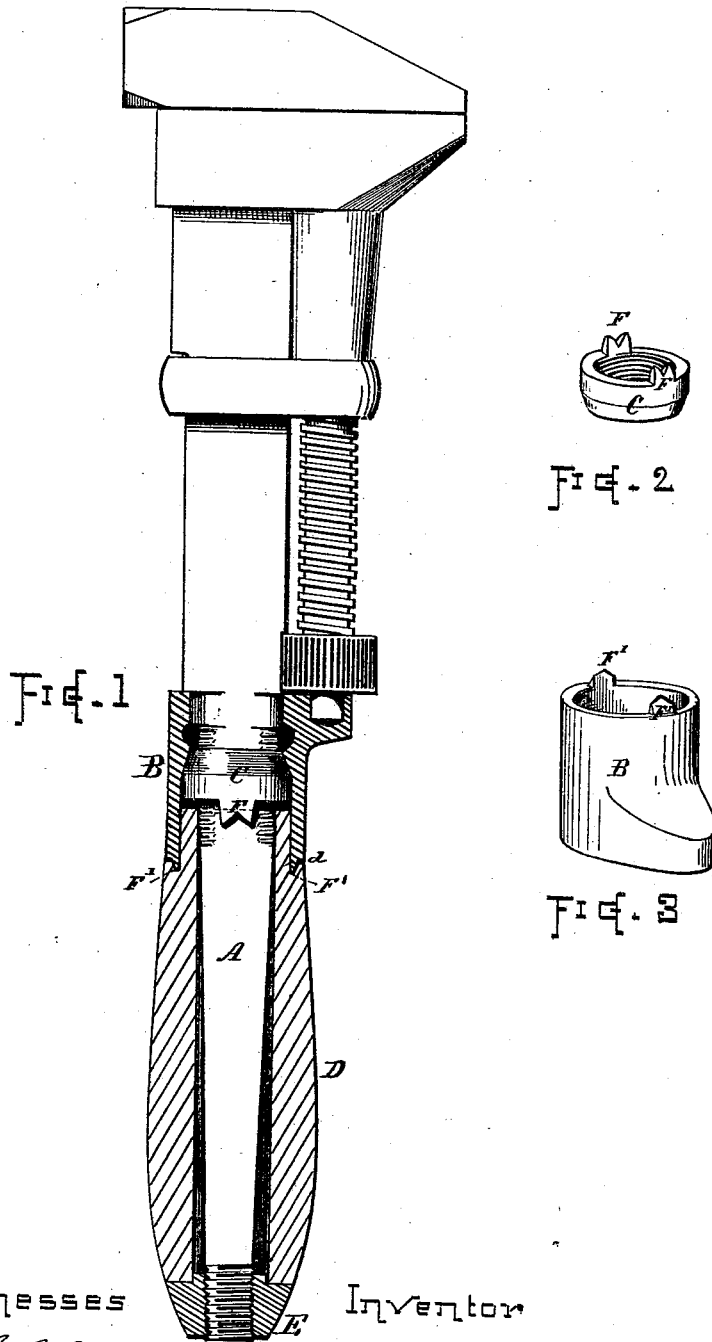


F. L. COES.  
SCREW-WRENCH.

No. 180,417.

Patented Aug. 1, 1876.



Witnesses  
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*Att'y.*

# UNITED STATES PATENT OFFICE.

FRED L. COES, OF WORCESTER, MASSACHUSETTS.

## IMPROVEMENT IN SCREW-WRENCHES.

Specification forming part of Letters Patent No. 180,417, dated August 1, 1876; application filed June 3, 1876.

*To all whom it may concern:*

Be it known that I, FRED L. COES, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Screw-Wrenches; and I declare the following to be a description of my said invention, sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 represents a wrench, embracing my improvement. Fig. 2 represents a perspective view of the ferrule-supporting ring. Fig. 3 represents a perspective view of the ferrule.

My invention consists in the combination, with the ferrule or ferrule-support and wood handle in a screw-wrench, of projections or studs, which set into the wood of the handle when the parts are put together, and serve to prevent looseness between the parts, as hereinafter described.

In the drawings, A denotes bar of the wrench; B, the ferrule; C, the ferrule-supporting ring; D, the wood handle; and E, the tip or finishing-nut.

The wood handle D is turned of the ordinary form, with a shoulder at *d* to match the lower end of the ferrule B, while its end extends up into the interior of the ferrule to near the supporting-ring C. On the lower

end of the ring C I form downward projecting teeth or lugs F, as shown in Figs. 1 and 2, and at the lower end of the ferrule B, as shown at F', Figs. 1 and 3. These teeth or points enter the wood of the handle D, when the latter is forced up by the screwing on of the tip or nut E, and thus form a lock between the ring C and the handle end, and likewise with the ferrule B and shoulder *d*, so that the wood handle cannot be turned or loosened on the shank or bar A.

The teeth or studs F may be used only upon the ring C, or only upon the end of the ferrule B, as desired; but I prefer to form them upon both the ring and ferrule, since such construction obviates any liability of the ring C working loose on the shank or bar A when the wrench is in use.

What I claim as new, and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the ferrule supporting-nut C and wood handle D in a screw-wrench, of projections or studs F, substantially as and for the purpose set forth.

2. The combination, substantially as set forth, of the ferrule B, provided with projections F', supporting ring or nut C, provided with projections F, wood handle D, bar A, and tip-nut E, for the purposes stated.

FRED L. COES.

Witnesses:

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