(No Model.)

M. J. WILSON.

WRENCH.

No. 440,294. Patented Nov. 11, 1890.

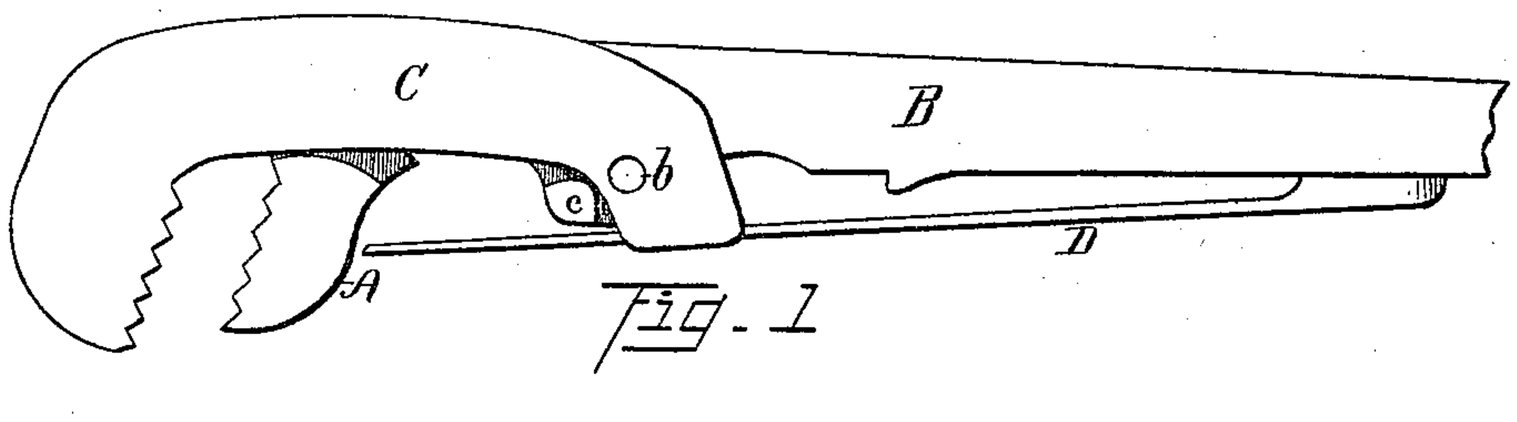

Fig. 1

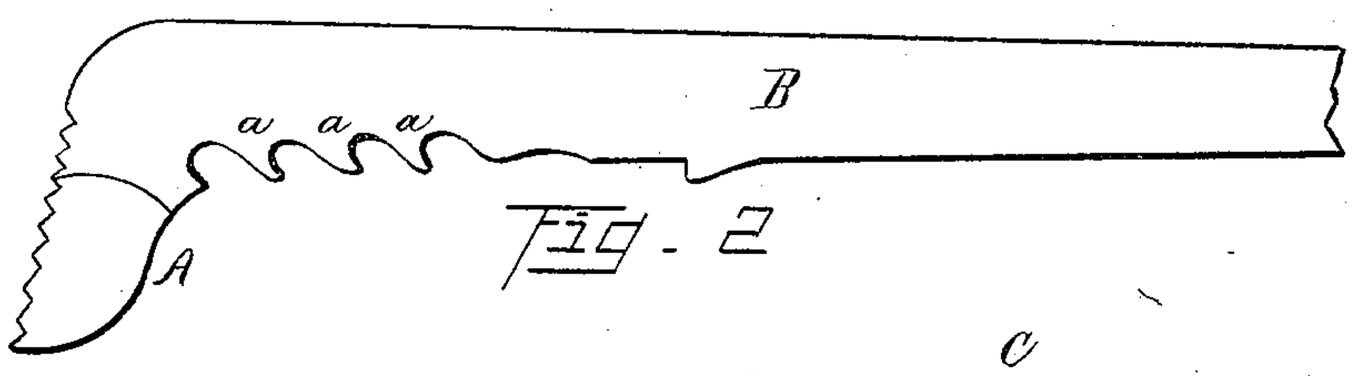

Fig. 2

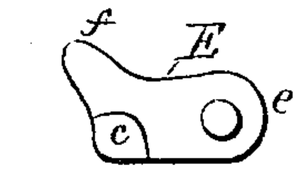

Fig. 3

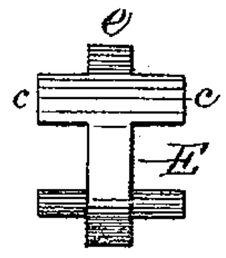

