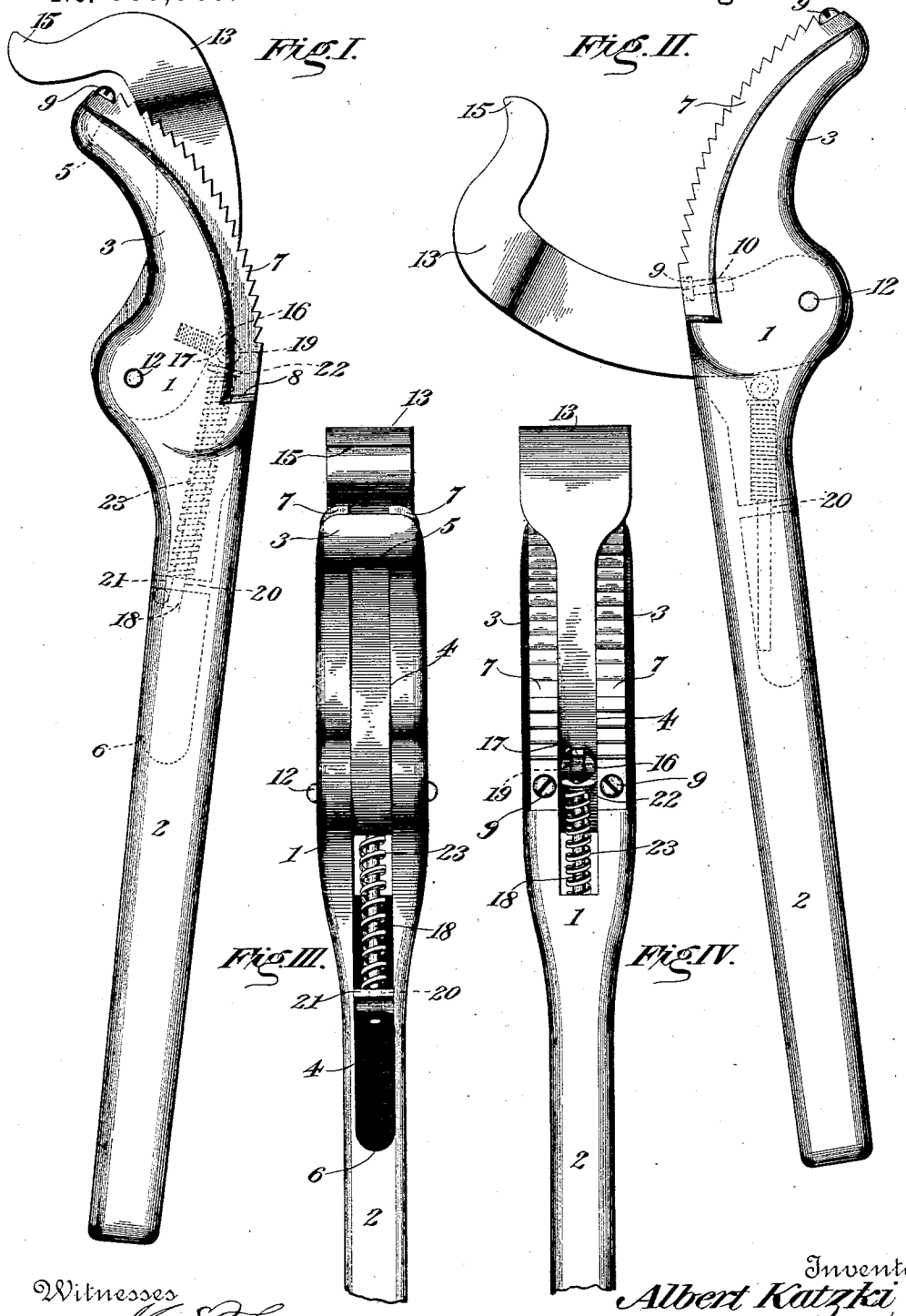
(No Model.)

A. KATZKI.

WRENCH.

No. 588,069. Patented Aug. 10, 1897.



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UNITED STATES PATENT OFFICE.

