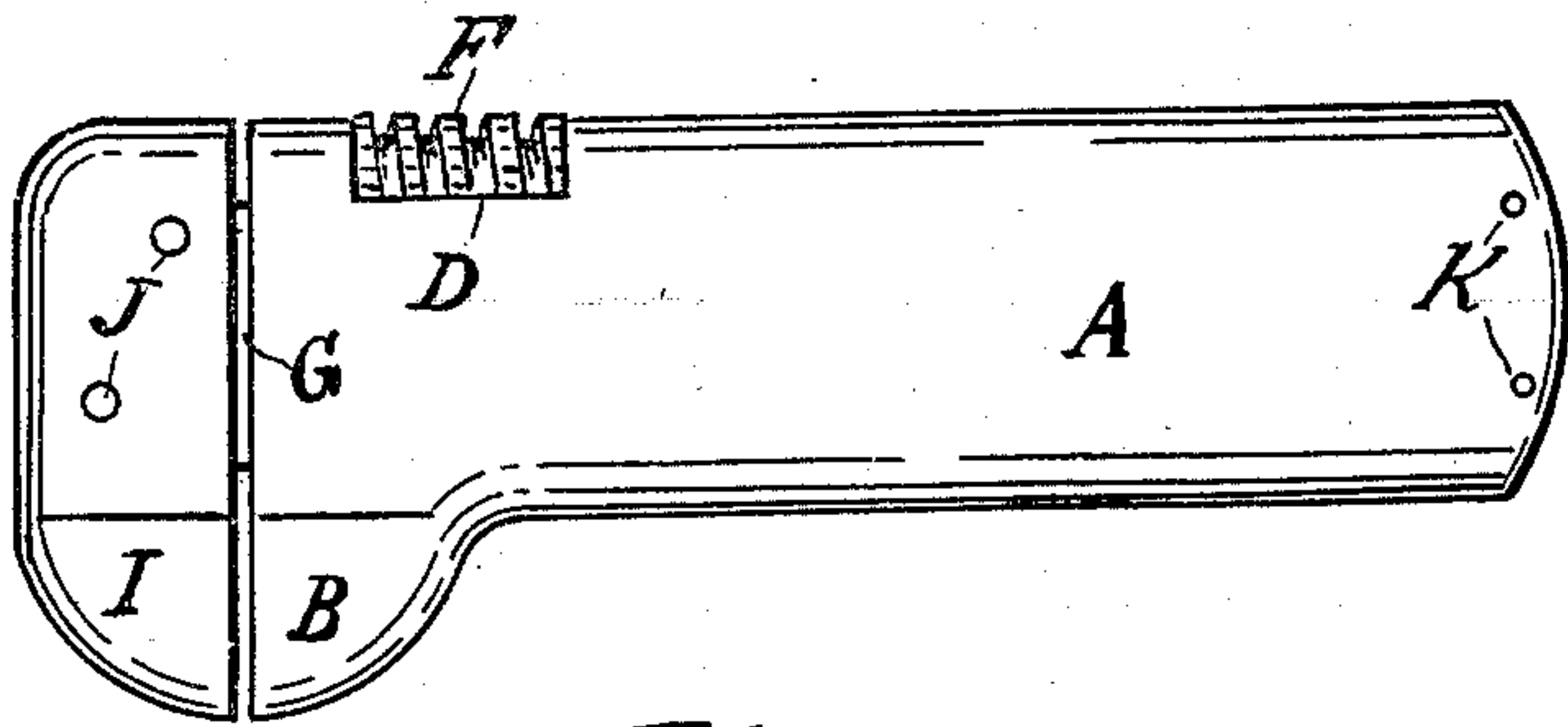


Fig. 1



Fig. 2.

