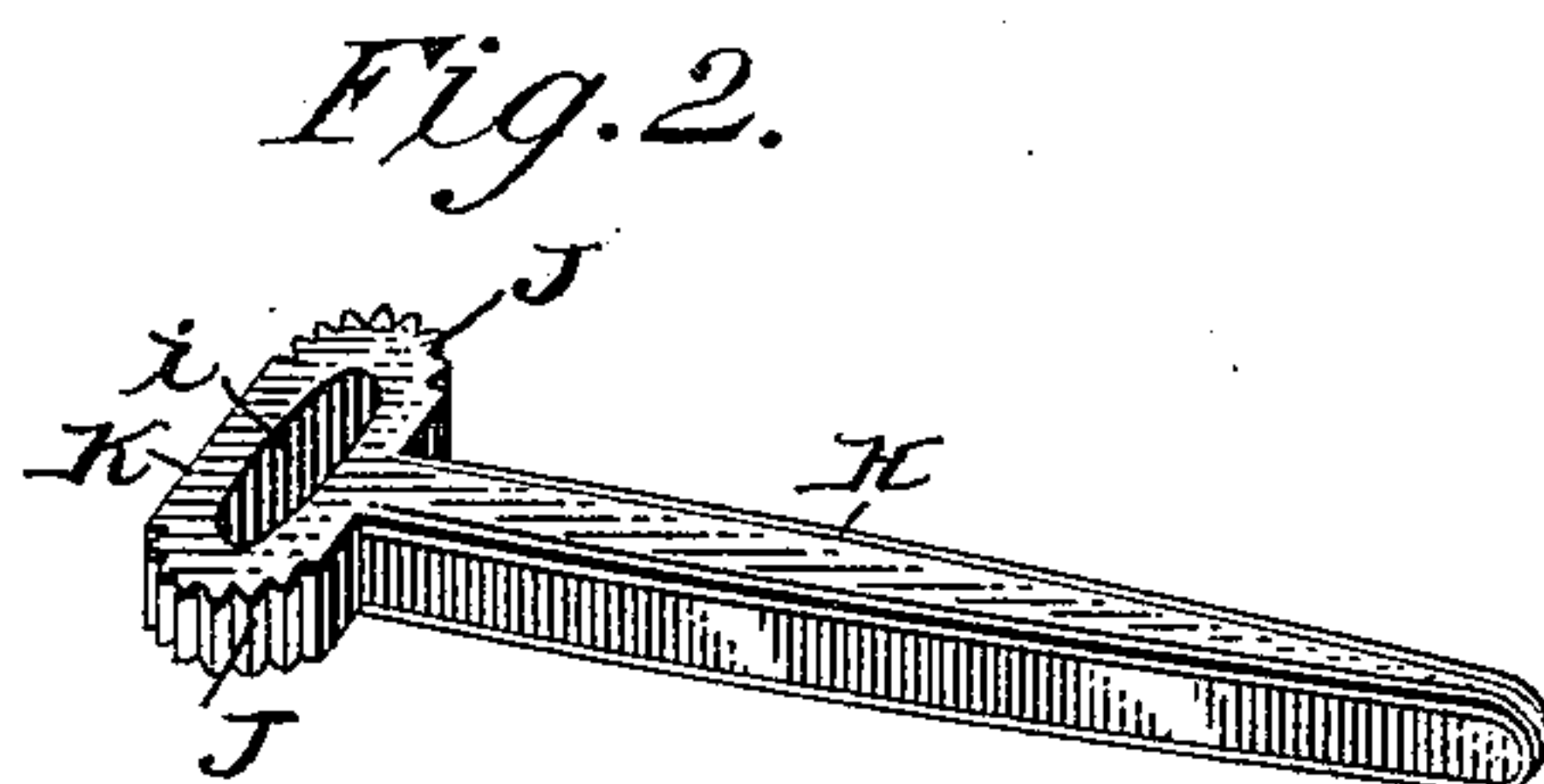