ALBERT KATZKI, OF ERIE, PENNSYLVANIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 588,069, dated August 10, 1897.

Application filed November 11, 1896. Serial No. 611,723. (No model.)

To all whom it may concern:

Be it known that I, ALBERT KATZKI, of Erie, in the county of Erie, State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a complete specification, reference being had to the accompanying drawings.

The object of my invention is to produce a simple, cheap, durable, and effective pipe-wrench provided with a movable jaw that affords in practice through the movement thereof a wide range of availability.

In the accompanying drawings, Figure I is a side elevation of my wrench with the movable jaw at the limit of its closing movement. Fig. II is a similar view with the movable jaw at the limit of its expansion. Fig. III is a front elevation of the subject-matter of Fig. I. Fig. IV is a rear elevation thereof.

Referring to the figures on the drawings, 1 indicates the body part of my wrench, that terminates at one end in a handle 2 and at the other end in a gradually-curved fixed jaw 3.

The upper portions of the body part and of the fixed jaw are separated by a cavity or recess 4, which, passing through the parts named from the front to the rear, extends at its upper end 5 almost to the end of the jaw and at its lower end in the front of the body part, as indicated at 6, to the handle or into the handle itself, if necessary.

The cavity 4 in effect divides the fixed jaw, and I prefer to provide each portion of the fixed jaw with a separable, renewable, serrated facing 7 of hardened steel, which, seated at one end against a shoulder 8, is secured in place, as by screws 9, passing through its opposite ends and entering screw-threaded recesses 10, provided for them in the body of their respective jaws.

Within the cavity 4 I provide a movable jaw that is pivotally secured between the parts of the fixed jaw, as by a pin 12. The body part of the movable jaw works freely in the cavity 4, while its head 13, of a width substantially equal to the width of the complete jaw 3, coöperates with the serrated facings upon the jaw to grip the pipe after the manner of well-known pipe-wrenches of this class.

The head 13 is provided with an upturned end 15, that is adapted to facilitate adjustment of the wrench to any size of pipe to which it will take without the necessity of manipulation.

Between the pin 12 and the head 13, upon the rear of the body part of the movable jaw, I provide a bifurcated lug 16, which receives the head 17 of a guide-rod 18, that is pivotally secured to it, as by a pin 19. The guide-rod works through an aperture 20 in a stop-piece 21, secured between the opposite walls of the cavity 4 near its end 6. It also carries near its upper end a plate or washer 22.

23 indicates a coiled spring surrounding the guide-rod. Seated at one end against the plate 22 and at the other end against the stop-piece 21, the expanded spring 23 serves to yieldingly project the movable jaw of the wrench toward the limit of its closing movement. The movable jaw is opened against the resistance of the spring, which is compressed as the movable jaw is forced toward its limit of expansion, the guide-rod descending into the cavity 4 toward or into the handle of the wrench.

The incasing of the guide-rod and its spring within the body part of the wrench, so that the guide-rod is at all times protected thereby, facilitates the manipulation of the tool.

It will be observed that the cavity 4 at the upper end extends through the fixed jaw from the front to the rear, so as to permit the mounting and operation of the movable jaw, and that in its lower portion such cavity is situated in the front side of the handle just below the jaws. An advantage incident to this construction is that the guide-rod 18 is always entirely within the cavity or recess, no portion of the rod projecting outside the cavity whatever be the position to which the movable jaw may be adjusted, and this I am enabled to accomplish without enlarging the handle in order to receive this rod.

What I claim is—

In a wrench, the combination of the body terminating at one end in a fixed jaw and at

the other end in a handle, and provided with a cavity or recess which extends through the fixed jaw from the front to the rear, and in its lower portion is situated in the front side of the handle, a movable jaw pivotally supported in the recessed part of the wrench-body, a guide-rod secured to the movable jaw, and mounted entirely within that part of the recess in the front of the handle, a spring for operating the movable jaw, and a stop-piece against which the spring bears, situated in the said recess, substantially as set forth.

In testimony of all which I have hereunto subscribed my name.

ALBERT KATZKI.

Witnesses:
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