

(Model.)

W. J. OWEN.  
SCREW AND PIPE WRENCH.

No. 266,595.

Patented Oct. 24, 1882.

Fig. 1.

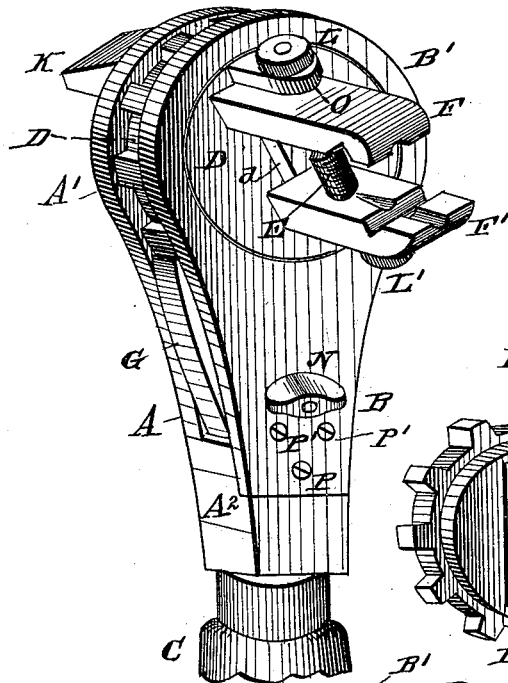


Fig. 2.

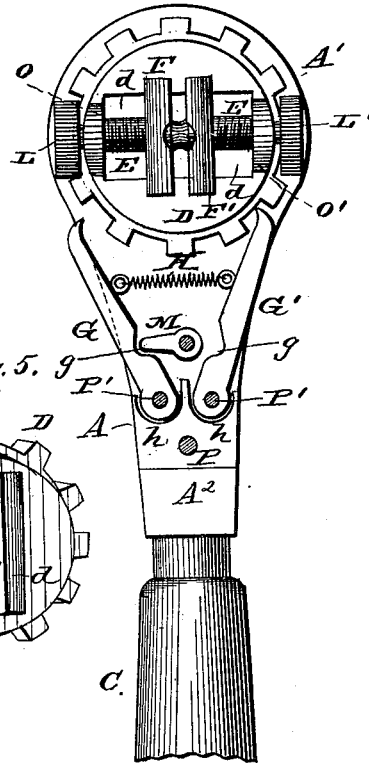


Fig. 5.

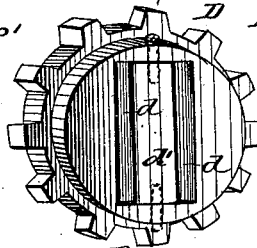


Fig. 3.

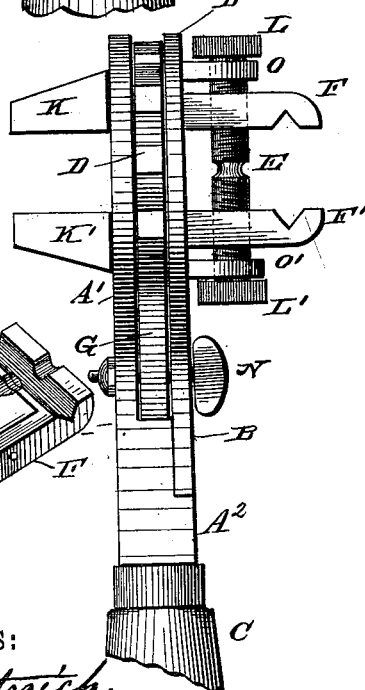


Fig. 6.

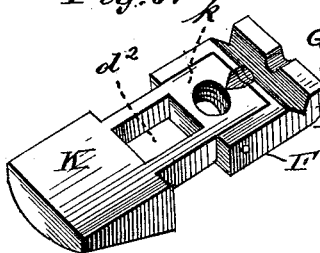
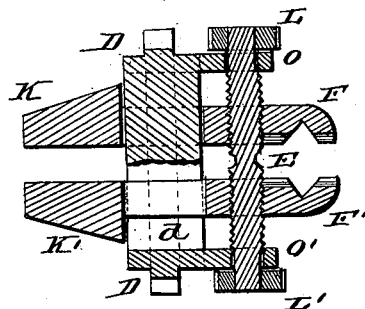


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## SCREW AND PIPE WRENCH.

SPECIFICATION forming part of Letters Patent No. 266,595, dated October 24, 1882.

