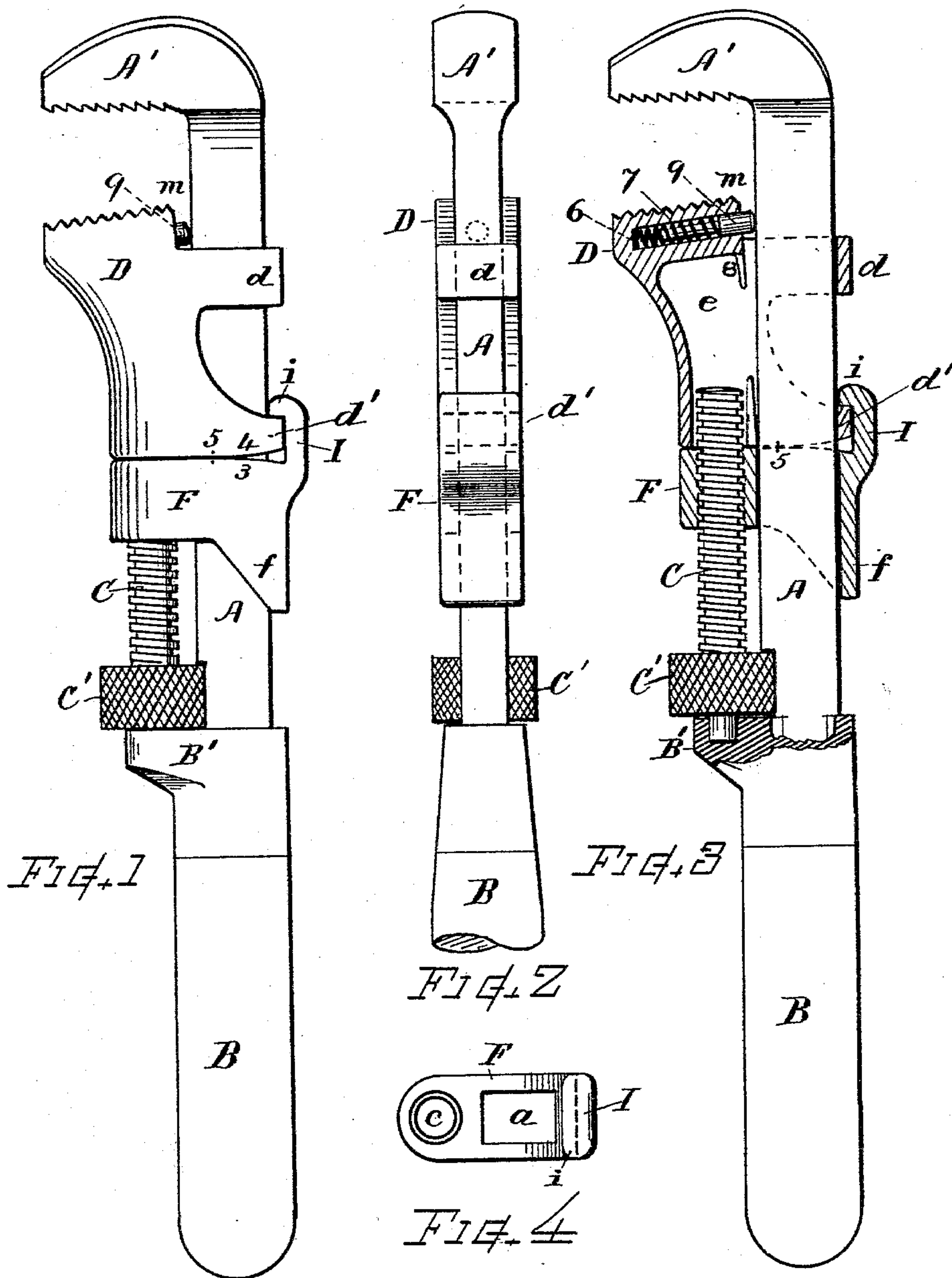


(No Model.)

E. WRIGHT.  
PIPE WRENCH.

No. 562,878.

Patented June 30, 1896.



Witnesses.

Amos K. Garrison  
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# UNITED STATES PATENT OFFICE.

EDWARD WRIGHT, OF WORCESTER, MASSACHUSETTS.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 562,878, dated June 30, 1896.

Application filed January 10, 1896. Serial No. 574,946. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD WRIGHT, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Pipe-Wrenches, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

My invention relates to the novel construction, arrangement, and mode of operation of the sliding jaw in combination with the fixed jaw and other devices in an adjustable screw-wrench, as hereinafter explained, the object being to render the wrench more efficient, convenient, and desirable and better adapted for screwing pipes and similar uses.

In the drawings, Figure 1 is a side view of my improved pipe-wrench. Fig. 2 is a back view; Fig. 3, a longitudinal sectional view, and Fig. 4 is a top view of the movable jaw-carrier.

