M. E. CAMPFIELD.

Wrench.

No. 166,587. Patented Aug. 10, 1875.

Fig. 1

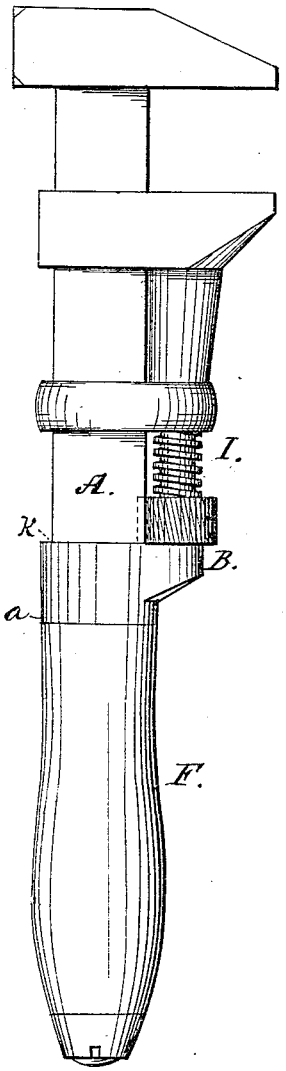
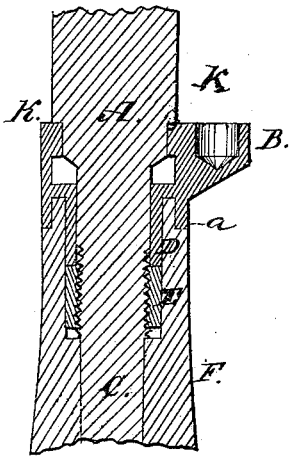


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

MATTHEW E. CAMPFIELD, OF GIRARD, PENNSYLVANIA, ASSIGNOR TO RUSH S. BATTLES, OF SAME PLACE.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **166,587**, dated August 10, 1875; application filed April 13, 1875.

To all whom it may concern:

Be it known that I, MATTHEW E. CAMPFIELD, of the borough of Girard, county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Screw-Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 represents a side view of a screw-wrench embracing my improvements and constructed in accordance with my invention, and Fig. 2 represents a longitudinal section of a portion of it.

To enable those skilled in the art to which my invention belongs to make and use the same, I will describe it more in detail.

The invention is an improvement in the class of monkey-wrenches whose ferrules (for supporting the rosette or jaw-adjusting screw) are clamped or held in place on the shank of the wrench by means of a cylindrical nut which is screwed into the ferrules.

The improvement relates to the construction and combination of parts, as hereinafter described, whereby the ferrule and shank of the wrench are mutually strengthened, and the ferrule-clamping nut made readily accessible for being adjusted.

As will be observed by the drawing, the ferrule B is cast so that at the front where it supports the rosette-screw I it has an oblong opening, allowing it to pass over the bar A, up against the shoulder K, and at or near the back end it has a round barrel cast so as to fit closely around the shank C, where it is supported by the cylindrical nut E, which prevents it from being forced back into the wood handle F. A rearwardly-projecting flange, *a*, is formed on the ferrule B, concentrically with the cylindrical portion thereof, thus leaving an annular cavity or recess for reception of the end of the wooden handle F. This construction strengthens the ferrule and provides a support for it independently of the portions in contact with shank C. The shank C being turned so as to fit the barrel D perfectly, the barrel D forms a back support, so that it will be impossible to force the ferrule B over in an oblique position in such a manner as to bend the rosette-screw I, as it is the case when the ferrule is supported by a nut or a tapering collar inside, the supporting-nut E being on the shank C, outside or back of the ferrule, so that should it become loose, as is the case occasionally with supporting-nuts, it can easily be got at to tighten it in a common vise or with pipe-tongs, after taking off the handle; but when it is inside of the ferrule a special tool has to be made to do it, costing about as much as a new wrench.

Occasionally it becomes necessary to take the wrench apart, should the bar A get sprung by an unusual strain, or should the working parts get filled up with oil and dirt; in either case it can be readily done when the supporting-nut E is outside of the ferrule.

What I claim as my improvement is—

In a wrench, the combination, with the shank C, of the socket B, having the oval and cylindrical portions fitting corresponding parts of said shank, the outer flange *a* embracing the end of the handle, and the inner flange extending beyond the outer flange, and bearing upon the nut E, all combined as shown and described, for the purpose specified.

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Witnesses:

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