

(No Model.)

S. MONTGOMERY.
PIPE WRENCH.

No. 600,968.

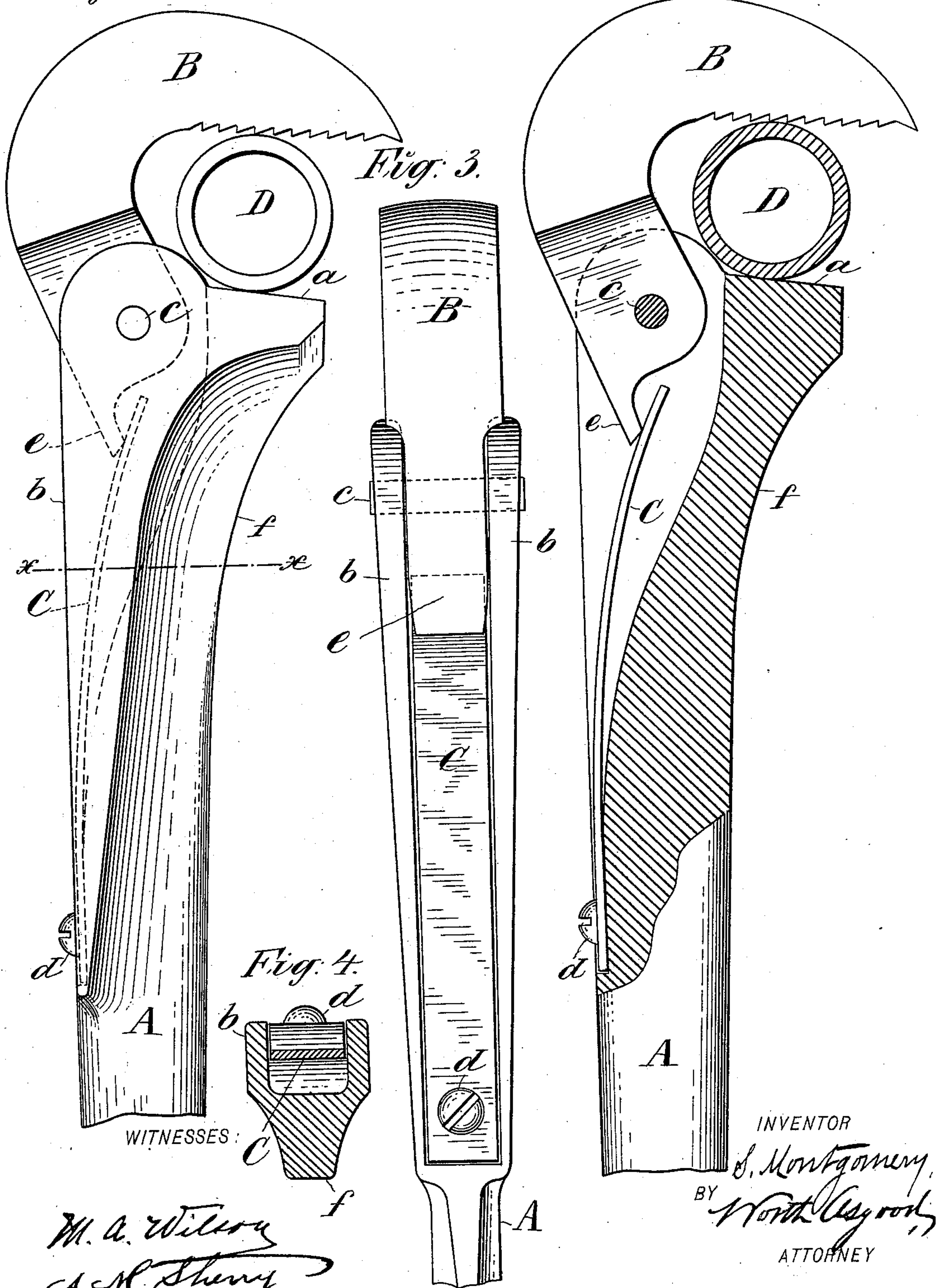
Patented Mar. 22, 1898.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.



UNITED STATES PATENT OFFICE.

SAMUEL MONTGOMERY, OF NEW YORK, N. Y.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 600,968, dated March 22, 1898.

Application filed July 15, 1897. Serial No. 644,658. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL MONTGOMERY, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

My invention has relation to that class of implements commonly known as "pipe-wrenches," and primarily intended for turning pipes and other articles of general cylindrical form, but which may be used for other purposes.

