

R. B. Butler,

Wrench.

N<sup>o</sup> 54,290.

Patented May 1, 1866.

Fig: 2.

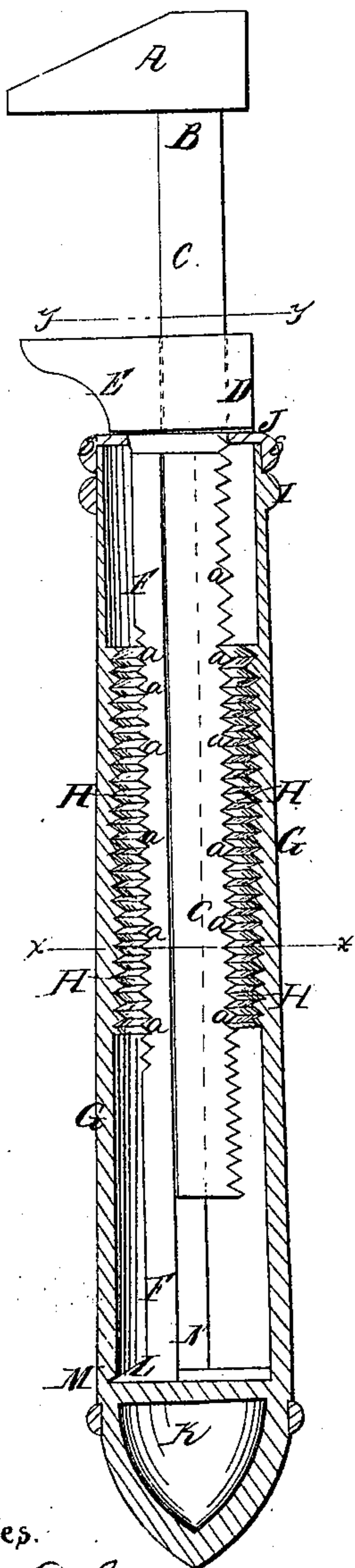


Fig: 1.

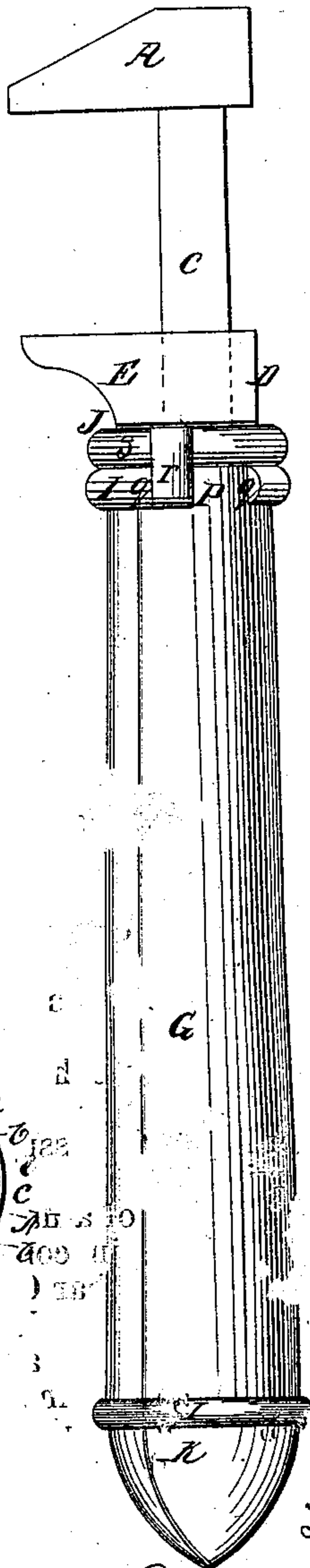


Fig: 4.