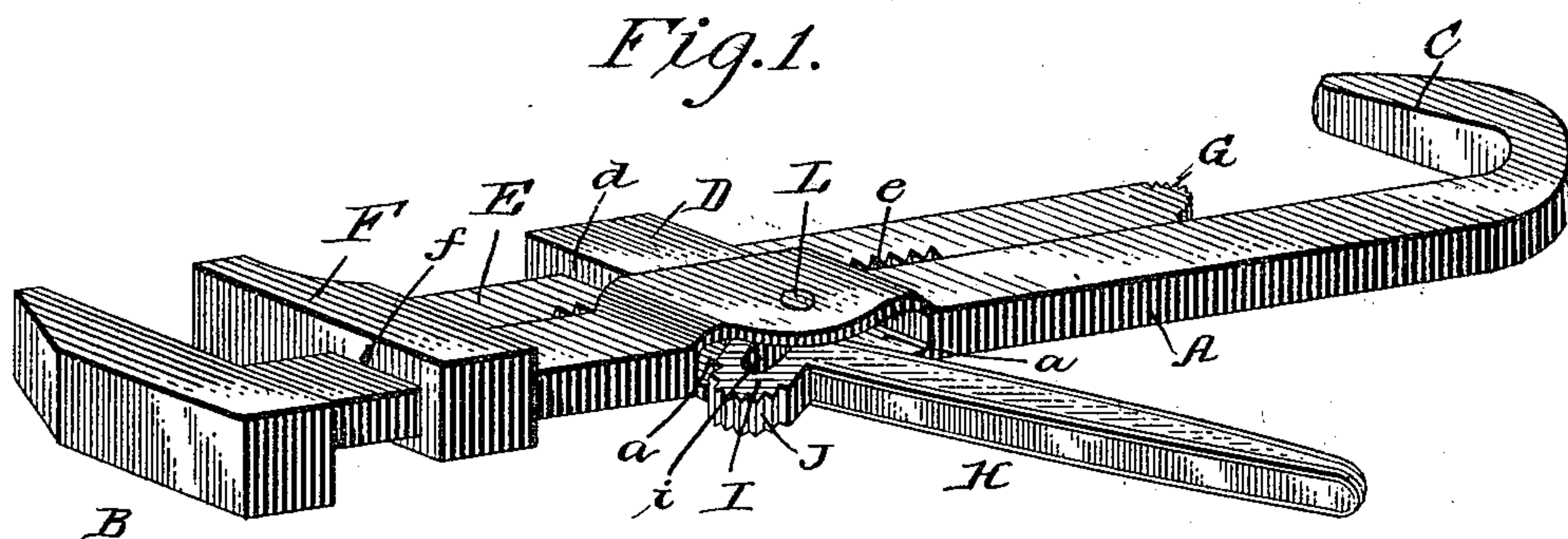


