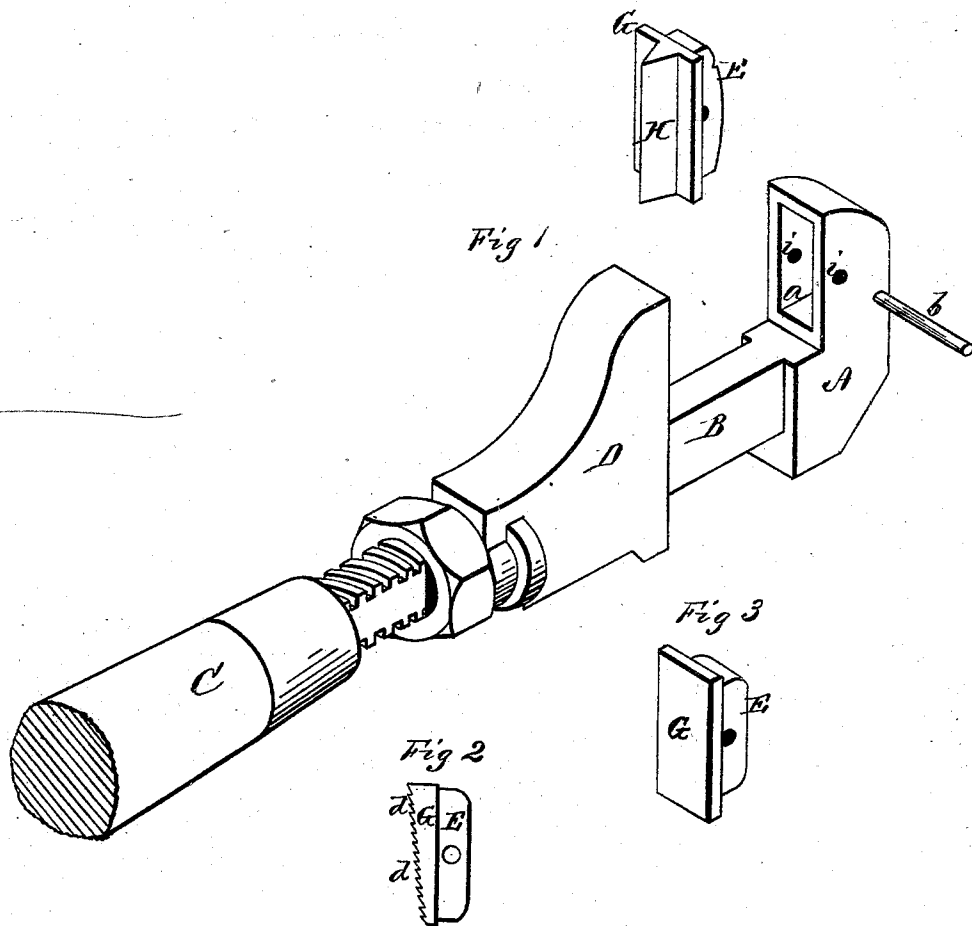


L. F. SMITH.
Wrenches.

No. 147,699.

Patented Feb. 17, 1874.



Witnesses:
Francis L. Quinard
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per
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UNITED STATES PATENT OFFICE.

LEVI F. SMITH, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. 147,699, dated February 17, 1874; application filed June 6, 1873.

To all whom it may concern:

Be it known that I, LEVI F. SMITH, of Philadelphia, in the county of Philadelphia and in the State of Pennsylvania, have invented certain new and useful Improvements in Wrench; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of certain attachments to wrenches, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a perspective view of a monkey-wrench, showing, at the side of it, a pipe-cutting attachment; and Figs. 2 and 3 show other attachments for the wrench.

A represents the stationary jaw, with shank B and handle C, of an ordinary monkey-wrench. D represents the movable jaw of the same. All of these parts may be constructed in any of the known and usual ways. In the inner side of the stationary jaw A is made an oblong recess, *a*, with a hole, *i*, through each wall for the passage of a pin, *b*. This recess and holes are made for the purpose of receiving different attachments to make a pipe-wrench or a pipe-cutter, as desired. G represents a plate, of the same size as that part of the stationary jaw which projects beyond the shank B. On one side of this plate G is formed a block, E, to fit snugly in the recess *a* of the stationary jaw A,

the edges of the plate being close up to and against the jaw. Through the block E is made a hole, corresponding with the holes *i i* in the jaw, so that, when the pin *b* is inserted, said pin will hold the block and plate firmly in the jaw; or they may be held by a screw, if desired. On the face or outer side of the plate G may then be formed a longitudinal cutter, H, which, so to say, converts the wrench into a pipe-cutter; or, on the face of the plate G may be made a number of teeth, *d d*, as shown in Fig. 2, which makes it a pipe-wrench, for screwing up and unscrewing pipes. When neither of these attachments is used, a simple plate and block, as shown in Fig. 3, should be inserted, and held by the pin *b*, so as to prevent any injury to the walls of the recess in the jaw A.

It will, of course, be understood that these attachments may be used on the movable jaw of a wrench equally as well as on the stationary jaw, though I prefer the latter.

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

The combination of the jaw A with recess *a* and openings *i i*, and the perforated block E with surface G and the connecting-pin *b*, all constructed as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of June, 1873.

LEVI F. SMITH.

Witnesses:

A. N. MARR,
C. L. EVERT.