L. COES.

WRENCH.

No. 188,285. Patented March 13, 1877.

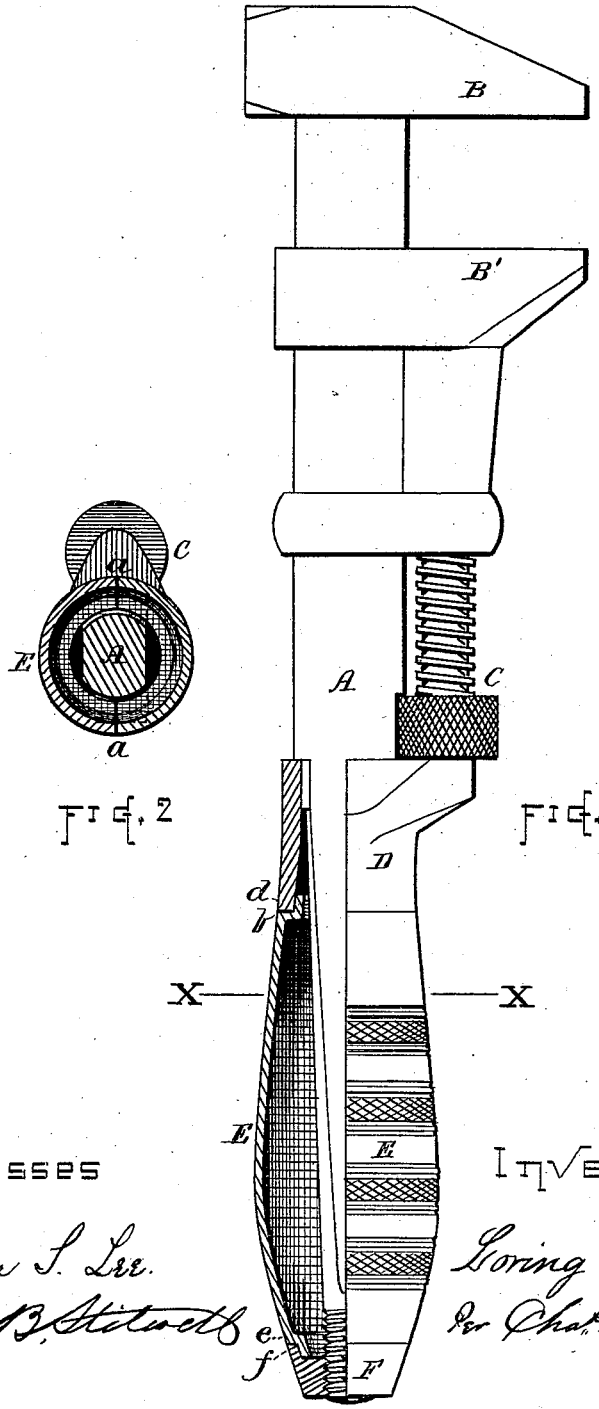

Fig. 2

Fig. 1

Witnesses

George S. Lee.

Chas. B. Stilwell

Inventor

Loring Coes

per Chas. H. Burleigh

Atty.

UNITED STATES PATENT OFFICE.

LORING COES, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **188,285**, dated March 13, 1877; application filed February 17, 1877.

To all whom it may concern:

Be it known that I, LORING COES, of Worcester, in the county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Screw-Wrenches; and I hereby 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 view of a wrench constructed in accordance with my invention. One-half of the handle is shown in side view, and one-half in section. Fig 2 represents a transverse section at line *x x*, Fig. 1.

The nature of my invention consists in a metallic handle constructed and arranged in the peculiar manner hereinafter described.

In the drawings, A denotes the wrench-bar; B B′, the jaws; C, the rosette and screw, and D the ferrule, all of which may be of the ordinary construction, the lower end of the ferrule terminating with a cylindrical rim, as at *d*. E indicates the handle, which I make in two sections or halves, jointed together longitudinally, as at *a a*. Each half forms a thin hollow shell of metal, and may be made by casting without coring, or the parts may be swaged or struck up from sheet metal in suitable forming-dies. Offsets or shoulders *b* are formed at the upper ends of the sections, to fit into or against the end *d* of the ferrule D, while similar offsets or shoulders *e* are provided at the lower ends, which are embraced by the rim or flange *f* on the upper edge of the tip-nut F.

The edges *a a* are jointed off square, so that the sections fit closely against each other, thus forming a full cylindrical handle, and the two parts are firmly locked and held in position by the nut F, when screwed onto the end of the bar-shank A, the shoulders *b e* being thus clamped against the end of ferrule D and the nut-flange *f*, in the manner illustrated.

The exterior of the handle E may be ornamented or roughened by any suitable pattern stamped in by the forming-dies.

This form of handle is light, strong, and durable; it can be cheaply constructed and readily fitted to position; it firmly supports the ferrule against back strain from the jaw B′, and, while giving a similar external form, it is not subject to become loose or worn, like a handle formed from wood.

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

1. The metallic handle E, formed of thin hollow sections or shells fitted to each other at their edges *a a*, and provided with offsets or shoulders *b* and *e* at their ends, substantially as and for the purpose set forth.

2. The combination, with the bar A and ferrule D, in a screw-wrench, of the metal handle E, formed in two halves or sections, and having offsets or shoulders *b e*, and the flanged tip F *f*, substantially as shown and described.

LORING COES.

Witnesses:
CHAS. H. BURLEIGH,
CHAS. B. STILWELL.