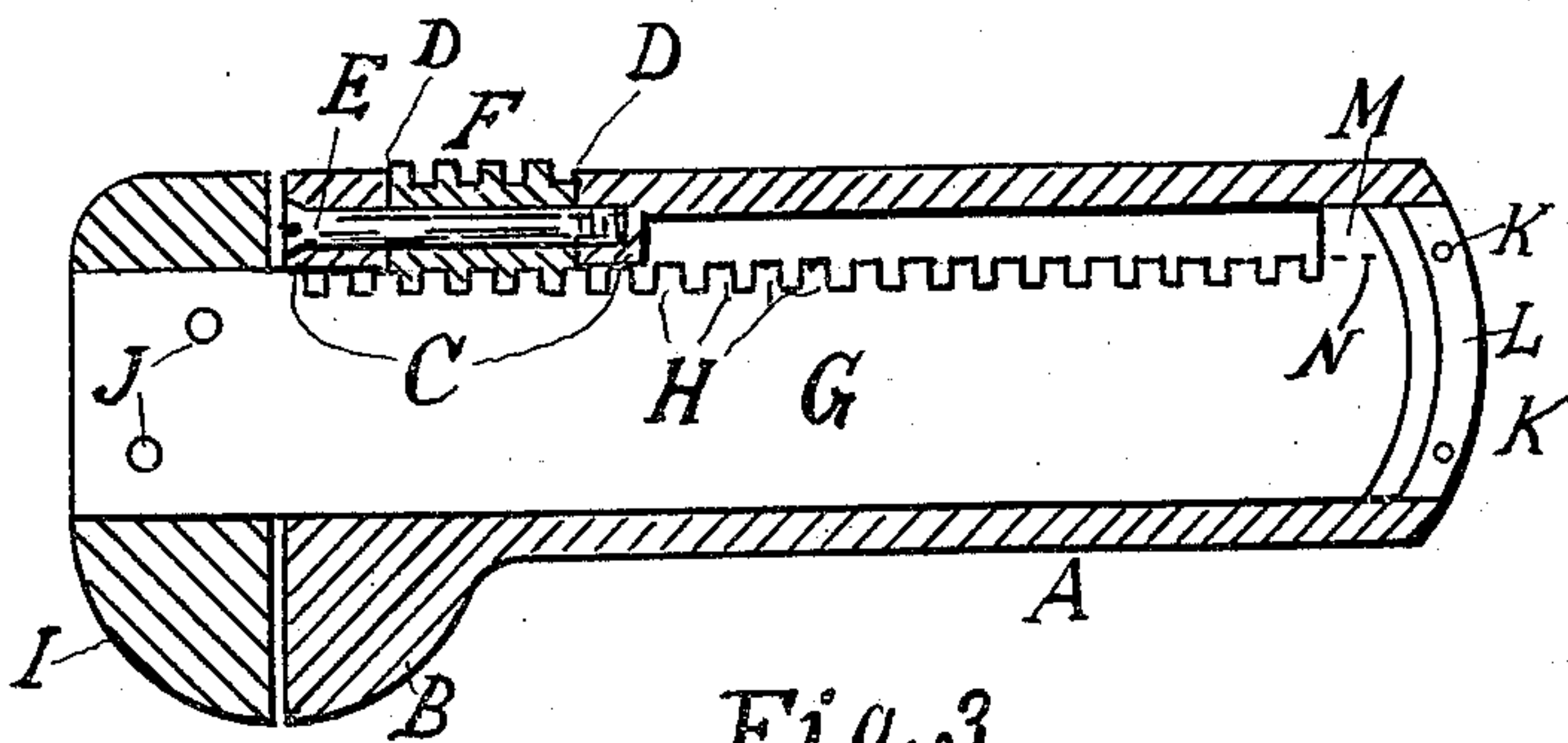


Fig. 3.