In my improved wrench the parts are as follows:

A denotes the wrench-bar, having the head or fixed jaw A' on its upper end and a suitable handle B at its other end.

C indicates the screw with the rosette C' for adjusting the movable jaw. Said screw is constructed and disposed substantially as in the well-known "Coes" wrench, with its rosette end sustained against the step of the handle-ferrule B', as illustrated.

D indicates the movable jaw, having at its upper and lower ends straps or bands *d* and *d'*, that embrace the bar, retaining the jaw thereon with a suitable close sliding fit laterally, but with sufficient space at the front and back to allow a limited backward and forward swing or rocking action at the top or working end of said jaw. The interior of the jaw D is chambered out, as at *e*, giving ample room for the screw C within the interior thereof, but the jaw has no direct threaded engagement with the screw. The shell of the jaw serves as a shrouding that covers and protects the screw.

F indicates a jaw-sustaining carrier fitted with an opening *a* to slide directly upon the wrench-bar with a comparatively close fit,

but with sufficient looseness to insure freedom of action; also, having a threaded opening *c*, that properly fits and engages with the adjusting-screw C, so that said carrier is in threaded connection with said screw, to be shifted in either direction along the bar, accordingly as the rosette is rolled under the thumb. At the back of the bar the carrier is provided with an upwardly-projecting tongue I, having an inwardly-hooked end *i*, that interlocks with and loosely confines the band *d'* or heel portion at the lower rear part of the movable jaw, as shown, so that the movable jaw will be moved along the bar in connection therewith when the carrier is moved toward the handle.

The rear part of the carrier is extended along the back of the bar, as at *f*, to an extent approximately corresponding to the height of the rosette. Said extension serves as a brace and support to prevent distortion or undue cramping on the screw when the wrench is exerting heavy strains. The top end surface of the carrier is slightly arched or rounded, as at 3, for serving as a rocker-seat for the jaw D, the lower end of which latter may be straight or also slightly rounded, as at 4, so that the working end of said jaw can have the desired swing movement toward and from the bar for giving the grip to round pipe, the swing movement being operative from about the point 5 of the seating-surfaces as a center.

A space *m* of about one-eighth inch, more or less, is provided between the upper part of the jaw D and the front edge of the bar A to permit the rocking of the jaw. A hole 6 is provided in the jaw, extending forward from its rear edge just beneath the jaw-face, and within said hole I arrange a coiled spring 7, and a spring-pressed pin or stud 9, the projecting end of which impinges against the front edge of the bar A, and thereby tends to normally swing the jaw forward to the limit of the opening through the band *d*. The jaw-faces can be of well-known form, toothed, or provided with detachable plates, as desired.

When the jaw is forced backward, the pressure on the pin 9 compresses the spring 7 and the pin recedes into the hole, and the rear end of the jaw-face, and lip 8 below the same, acts as a solid stop against the bar and limits



the backward swing of the jaw, to avoid crushing the pipes on which the wrench is used.

In the operation, adjustment can be conveniently effected by the screw and threaded carrier, and the jaw has efficient and ready movement for gripping and releasing from the pipe without liability of crushing the pipe or becoming stuck thereon, while the parts of the wrench are such as will not be liable to become clogged with dirt, or to otherwise get out of order by ordinary usage.

What I claim as my invention herein, to be secured by Letters Patent, is—

1. In a wrench, in combination as described, the movable jaw and jaw-carrier arranged for connected action, each provided with bands that embrace and slide upon the bar, the top band adapted for permitting and limiting a swinging movement of the jaw; said jaw and carrier having adjacent abutting end surfaces, on a plane substantially perpendicular to the bar, but slightly rounded to permit rocking of one upon the other, the parts being loosely retained together by interlocking lugs; said carrier being threaded for engaging with the rosette-screw at the

forward side of the bar, and said jaw having in its fore part a non-threaded chamber into which the end of the screw is received, substantially as set forth.

2. In combination with the wrench-bar having the fixed jaw thereon, and the adjusting-screw arranged at the front of said bar, its rosette-head adjacent to the handle; the jaw-supporting carrier fitted to slide upon the wrench-bar, in threaded connection with said adjusting-screw, and having the upwardly-projecting inwardly-hooked tongue thereon; the internally-chambered movable jaw seated at its lower end to rock upon said carrier, and having upper and lower bands that embrace the wrench-bar, the lower band being loosely confined beneath said hooked tongue, and the spring, and spring-pressed stud or pin, arranged in a hole formed in said movable jaw and acting against the front edge of the wrench-bar, as set forth.

Witness my hand this 7th day of January, 1896.

EDWARD WRIGHT.

Witnesses:

CHAS. H. BURLEIGH,

ELLA P. BLENUS.