Fig. 4

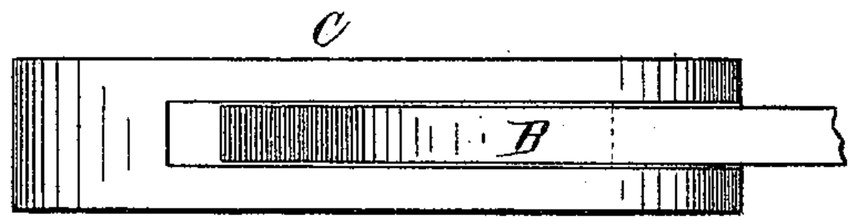

Fig. 5

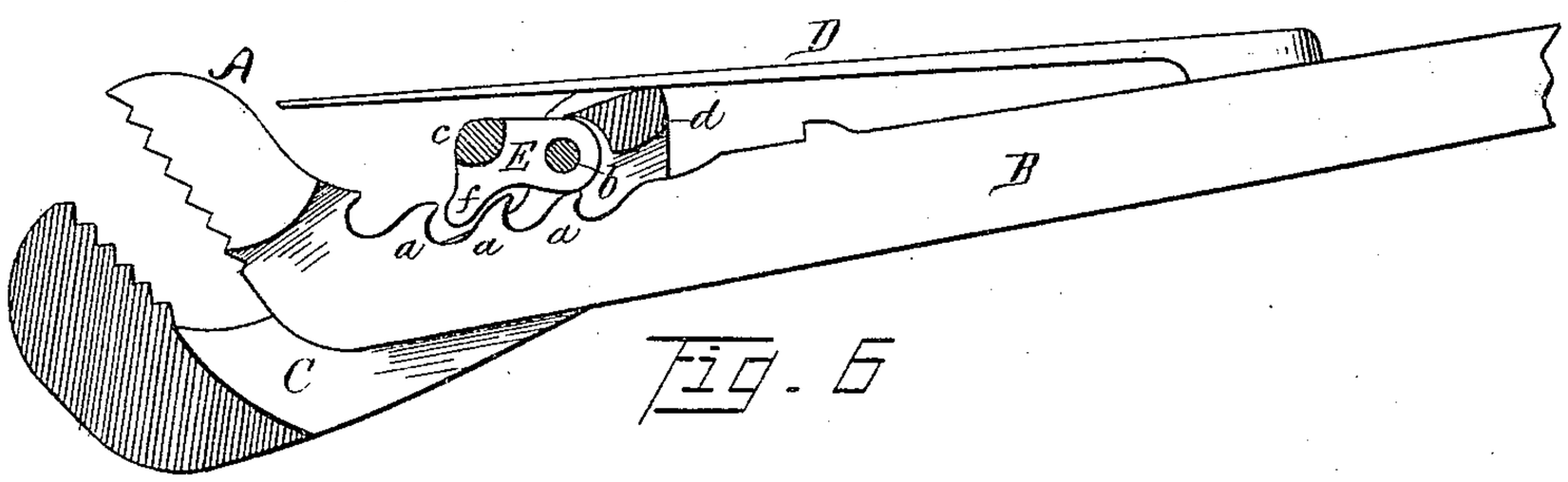

Fig. 6

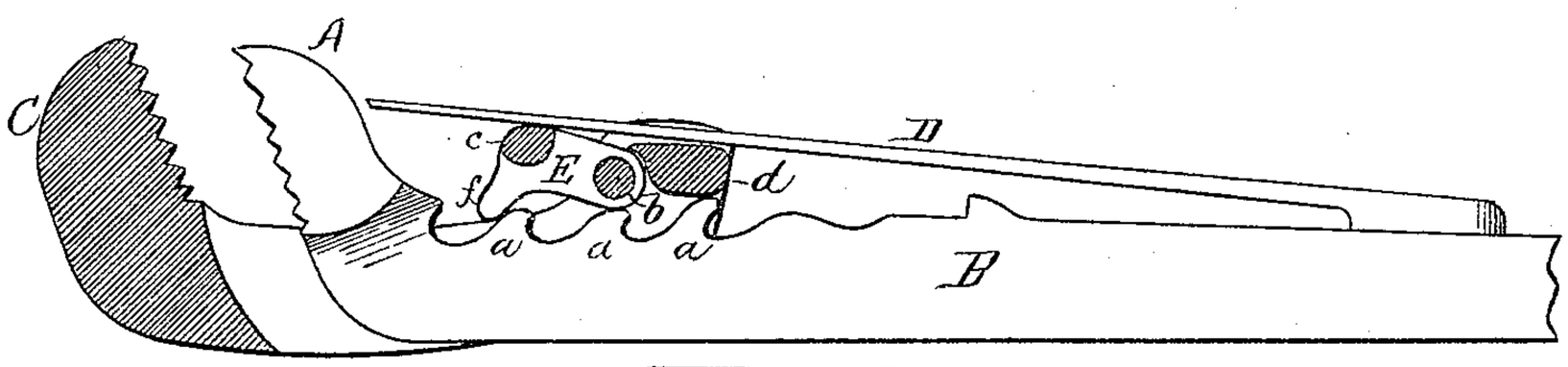

Fig. 7

Witnesses
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UNITED STATES PATENT OFFICE.