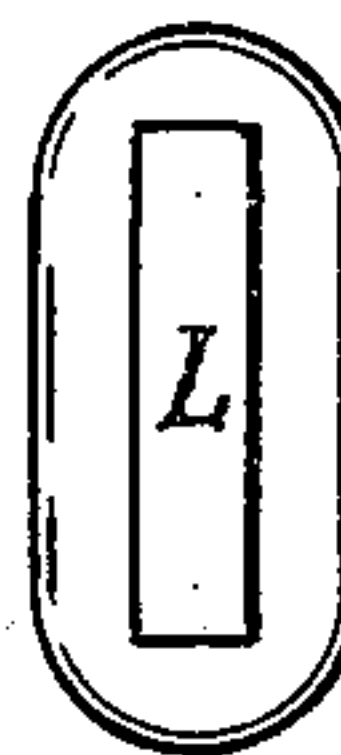


Fig. 4

WITNESSES.

A. J. Carlsen.  
E. C. Carlsen

INVENTOR.

James K. Downie  
BY his ATTORNEY.  
A. M. Carlsen

# UNITED STATES PATENT OFFICE.

JAMES K. DOWNIE, OF VALLEY RIVER, CANADA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 604,375, dated May 24, 1898.

Application filed August 10, 1897. Serial No. 647,763. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES K. DOWNIE, a subject of the Queen of Great Britain, residing at Valley River, in the county of Riding Mountain and Province of Manitoba, Canada, have invented certain new and useful Improvements in Monkey-Wrenches; 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 of reference marked thereon, which form a part of this specification.

My invention relates to improvements in monkey-wrenches.

The object of my invention is to provide a monkey-wrench of a very light but strong and neat construction, so that it will be convenient to carry in the pocket for general light work requiring the use of a wrench. This and other objects I attain by the novel construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my complete wrench. Fig. 2 is a front end view, and Fig. 3 is a substantially central longitudinal sectional view, of the entire wrench; Fig. 4, a rear end view of the wrench.

Referring to the various parts in the drawings by letters of reference, the flat tube A designates the handle of the wrench, and has the front end of its lower wall formed with an outwardly-projecting jaw B and the front end of its upper wall formed with an inwardly-projecting elongated lug C, provided near its middle with the gap or aperture D, in which I mount revolvably upon the screw E the worm-screw F.

G is the moving jaw-bar, which is housed in the handle and provided on its upper edge with the rack-teeth H, engaging the worm-screw F, by which it is moved back and forth. This bar G is intended to be inserted through the rear end of the handle before the worm-screw is put in and to have the jaw I secured by the rivets J upon its front end after it is inserted. The rear end of the handle is finally closed by securing in it by the rivets K the metallic strip L.

The guiding-lug M, formed upon the up-

per rear corner of the jaw-bar G, serves not only to guide the rear end of the said bar, but also to prevent its extraction or moving too far forward, as it stops against the rear end of the lug C. Where such exact guidance of the rear end of the bar G and prevention of extraction of the bar is not cared for, the lug M may be dispensed with, and the bar G may then be made integral with the jaw I and inserted through the front end of the handle. The bar G may also be prevented from extraction by the solid lug M, even though the latter may be only as high as the teeth H or to the dotted line N, and thus admit of the insertion of the bar through the front end of the handle before the worm-screw is put in. The outer surface of the worm-screw is corrugated, so that in using the wrench the operator grasps the handle in his hand and with the thumb or forefinger of the same hand turns the worm-screw in either direction, so as to adjust the wrench to the desired size.

The drawings show about full size of what I call a "pocket-wrench;" but it is obvious that the size may be varied some.

It will be observed in Fig. 2 that the wrench is tapered down sidewise to the points of the jaws, so as to make it as light as possible, and that its exterior corners are rounded off all over, so that it may be carried in the pocket without tearing the same. All of the working and wearing parts are made from good steel and the handle and rear jaw B preferably cast from steel. Some of the parts are for clearness sake shown in the drawings heavier than they ought to be and not in exact proportion. The handle may be cast very thin and light.

