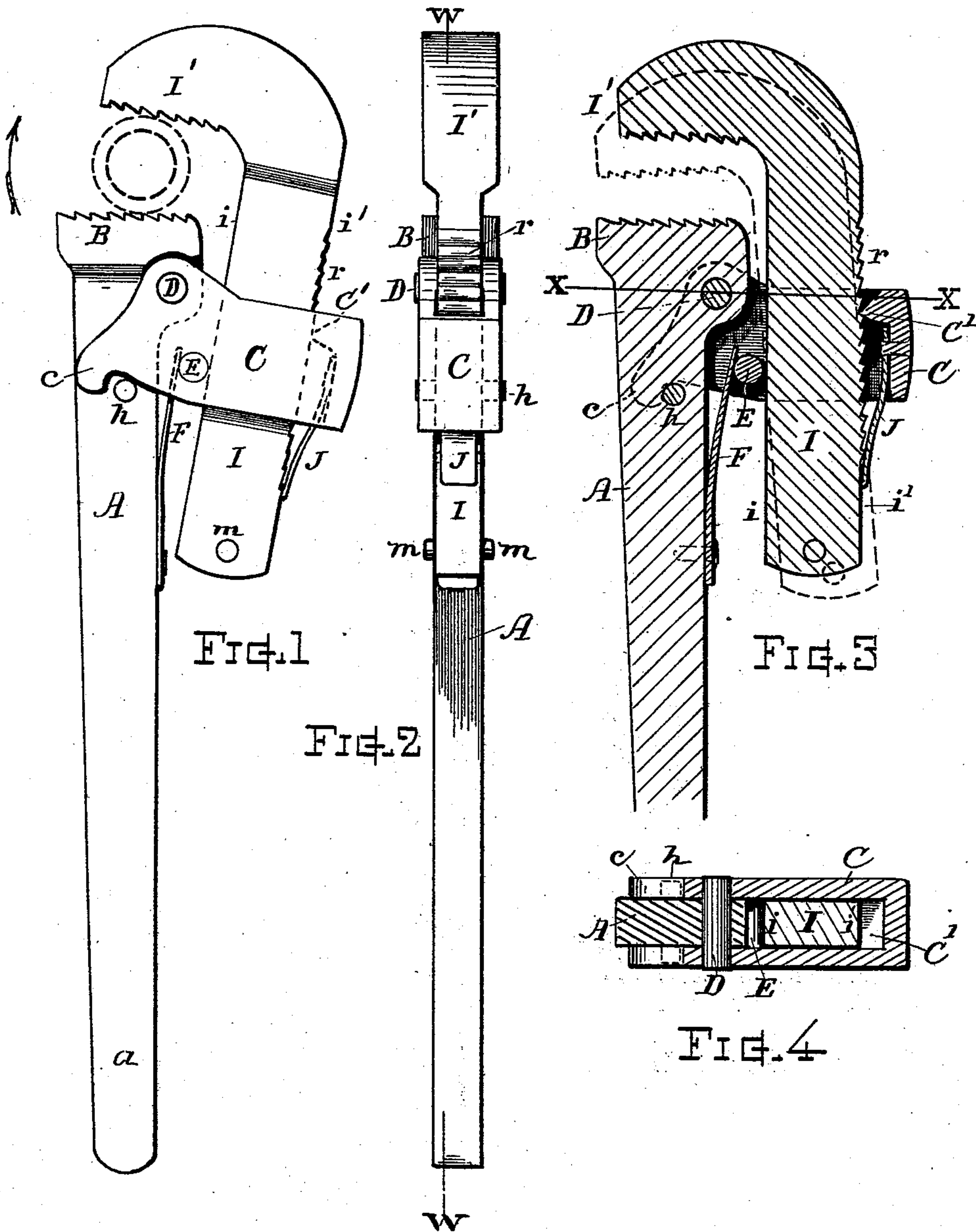


(No Model.)

W. A. BLAISDELL.
PIPE WRENCH.

No. 531,299.

Patented Dec. 25, 1894.



Witnesses.

Ella P. Blaisdell
Simon E. King

Inventor

William A. Blaisdell
By Chas. H. Burlingame
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM A. BLAISDELL, OF WORCESTER, MASSACHUSETTS.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 531,299, dated December 25, 1894.

Application filed October 4, 1894. Serial No. 524,854. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. BLAISDELL, 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.

The object of my present invention is to provide a pipe-wrench which will afford a ready and quick adjustment for attachment onto the pipes, and which also securely locks itself at adjusted position; also, to provide a wrench which can be ratcheted upon the pipes with one hand, and which will take and relieve its grip without sticking and without crushing the pipes. These objects I attain by the mechanism illustrated in the drawings, wherein—

Figure 1 is a side view of the wrench constructed in accordance with my invention. Fig. 2 is a back view; Fig. 3 a longitudinal section at line W W, and Fig. 4 a transverse section at line X X.

Referring to parts, A denotes the lever or hand-bar having a handle portion *a* at one end and a jaw B at its other end. The face of said jaw is provided with forwardly inclined teeth.