The object of my invention is to provide or produce an implement of the class named which shall be of few and simple parts, easy of application, abundantly strong, durable, and effective in holding and turning qualities, and especially capable of use and application without damage to the hand of the operator, not liable to become impaired or clogged up by foreign substances, and which shall be capable of use in connection with a wide range (in diameter) of articles, with proportionate spring-pressure from the smallest to the largest. To accomplish all of this and to secure other and further advantages in the matters of construction, operation, and use, my improvements involve certain novel and useful arrangements or combinations of parts and peculiarities of construction, as will be herein first fully described, and then pointed out in the claims.

In the drawings, Figure 1 is a side elevation, and Fig. 2 a sectional elevation, of my improved wrench as it appears when applied to a pipe of medium size, the end of the handle being broken off or omitted. Fig. 3 is a top view or plan of the back of the wrench corresponding with previous figures, and Fig. 4 is a cross-section on a plane through line *xx* of Fig. 1.

In all the figures like letters of reference, wherever they occur, indicate corresponding parts.

A is the handle or lever, which may be of any length. It is preferably of steel and is in such form that it may be conveniently cast, being afterward rendered malleable; but it may be forged or otherwise made. The bearing-face *a* of the head of the handle is left smooth, and two wings *b b* on the back con-

stitute the side margins of the spring-containing channel and the seat for the axis-pin *c*, by which the movable head or hook B is connected with the handle. The wings *b b* gradually increase in thickness from rear to front, as shown in Fig. 3, so as to afford the axis-pin an abundant support, as all the strain is transmitted to that pin. The bottom of the spring-containing channel is curved, as indicated in Figs. 1 and 2, and as the spring is depressed it touches this curved bottom, bending thereon, thus relieving the fixed end of the spring more and more from the strain which would otherwise tend to break or loosen it.

C is the spring, fastened at one end in some secure manner, as by a simple screw *d* or by other means, as may be preferred.

The hooked head B is serrated on its bearing-face, as shown, and is pivoted in place, as indicated, its back being practically smooth, and when the implement is not in use occupying a position substantially even with the upper lines of the wings *b b*. Back of the pivot the hooked head B is fashioned so as to form a tang *e*, which rests upon the end of the spring C, bearing that end down toward the curved bottom of the channel as the wrench is opened and forcing the opposite portion upon the curved bottom, thereby making the acting portion of the spring a trifle shorter in proportion as the diameter of the article clamped increases.

D, Figs. 1 and 2, represents any pipe or article within the grasp of the wrench. When in the position shown, by moving the free end of the handle to the right the article D will be turned to the left, and upon carrying the handle to the left the hooked head slips upon the article, which is instantly grasped again upon reversing the movement.

The bearing-face *a* being smooth, the wrench is enabled to be easily and smoothly applied upon the pipe or other article without damage to the surface thereof, and it immediately adjusts itself to the position indicated in the drawings—that is, so that the article bears against the projecting curved ends of the sides *b b*, where it is always stopped no matter what may be its diameter.

The spring and the head with the overhanging tang exclude clippings, &c., from the channel, and the arrangement is such that

the hand or fingers of the operator cannot be caught beneath the spring, a constant source of trouble with a variety of wrenches wherein a spring is moved upward by the head or wherein the spring is exposed above the handle.

The face *a* is reinforced or supported by a neck *f*, the sides of which are inclined, as best shown in Fig. 4. This formation of the neck enables me to make the head portion of the wrench amply wide to withstand all the strains to which it may be subjected and yet not make the head portion so heavy, as is usually the custom.

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

1. In a pipe-wrench, the spring-containing channel in the handle, the same having the curved bottom arranged to receive the spring and the pivoted head arranged to force the spring against said curved bottom, substantially as and for the purposes set forth.

2. In a pipe-wrench, the wings *b b* for supporting the axis-pivot and forming the side walls of the spring-containing channel, said wings being increased in thickness from rear

to front and projecting beyond the plane bearing-face of the handle, substantially as and for the purposes set forth.

3. In a pipe-wrench, the smooth bearing-face *a* on the head of the handle, the same being reinforced by the neck *f* having inclined sides, and being located beneath the projecting ends of the side walls *b b*, substantially as shown and described.

4. The herein-described pipe-wrench consisting of the handle having the smooth bearing-face and the spring-containing channel with curved bottom, the spring, and the serrated hooked head pivoted in the handle and supplied with an overhanging tang resting upon the end of the spring and adapted to force the spring down upon the curved bottom of the channel, all combined and arranged substantially as shown and described.

Signed at New York, in the county and State of New York, this 13th day of July, A. D. 1897.

SAMUEL MONTGOMERY.

Witnesses:

A. M. SHERRY,
WORTH OSGOOD.