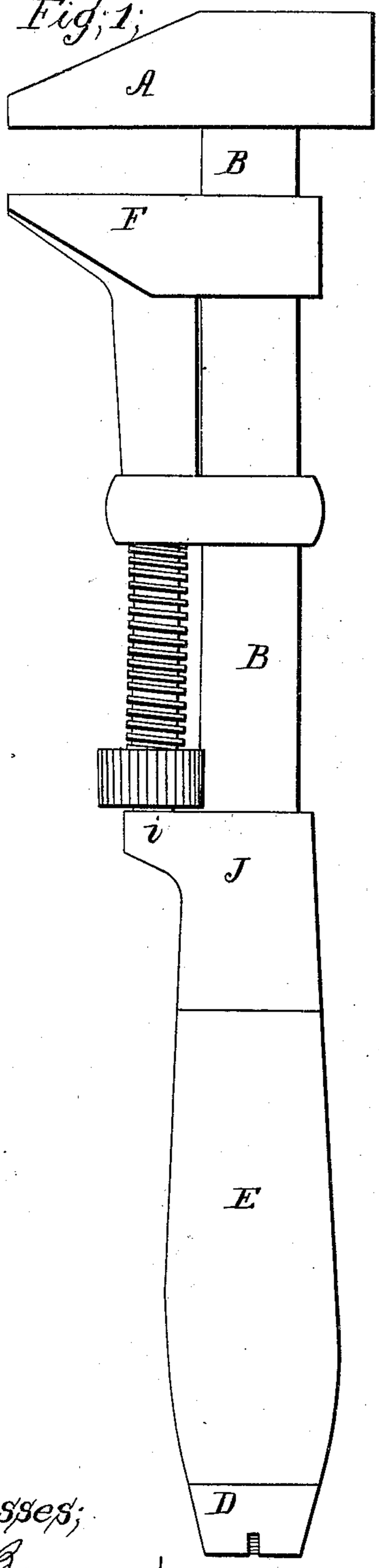
L. Coes.

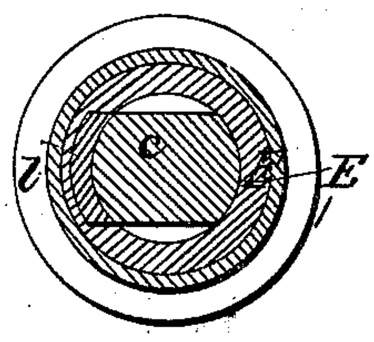
Wrench.

No. 93521. Patented Aug. 10, 1869.

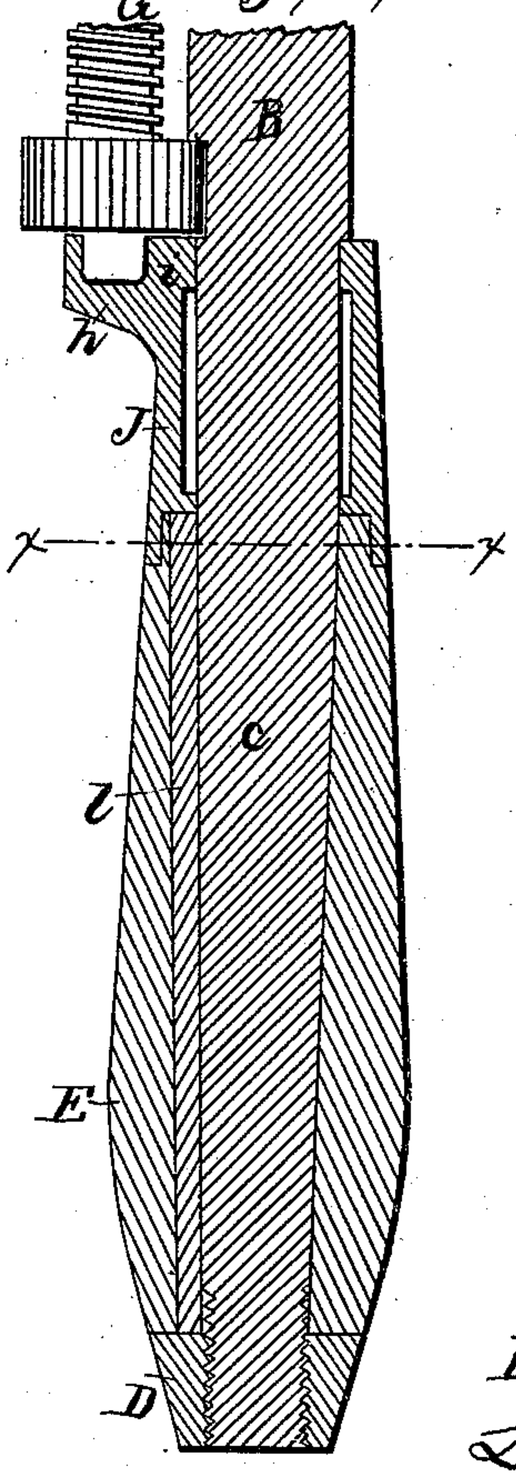
Fig; 1;