Application filed March 23, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. OWEN, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented a certain new and useful Improvement in Wrenches; and I do hereby declare that the following is a clear and exact description thereof, which will 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 is a perspective view of my improved wrench, part of the handle being broken off. Fig. 2 is a side view of the same with the face-plate removed. Fig. 3 is an edge view. Fig. 4 is a sectional view of the ratchet-wheel through its sliding double jaws and their adjusting-screw. Fig. 5 is a perspective view of the ratchet-wheel detached, and with its jaws removed; and Fig. 6 is a perspective detail view of one of the jaws, both being constructed exactly alike.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of wrenches known as "ratchet-wrenches;" and it consists in the detailed construction and combination of operative parts, as hereinafter more fully described and claimed.

In the accompanying drawings, A represents the wrench-bar, the lower end of which is fastened into a handle, C. The top part of the wrench-bar forms an annular head, A', while its lower part, near the handle, forms a step or shoulder, A<sup>2</sup>, which constitutes an abutment for the lower end of the face-plate B, which is fastened to the wrench-bar by screws P and P'. Face-plate B has an annular head, B', corresponding to the annular head A' of the wrench-bar. Within the space or chamber formed between the parallel annular heads A' and B' is inserted the ratchet-wheel D, which has two parallel slots, d d, in which the movable jaws slide. It also has two standards, O and O', through which is inserted a screw, E, half of which constitutes a right-handed and the other half a left-handed screw. On opposite ends of the screw are milled heads L and L' for turning it. Each of the adjustable jaws con-

sists of two lips or parts, F K and F' K', projecting on opposite sides of the slotted ratchet-wheel D, the shanks of the jaws, which connect their two parts, passing through and sliding in the slots d d. By turning the screw E the jaws may be adjusted to fit the nut or pipe to be operated upon.

G and G' are the pawls or levers for working the ratchet-wheel, which are pivoted at their lower ends upon the screw-bolts P' P' independent of each other, each pawl being inserted into its separate socket or recess h in the lower part of the wrench-bar. The two pawls G and G' are connected by a spring, H, below which each has a notch or recess, g, adapted to receive the pivoted lock-bolt M, which has a head or thumb-piece, N, for turning it. The spring H draws the pawls onto the ratchet-wheel D, while by turning bolt M to the right or to the left either one of the pawls G or G' can be thrown out of gear, according to what side it is desired to work the wrench.

By reference to Fig. 6 it will be seen that each of the double jaws is made in two parts—viz., the jaw K and the part F, the former having a shank, k, upon which the part F is secured by pins, screws, or otherwise. The part or shank k of jaw K has an opening, a<sup>2</sup>, for the insertion of the bridge-piece d' of the ratchet-wheel, and this permits the ratchet-wheel and its jaws to be put together in the following manner: The bridge-piece d' is first inserted through the apertures a<sup>2</sup> in the two jaw-pieces K and K', which are held so as to face each other. These, with the bridge-piece, are then inserted through the rectangular opening in the ratchet-wheel, which is by the bridge-piece divided into the two parallel slots d d. Next the bridge-piece d' is secured in place by screws inserted into its ends through the rim of the ratchet-wheel, as indicated by dotted lines in Fig. 5. Finally, the jaw-pieces F and F' are placed upon the projecting parts k of their respective jaws K and K' and rigidly fastened thereupon in the manner described, after which screw E is inserted, and the ratchet-wheel, with its jaws, is placed within the annular head A' B' of the wrench-stock.

By the foregoing description, taken in connection with the drawings, the operation of my

improved ratchet-wrench will readily be understood without further explanation. It can be used either as a nut-wrench or as a pipe-wrench, according to which of the sets of jaws 5 F F' or K K' is employed. The annular head A' B', within which the ratchet-wheel works, holds the latter in place and greatly strengthens this part of the device, which has to sustain the greatest strain; and the face-plate B 10 prevents dirt or dust from gathering inside, which would seriously interfere with the operation of the ratchet-wheel and its actuating-pawls.

Having thus described my improvement, I 15 claim and desire to secure by Letters Patent of the United States—

In a ratchet-wrench, the combination of the wrench-bar A, having annular head A' and shoulder A<sup>2</sup>, face-plate B, having annular head B', slotted ratchet-wheel D, having standards 20 O O', sliding double jaws F' K'; F K, screw E, having milled heads L and L', pivoted pawls G and G', connected by the spring H, and having notches gg, and turn-bolt M, all constructed and combined in the manner and for the pur- 25 pose herein shown and specified.

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