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

1. In a monkey-wrench, the combination of the flat hollow handle A, having the jaw B, and inwardly-projecting lug C, with the aperture D, in it; the jaw I, having the flat rack-bar G, adapted to slide guidingly in said handle, the worm-screw F, placed in the aperture D, and engaging the rack-bar G, the screw E, inserted from the front of the lug C, and serving as a journal for the worm-screw to revolve upon, substantially as and for the purpose set forth.



2. In a monkey-wrench, the combination of a flat hollow handle A, having the jaw B, and inwardly-projecting lug C, with the aperture D, in it; the jaw I, having the flat rack-bar G, adapted to slide guidingly in said handle, the worm-screw F, placed in the aperture D, and engaging the rack-bar G, the screw E, inserted from the front of the lug C, and serving as a journal for the worm-screw to revolve upon, said rack-bar having a solid portion on its rear end to prevent it from being accidentally extracted from the handle, substantially as and for the purpose set forth.

3. In a monkey-wrench, the combination of the flat hollow handle A, having the jaw B, and inwardly-projecting lug C, with the aperture D, in it; the jaw I, having the flat rack-bar G, adapted to slide guidingly in said handle, the worm-screw F, placed in the aperture D, and engaging the rack-bar F, the screw E, inserted from the front of the lug C, and serving as a journal for the worm-screw to revolve upon, said rack-bar being guided between the lug C, and the opposite narrow wall of the handle, substantially as and for the purpose set forth.

4. In a monkey-wrench, the combination of the flat hollow handle A, having the jaw B, and inwardly-projecting lug C, with the aperture D, in it; the jaw I, having the flat rack-bar G, adapted to slide guidingly in said handle, the worm-screw F, placed in the aperture D, and engaging the rack-bar F, the screw E, inserted from the front of the lug C, and serving as a journal for the worm-screw to revolve upon, said rack-bar being guided between the lug C, and the opposite narrow wall of the handle, and its rear end widened beyond the rack-bar so as to guide snugly between the narrow walls of the handle and to stop against the rear shoulder of the lug C, substantially as and for the purpose set forth.

5. In a monkey-wrench, the combination of the hollow flat handle A, having the jaw B, and inwardly-projecting lug C, with the aperture D, in it; the worm-screw F, placed in the

aperture D, the screw E, inserted in the lug C, and serving as a journal for the worm-screw, the flat rack-bar G, adapted to be inserted through the rear end of the handle and engage with its teeth the worm-screw and having the combined guide and stop M, on its rear end, and the jaw I, secured upon its front end, and the strip L, closing the rear end of the handle substantially as and for the purpose set forth.

6. In a monkey-wrench, the combination of the hollow flat handle A, having the jaw B, and inwardly-projecting lug C, with the aperture D, in it; the worm-screw F, placed in the aperture D, the screw E, inserted in the lug C, and serving as a journal for the worm-screw, the flat rack-bar G, adapted to be inserted through the rear end of the handle and engage with its teeth the worm-screw and having the combined guide and stop M, on its rear end, and the jaw I, secured upon its front end, and the strip L, closing the rear end of the handle, all external corners of the wrench being rounded off, substantially as and for the purpose set forth.

7. In a monkey-wrench, the combination of the hollow flat handle A, having the jaw B, and inwardly-projecting lug C, with the aperture D, in it; the worm-screw F, placed in the aperture D, the screw E, inserted in the lug C, and serving as a journal for the worm-screw, the flat rack-bar G, adapted to be inserted through the rear end of the handle and engage with its teeth the worm-screw and having the combined guide and stop M, on its rear end, and the jaw I, secured upon its front end, and the strip L, closing the rear end of the handle all working and wearing parts of said wrench being made out of steel, substantially as and for the purpose set forth.

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

JAMES K. DOWNIE.

Witnesses:

JOHN H. BIGHAM,  
E. D. BEMROSE.