Fig; 3;



Fig; 2;



Witnesses;
W. L. Bennett.
John Rathbone Jr.

Inventor;
Loring Coes
by his Atty.
E. S. Renwick

United States Patent Office.

LORING COES, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 93,521, *dated August* 10, 1869.

IMPROVEMENT IN MONKEY-WRENCH.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, LORING COES, of the city and county of Worcester, and State of Massachusetts, have made an invention of a new and useful Improvement in Monkey-Wrenches; and that the following is a full, clear, and exact description and specification of the same.

The purpose of this invention is to sustain the thrust of the screw which operates the movable jaw of the wrench.

Many ways of doing this have been devised previous to my present invention, and, in one of the earlier, the bearing for the end of the screw is sustained by a nut screwed upon the end of the shank or tongue of the bar of the fixed jaw, the strain being transmitted from said bearing to said nut through the intervention of the wooden handle which surrounds said tongue. This method is advantageous on account of its simplicity, but as the wooden handle is formed of a comparatively soft material, which is also porous, and is rendered still softer by the absorption of the oil with which the hands of machinists, who use such wrenches, are usually soiled, this mode of securing the screw-bearing is insecure and defective, the practical result being that the wood yields to the strain, and the instrument becomes rickety by continued use.

The object of the present invention is to obviate the defects of the previous mode thus referred to, and, at the same time, to retain the advantages due to the simplicity of the construction. To this end,

My invention consists of the combination of the bearing of the screw of the movable jaw with the nut at the end of the tongue of the wrench, through the intervention of a metallic strut, which is encased by the handle of the wrench.

In this combination the strain of the movable jaw is sustained by the nut at the end of the handle and tongue; but the strain is transmitted through a strut which is not only constructed of a hard material, but is not affected by oil and grease. On the other hand, the handle presents the same external appearance and lightness as in the old wrench; but as, in this new combination, it embraces the metallic strut, the latter may be kept in place by the handle, and also prevented by it from buckling under the strain.

In order that my invention may be fully understood, I have represented in the accompanying drawing, and will proceed to describe, a monkey-wrench embodying my invention—

Figure 1 representing a side view of the wrench;

Figure 2, a longitudinal section of a portion of it; and

Figure 3, a transverse section of it at the line *x x* of fig. 1.

In the said wrench, the fixed jaw A is forged fast to the bar B, which terminates in the tongue or shank *c*.

The end of the tongue is screwed to receive the nut D, which holds the handle E in place upon the tongue *c*.

The movable jaw F is constructed to slide upon the bar B, and is moved by the screw G, whose thrust-bearing *h* is formed by a projection, *i*, of the ferrule J, at the inner end of the handle E.

The strain from the thrust-bearing is transmitted to the nut D by the iron or steel strut *l*, which is applied to the side of the tongue *c*, and, being metallic, is not affected by oil, grease, or moisture.

The handle E is hollowed out to fit upon the tongue *c* and strut *l*, and, being slipped over them, is held in place by the screw-nut D.

The bore of the handle is, in this example, fitted tightly to the tongue and strut, so that it closely embraces the strut, and tends to prevent it from buckling under the endwise strain.

In the wrench thus described, the thrust-bearing is formed in one piece with the ferrule, but that construction is not essential, as the two may be formed of separate pieces, one placed over the other upon the tongue *c*.

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

The combination of the thrust-bearing of the screw, the tongue, the nut at the end of the tongue, the strut, (interposed between the thrust-bearing and the nut,) and the handle, the whole constructed to operate substantially as before set forth.

In testimony whereof, I have hereto set my hand, this 1st day of April, A. D. 1869.

LORING COES.

Witnesses:

C. M. BENT,

BENJ. D. DWINNELL.