C indicates a socket or swing-piece, its sides embracing and connected with the hand-bar by a transversely disposed pivot D, to have swinging action back and forth thereon. Said socket or swing-piece projects backward from the hand-bar, and has an opening there-through for the reception of an endwise adjusting bar I which carries the movable jaw I' integrally formed upon its outer end. Said adjusting jaw-bar is made of rectangular section with straight opposite edges *i i'*, the outer edge being preferably notched or serrated, as at *r*. These edges of the adjusting bar engage between a lug C' formed on the upper interior part of the outer portion of the swing-piece and a transverse pin or bearing E located near the lower part thereof and between the bars A and C, as indicated. The face of the jaw I' is provided with backwardly directed teeth.

A spring F is attached to the back of the hand-bar, its movable end resting against the inner side of the pin or cross-bar E against which said spring F acts with outward pressure, tending to normally throw the outer part of said swing-piece upward. The upwardly swinging movement of the piece C is limited by a guard *c* that comes into contact with a stud or pin *h* fixed in the side of the hand-bar. Said guard is best formed as a hook that catches upon the pin *h* by backward movement, but freely recedes therefrom by forward movement. Both sides of the swing-piece may have a similar guard.

J indicates a spring secured within the outer part of the swing-piece, its free end projecting downward resting against the back of the adjusting-bar I, and giving inward pressure thereon below the swing-piece. If in any instance desired, the back edge *i'* of the adjusting bar C can be made smooth instead of making it serrated, as at *r*, the action being substantially the same in either case. A stud *m* is provided at the end of the adjusting-bar I to prevent said bar from escaping from the swing-piece.

When the wrench is not in use the springs F and J sustain the parts normally in position, as indicated by full lines Fig. 3.

In the operation, the wrench can be adjusted for fitting any pipe by pressing the lower end of the adjusting-bar I outward. (See dotted lines Fig. 3.) This releases it from engagement with the lug C', and the jaw I' can then be adjusted to or from the jaw B by simply sliding the bar I through the opening of the swing-piece. The wrench can thus be instantly adjusted to the full extent or to any desired extent in either outward or inward direction. While effecting the adjustment of the jaw the guard portion *c* of the swing-piece C is brought into contact with the stud or stop *h*, and the upward movement of said swing-piece is thereby arrested, so that pressure on the part I will force back the spring J and allow the disengagement of bar I from the lug C'.

When placing the wrench upon the pipe, the lower end of the adjusting-bar I is pressed toward the back of the hand-bar A. This opens the jaws, and the pipe being introduced the jaw is allowed to close by action of spring F. (See Fig. 1.) In this position the lug C'

and bearing E within the swing-piece cramp upon and retain the bar I from endwise movement with firm and steadfast hold. The jaws being upon the pipe, if the wrench is turned
 5 in the direction indicated by the arrow, the action of the swing-piece causes the jaws to take a firm grip upon the surface so as to turn the pipe with the movement of the wrench. When the hand-bar is swung in the opposite
 10 direction the jaws automatically release the pipe; so that backward and forward movement of the hand-bar gives ratchet action for turning the pipe in, or out, accordingly as the wrench may be placed thereon. This ratchet
 15 action is controlled by the spring F and the jaw action whether the wrench is at the side, above or below the pipe, without the necessity of holding the jaw I' on the pipe by hand. This ratcheting action can be performed with
 20 one hand and in a very convenient manner.

It will be understood that I do not broadly claim a pipe-wrench having an adjustable jaw mounted in a swing-piece pivoted to the hand-bar, as wrenches embracing such fea-
 25 ture, in different construction, have heretofore been made.

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

1. The pipe-wrench constructed as herein
 30 described, comprising the hand-bar having the jaw on its end, the swing-piece pivotally connected to the rearward portion of said hand-bar adjacent to said jaw, said swing-piece having its two sides joined at the outer
 35 end and internally provided, at its upper part, with the transversely-disposed inwardly projecting lug, and at its lower part with the transverse bearing-pin, the rectangular endwise-adjusting bar extending through the

swing-piece between said lug and bearing-pin 40 and carrying the outer jaw, the bar-spring giving outward pressure against said bearing-pin, and a spring secured within the outer end of said swing-piece, its free end downwardly extended, resting against and giving 45 inward pressure upon the back of said adjusting-bar, all substantially as set forth.

2. In a pipe-wrench of the character described; the hollow swing-piece having the solid outer end and provided at its upper part 50 with an internal lug C', the bearing-pin E across the lower central part, and the guard or hooked portion c at the inner end of its side, in combination with the hand-bar having the jaw B, the pivot-pin D passing through 55 the upper part of said swing-piece and the rearward portion of the bar, the stud h projecting from the side of the hand-bar and adapted for engaging with said guard to limit the upward movement of said swing-piece; 60 the endwise adjusting jaw-carrying-bar arranged through said swing-piece between said bearing-pin E and the lug C', its edges *i i'* engaged and clamped thereby, the springs F that normally elevate said swing-piece bring- 65 ing its guard against said stud h, and the spring J fixed within the outer end of the swing-piece, below said lug C', its lower end acting against the back of said jaw-carrying-bar, all substantially as shown and for the 70 purpose set forth.

Witness my hand this 2d day of October, 1894.

WILLIAM A. BLAISDELL.

Witnesses:

CHAS. H. BURLEIGH,
 GEO. M. RICE, 2d.