MILFORD J. WILSON, OF PAINESVILLE, OHIO.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 440,294, dated November 11, 1890.

Application filed August 1, 1890. Serial No. 360,641. (No model.)

To all whom it may concern:

Be it known that I, MILFORD J. WILSON, a citizen of the United States, residing at Painesville, in the county of Lake and State of Ohio, have invented new and useful Improvements in Pipe-Wrenches, of which the following is a complete description.

The invention relates to the peculiar construction, arrangement, and combination of the various parts of pipe-wrenches, as more fully described and claimed hereinafter, which tool may be used as a wrench and for other purposes.

That the invention may be seen and fully understood, reference may be had to the following specification and annexed drawings, forming part thereof.

Figure 1 is a side elevation of my improved wrench. Fig. 2 is a side view of the stationary jaw. Figs. 3 and 4 are detail views of one of the parts hereinafter referred to. Fig. 5 is a back view of my improved pipe-wrench. Figs. 6 and 7 are views showing the parts in different positions and also showing the adjustable jaw in cross-section.

Like letters of reference designate like parts in the drawings and specification.

The stationary jaw A is preferably an integral part of the shank B, which has a series of teeth *a a a* in the edge thereof, substantially of the shape shown in Figs. 2, 6, and 7. The shank B passes through between the sides of the jaw and is held in relative position with said jaw, as shown in Figs. 5 and 6, by the resiliency of the spring D, having one end thereof secured to the shank and extending over the girt *d* in the heel of the jaw C, as shown in Figs. 6 and 7. A dog E (of which Figs. 3 and 4 are detached views) is pivoted in the adjustable jaw C at *b*, Figs. 1, 6, and 7, said dog being substantially of the form shown in Figs. 3 and 4, having two lugs *c* thereon, said lugs bearing on the adjustable jaw C in the manner shown in Fig. 1, the rounded portion *e* being adjusted to the different teeth *a* at the will of the operator, thereby adjusting the wrench for large or small pipe, as the case may require, and for other analogous purposes. The strain upon the wrench when in practical use is supported by the dog E in its pivotal connection to the movable jaw at *b*, also by the back circular end of the dog bearing against the notch in the girt *d* and the lugs *c c* in contact with the curves of the jaw C, Fig. 1, thereby making three supports to the jaw—namely, the pivot *b*, the circular end *e* with the girt *d*, and lugs *c c*. The girt *d*, being of the form shown in the drawings, relieves the pressure of the spring on the dog when adjusting the wrench to the different sizes shown in Fig. 7. The girt *d*, which connects with the rear end of the jaw C, is also arranged in line with the dog and teeth or notches *a* to rest upon the point of one of the teeth *a* in operating the jaws, as illustrated in Fig. 7, when opening, whereby the dog is relieved from a certain amount of pressure from the spring D by its bearing on the girt *d* until the girt enters the space between the teeth, when the full pressure of the spring is expended upon the dog, causing the point *f* to hold in the space between the teeth. The girt also relieves the dog from the full pressure of the spring in closing the jaws. The office of the girt is essentially the same in opening and closing the jaws.

In adjusting the wrench the movable jaw may be opened and closed longitudinally upon the shank. It is not required to turn the jaw in an angular position, as shown in Fig. 6, to adjust the wrench-jaws to a desired capacity for use, as is usually done. This imparted adjustability relieves the dog of the pressure of the spring entirely, also exertion in turning the jaw out of line with the shank.

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

1. In an adjustable pipe-wrench, the stationary jaw, being an integral part of the shank, said shank having a series of teeth in the edge thereof, in combination with a dog having lugs *c c*, pivoted to the adjustable jaw, constructed and jointly arranged, substantially in the manner and for the purpose set forth.

2. In a pipe-wrench, the girt *d*, arranged

with its lower side in line with the plane of the lower side of the heel of the dog and points of the teeth *a*, or nearly so, in combination with said dog having ears extending from the sides thereof and bearing on the movable jaw, the spring D, and stationary and movable jaws, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

MILFORD J. WILSON.

Witnesses:
HENRY FORD,
W. H. BURRIDGE.