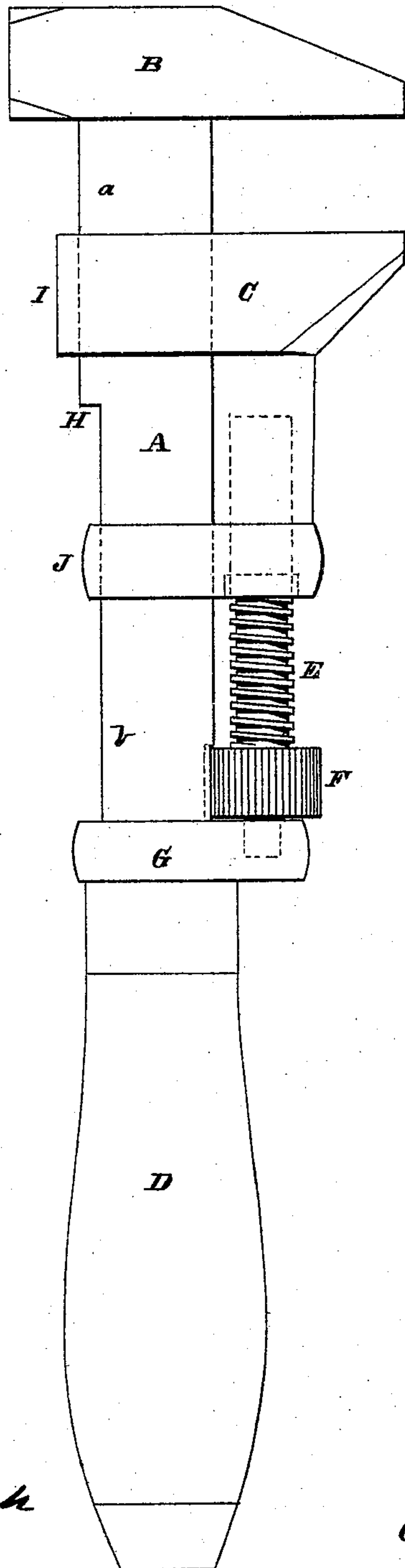


J. H. COES.  
SCREW-WRENCH.

No. 171,550.

Patented Dec. 28, 1875.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN SCREW-WRENCHES.

Specification forming part of Letters Patent No. **171,550**, dated December 28, 1875; application filed June 19, 1871.

*To all whom it may concern:*

Be it known that I, JOHN H. COES, of the city and county of Worcester, and Commonwealth of Massachusetts, 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 drawing, which forms a part of this specification, and which represents a side view of my improved screw-wrench.

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

The nature of my invention consists in the peculiar construction, combination, and relative arrangement of a re-enforced wrench-bar, sliding jaw, and operating-screw, whereby an improved article of manufacture is produced, as hereafter described.

In the drawing, the part marked A represents the bar. B indicates the head or stationary jaw; C, the movable jaw; D, the handle; E, the screw; F, the rosette, and G the ferrule. The back portion *a* of the bar A, near the head B, is made wider than the lower portion *b*, whereby an offset or re-enforce, H, is formed at the back of the bar, as illustrated. This manner of construction gives the proper distribution of metal, thereby producing a bar of great strength without materially increasing its weight. The forward clasp-bearing I of the movable jaw C is arranged around the larger portion *a* of the bar A, and the rear clasp-bearing J of said jaw is arranged around, and works on, the smaller portion *b* of the bar, back of the offset H, and the parts are so proportioned that when the jaw C is closed the clasp J will set up close against the offset H, and when open to its full extent the clasp I will still be supported by the broad or re-enforced portion of the bar A. The form of the bar and the size of the clasp-bearings are shown by dotted lines.

By my invention the advantages of the Richard wrench, patented February 7, 1860, numbered 27,090, and the Coes wrench are combined, thereby producing a wrench of great utility and practical value.

By my invention, too, the objections to wrenches made with an offset on the front side of the bar are obviated, since, by my improvement, the movable jaw can be run back and forth by the operating-screw as freely and as conveniently as in the common screw-wrench, while the neck of the jaw rests at all times on the front side of the bar, and is thus supported and prevented from bending or breaking when the wrench is used; whereas, in the other form of wrench referred to, as soon as the movable jaw is moved back over the narrow or reduced part of the bar, and any considerable amount of strain brought upon the front part of the jaw, its neck is broken or bent down, and the utility and value of the wrench destroyed.

The operating-screw E is called "stationary" by the trade—that is, it always retains the same relative position as respects the bar and handle—and, being arranged upon the front side of the bar, the rosette F is always in a convenient position to be turned by the thumb of the operator.

I am aware that wrenches have been made having movable jaws operated by stationary operating-screws, with the neck of the jaws resting on the bar, as in the old Coes wrench; and I am aware that wrenches have also been made with like operating-screws, and the front parts of the movable jaws made in the same way, in which narrow splines, feathers, or ribs have been formed on the backs of the bars; and I am also aware that re-enforced wrench-bars are shown in many patents granted prior to my invention, and I do not claim such devices; but I am not aware that the combination of devices such as that shown in my drawings, and described in the foregoing specification, was ever known or used prior to my invention thereof.

Having described my invention, what I claim, and desire to secure by Letters Patent as an improved article of manufacture, is—

The combination, in a screw-wrench, of the following elements, viz: a wrench-bar re-enforced on its back to form an offset, H, along that portion, *a*, over which the front clasp-bearing I of the movable jaw slides, and having a stationary jaw, B, on its front end, and a



handle, D, attached to its rear end, the movable jaw C having clasp-bearings I and J, to fit and work upon the portions *a* and *b* of the bar, while the sides of the neck of the jaw between the clasp-bearings are supported and slide upon the front side of the bar, which is straight, the stationary operating-screw E,

rosette F, and ferrule G, substantially as shown and described.

JOHN H. COES.

Witnesses:

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