W. C. BEMIS.

Wrenches.

No. 145,085. Patented Dec. 2, 1873.

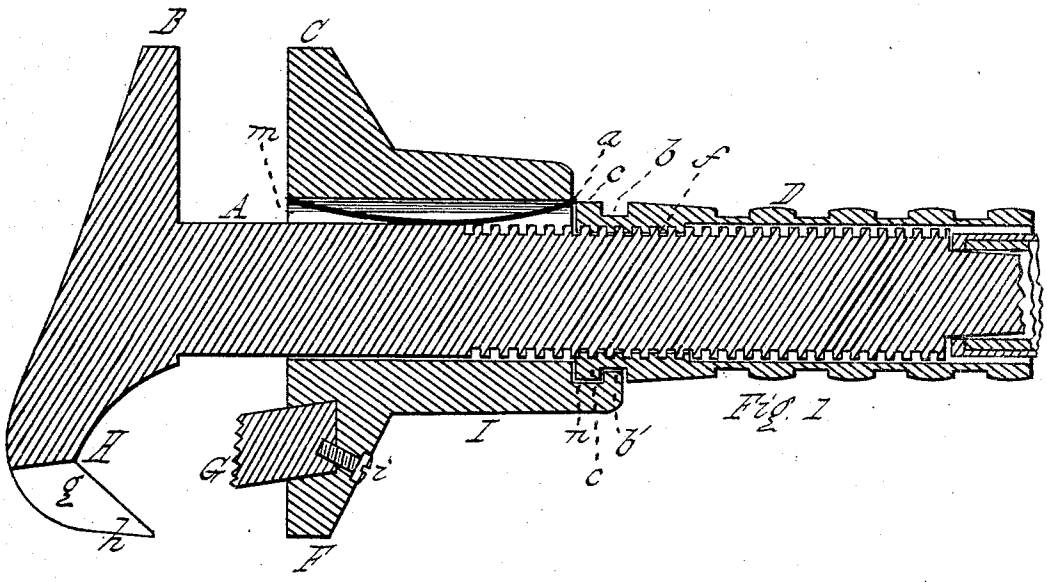

Fig. 1

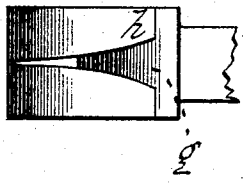

Fig. 2.

Witnesses,

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his atty.

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

W. CHAPLIN BEMIS, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **145,085**, dated December 2, 1873; application filed April 21, 1873.

To all whom it may concern:

Be it known that I, W. CHAPLIN BEMIS, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification and to the letters of reference marked thereon, in which—

Figure 1 is a longitudinal section of a wrench made according to my invention, and Fig. 2 is an end view of the jaw provided with a claw for drawing nails.

My invention relates to an improved nut and pipe wrench combined; and it consists of a bar having upon one side, at the end, a fixed ordinary straight jaw, and upon the opposite side a curved jaw; and upon the bar is arranged a sliding piece having upon one side a straight ordinary jaw, and upon the opposite side a projection having firmly fixed therein a piece serrated at its outer end. The hole in the sliding piece, through which the bar moves, is made of larger diameter than the width of the bar, and a spring is placed therein, between the edge of the bar and the side of the hole in the sliding piece, which operates to keep the axis of the sliding piece parallel with the axis of the bar. The sliding piece is moved to and fro upon the bar by means of a nut having upon its end an annular projection which engages with a recess in the sliding piece, and having a screw-thread inside which engages with a corresponding thread made in sections upon the bar.

That others skilled in the art may be able to make and use my invention I will proceed to describe the same.

In the drawings, A represents the bar, having at the end thereof a permanent jaw, B, on one side, and upon the opposite side a projection, *h*, having a recess, H, in its inner face, and the end of said projection is bifurcated at *g*, forming a claw. A sliding piece, I, has a hole, *m*, through it, lengthwise, through which extends the bar A, and this hole is of larger diameter in one direction than the width of the bar, and a spring, *a*, is placed between the side of the hole and the edge of the bar, as shown in Fig. 1 which operates to keep the sliding piece I parallel with the bar. The sliding piece I has a jaw, C, thereon, on one side, similar in form to the jaw B on the bar, and upon the opposite side of the sliding piece is a projection, F, having firmly secured in its face the piece G, serrated at its outer end, which piece projects outward toward the recess H in the jaw *h*. The sliding piece I is moved to and fro on the bar by means of a screw-nut, D, whose screw-threads inside engage with corresponding sectional threads made upon the bar, and which nut is provided with an annular projection, *c*, which engages in a recess, *n*, in the sliding piece.

The operation of my invention is as follows: For use as a pipe-wrench the pipe is seized in the recess H of the jaw *h*, with the serrated end of the piece G turned up tightly against the pipe, and force being applied to the bar the pipe is turned, the sliding piece I being pressed up against the bar by the bearing of the piece G against the pipe in turning it. When the wrench is moved in the opposite direction upon the pipe the serrated end of the piece G, impinging against the pipe, lets go its hold thereon, and that end of the sliding piece I having the piece G attached is drawn down, overcoming the elastic force of the spring *a*, until the movement of the wrench is reversed, when the spring draws the piece G up against the pipe, as before, so that the alternate movements of the wrench in turning the pipe cause the sliding piece I to vibrate laterally upon the bar.

When used as an ordinary screw-wrench the nut to be turned is seized between the jaws B and C, with the jaw C turned up against the nut.

I am aware that combined pipe and screw wrenches have heretofore been made, as shown in Letters Patent No. 94,085, granted to A. B. Davis; but I deem this invention hereinbefore described to be an improvement upon the device invented by me for which Letters Patent No. 57,621 were granted to The Bemis and Call Hardware and Tool Company, August 28, 1866, for the addition of the jaws B and C form a valuable feature, as the inner face of the jaws C always, when used in turning a nut, retains its position parallel with the face of the jaw B, and therefore, when the wrench is once fitted to the nut,

the wrench may be removed therefrom to obtain a new hold, as is often desirable and generally done without turning the screw-nut D to adjust the jaws to the nut. This cannot be done with the device shown in patent No. 94,085, as the jaws are held out of parallel by the spring when not grasping a nut, and if the jaws are once adjusted and then removed from the nut they must be readjusted every time a new hold is taken or else the wrench must be used with the jaws quite loose upon the nut, which greatly defaces and injures a nicely-finished nut.

The claw *g* will be found convenient in many instances for purposes of drawing nails, &c.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination and arrangement of the nut D, sliding piece I provided with the serrated piece G and jaw C, threaded bar A having thereon the jaws B and H, with the spring *a* placed between the jaw C and bar A so as to keep the two jaws B and C always parallel when turning a nut, substantially as described.

W. CHAPLIN BEMIS.

Witnesses:
T. A. CURTIS,
C. EUGENE BUCKLAND.