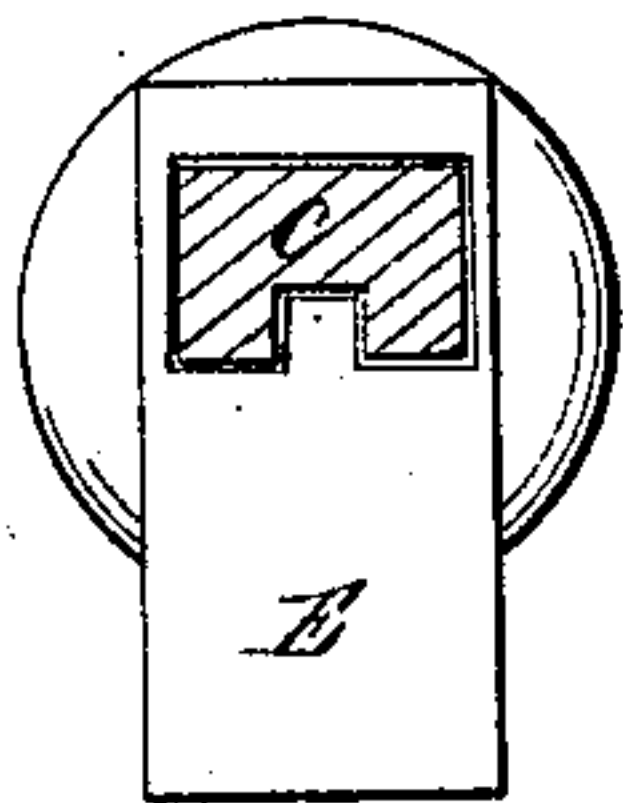
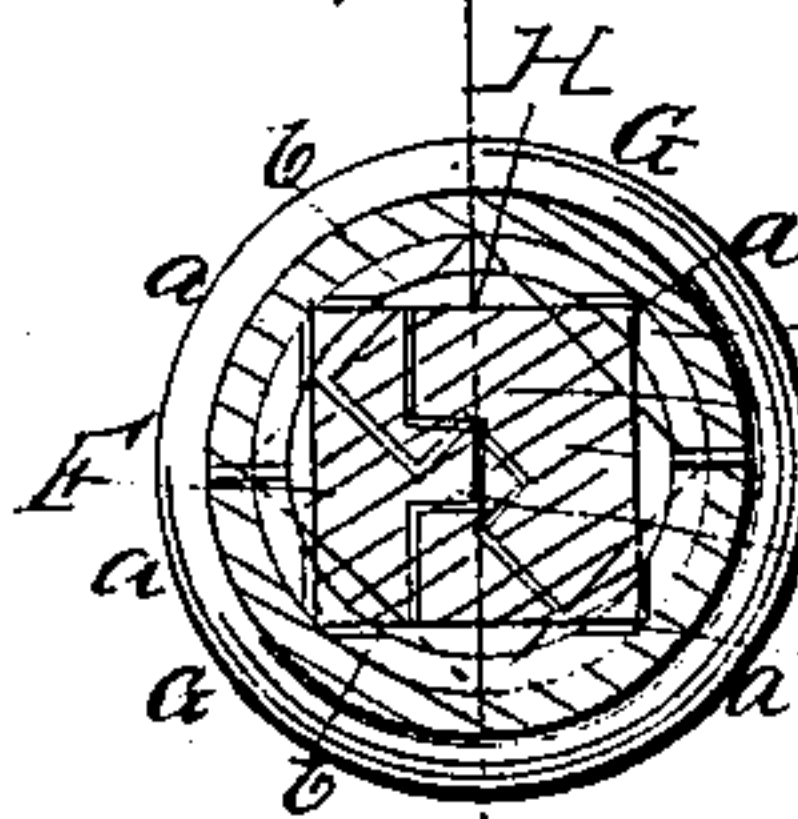


Fig: 3.



Witnesses.

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# UNITED STATES PATENT OFFICE.

ROBERT B. BUTLER, OF ALLENTOWN, PENNSYLVANIA.

## IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. 54,290, dated May 1, 1866.

*To all whom it may concern:*

Be it known that I, ROBERT B. BUTLER, of Allentown, in the county of Lehigh and State of Pennsylvania, have invented new and useful Improvements in Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The present invention consists in so constructing the wrench and arranging its two jaws with regard to each other that it can be immediately and easily adjusted and applied to nuts of varying sizes, and many other important advantages secured, as will be obvious from the following detail description thereof, reference being had to the accompanying plate of drawings, in which—

Figure 1 is an outside view of the wrench in the direction of its length; Fig. 2, a central longitudinal section of the same; Fig. 3, a transverse section taken in the plane of the line *x x*, Fig. 2, and Fig. 4 a similar section to Fig. 3, but taken in the plane of the line *y y*, Fig. 2.

Similar letters of reference indicate like parts.

A in the drawings represents the extension or movable jaw of the wrench, formed at one end, B, of a flat bar of metal, C, passing loosely through the heel portion D of the stationary jaw E, formed upon one end of a flat metallic bar, F, placed alongside and in contact with one side of the extension jaw-bar C, the two together forming a square-shaped shaft, equal in width upon all its sides, with a series of similar teeth or notches, *a*, made in each of its corner edges, extending for nearly its whole length; G, the handle of the wrench, made hollow upon its inside, with a spiral screw-thread, H, entirely around the same for a portion or the whole, or nearly so, of its length, the greatest inside diameter of this handle corresponding to the length of the diagonal drawn from one corner or edge of the square-shaped bar, formed by the two jaw-bars, C and F, when together, to its opposite corner. Upon the inside of the hollow handle G four parallel grooves, *a*, are made at equal dis-

tances apart, and extending in the direction of its length, the handle being made in two equal parts or sections joined together by metallic rings or clasps I I at each end. In the handle G the two jaw-bars, C and F, placed one upon another, are inserted, extending from its open end J toward its closed or opposite end K, one of which bars, F, or that on which the stationary jaw is formed, interlocking by its wedge or beveled shaped end L in a corresponding-shape groove, M, made in the interior of the handle, at or near its closed end K, the two bars being united by a tenon, N, of the bar F, and a groove, O, of the bar C, both extending in the direction of their lengths.

When the two bars C and F, together forming one square-shape bar placed in the hollow handle, as above explained, are in such a position therein that its several corners are in the same line and correspond with the four parallel equidistant grooves upon the inside of the handle, the bar having the extension or movable jaw formed on it can be then drawn out of the handle to any distance or length desired, according to the size of the nut or other article which is to be grasped by and between the two jaws, the other jaw remaining stationary, when, then turning the handle around either to the right or left, the screw-thread upon its inside then becoming interlocked with the corner notches or teeth of the jaw-bars, the movable jaw is firmly held and fastened at such point, as is obvious without further description and by an inspection of the drawings, to move which jaw it is only necessary to turn the handle in the opposite direction to that by which it was fastened sufficiently to bring its longitudinal grooves *a* in corresponding position to the corners of the jaw-bars.

In order to enable the handle to be always brought to the right position to release or fasten the jaws, as above described, the ring attached to its jaw end is cut out for a portion of its length at P, (see Fig. 1,) forming shoulders *q q* at each end, one of which shoulders, as the case may be, and as the handle is turned, comes to a bearing against the arm *r* of the loose cap-plate S of such end of the wrench, fitting over the jaw-bars, the length of the slot or cut-away portion consequently

forming the limit of the rotary movement of the wrench-handle, but must be sufficient to allow the desired results to be accomplished.

I claim as new and desire to secure by Letters Patent—

The two bars C F, having jaws upon each end and their corners or edges notched or toothed, in combination with the hollow wrench-handle having a spiral screw-thread and parallel longitudinal grooves *a* upon its

inside, when arranged together and so as to operate substantially in the manner described, and for the purpose specified.

The above specification of my invention signed by me this 20th day of January, 1866.

ROBERT B. BUTLER.

Witnesses:

H. S. WEAVER,  
C. H. NIMSON.