(No Model.)

H. SCHEATZKA.  
WRENCH.

No. 438,243.

Patented Oct. 14, 1890.



Witnesses:  
Louis Henry Legg  
H. J. Jacobs

Inventor:  
Herman Scheatzka



# UNITED STATES PATENT OFFICE.

HERMAN SCHEATZKA, OF BOTHELL, WASHINGTON.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 438,243, dated October 14, 1890.

Application filed November 30, 1889. Serial No. 332,160½. (No model.)

*To all whom it may concern:*

Be it known that I, HERMAN SCHEATZKA, a native-born citizen of the United States, residing at Bothell, King county, State of Washington, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My invention relates to improvements in wrenches in which the facility of adjusting the width of the jaws to the size of the object to be turned is improved. One end of the wrench is designed for the turning of square or oblong objects and the other for pipes or rods circular in form.

The objects of my improvements apply equally to either end of the wrench. My first object is to provide for increasing the grip on the object to be turned in proportion to the amount of power required to turn the same. My second object is to afford facilities for easy and quick adjustment of the wrench to the object to be turned. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents the wrench complete ready for operation. Fig. 2 represents the adjustable lever by which the grip is increased, and by which the wrench is adjusted to different-sized nuts and pipes, &c.

The lever is attached by a rivet or pivot-pin, which passes through a slot at right angles to the lever, allowing it to slide back and forth on the rivet. When the lever stands at right angles with the main part of the wrench, the shank of the inside jaw slides back and forth through a loop, which keeps it in place, thus enabling the operator to easily adjust the wrench to any-sized object. When the wrench is properly adjusted, by drawing the lever toward the opposite end from the one adjusted to the object to be turned the cogs on the lever mesh in the cogs on the shank of the inside jaw and press down on the jaw, thus diminishing the space between the two jaws and gripping the object to be turned.

Referring to the accompanying drawings, the main bar or portion A is provided at one end with a jaw B and at its other with a jaw C. The jaw C is adapted for use as a pipe-wrench or for turning round rods or pipes,

while the jaw B is adapted for use in turning square objects. About centrally between its ends the bar A is provided with a mortise or recess *a*, forming a seat for the operating-lever, presently described. The bar A is also provided about opposite the mortise *a* with a box-like keeper D for the slide-section E. This slide-section is movable longitudinally in the opening *d* of the box D, and is provided at one end with a jaw F, arranged to co-operate with the jaw B and having an opening *f*, which fits over the bar A. At its end opposite the jaw F the bar E is formed or provided with a serrated jaw G, arranged to co-operate with the jaw C. At its side next to the bar A the bar E is provided with a rack of teeth *e*, such rack being of sufficient length to enable the lever H to properly operate to adjust jaws G or F against their fellow jaws C or B, as desired. The operating-lever H is pivoted at a point about midway between the ends of the bar A and within the recess or slot *a*, and is provided with the head I, provided with the elongated opening or slot *i*, and with sets of teeth J J at its opposite ends and a portion K between its teeth J. The teeth J J are arranged at the opposite end of the head and in position to engage the rack *e*, the one for use in forcing the jaw G toward jaw C and the other for forcing jaw F toward the jaw B in the use of the wrench for turning round or square objects, as before referred to.

In pivoting the operating-lever the pivot-pin L is passed through the slot *i*, so that the head I may be readily moved to set one or the other sets of teeth J to engage the rack, or may be set to adjust both such sets of teeth clear of the rack *e*. When so adjusted, the handle-arm of the lever will be about at right angles to the bar A and the portion K of the head will lie adjacent to the rack *e*, when the slide bar or section E may be freely set back or forth longitudinally.

It will be understood that in operation the handle-arm of the lever is turned toward the end of the wrench opposite that clamping the object to be turned, so that the pressure or force for turning the said object may be exerted directly against the handle-arm of the operating-lever, so that the greater the resistance offered by the object to be turned



the tighter the jaws of the wrench are clamped thereon, thus preventing any slipping of the wrench, as will be readily seen.

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

1. An improved wrench, substantially as described, consisting of the main bar or portion provided at its opposite ends with jaws, the sliding bar or portion held to and movable longitudinally along the main portion and provided at its opposite ends with jaws arranged to co-operate with those of the main portion, and the operating-lever pivoted to the main portion and arranged to engage and operate the sliding portion, the said lever being pivoted at approximately the center of the main portion and having its handle end arranged to be turned toward and adjacent to either end of the said main bar, whereby the jaws of the wrench may be tightened on the object being turned in proportion to the resistance offered by such object, all substantially as and for the purposes set forth.

2. In a wrench, substantially as described, the combination of the main bar or portion, the slide bar or portion held to and movable along the main portion and provided with a toothed rack, and the lever pivoted to the main portion and provided with a head hav-

ing teeth to engage the rack of the slide portion, and having adjacent to the said teeth a portion which, when turned next to the rack, will lie clear thereof, whereby the lever may be adjusted to set the operating-lever to mesh the rack of the slide portion, or clear of such rack to permit the free longitudinal movement or adjustment of the slide portion, substantially as and for the purposes set forth.

3. The improved wrench herein described, consisting of the main bar or portion having jaws at its opposite ends, the slide bar or portion held to and movable along the main portion, provided at its ends with jaws arranged to co-operate with those of the main portion and provided between its ends with a toothed rack, the operating-lever provided with a head having an elongated opening or slot for the pivot-pin and provided at the ends of said head with rack-teeth to engage the rack of the slide-bar, and between said ends with a portion arranged when turned next to the rack to lie clear thereof, and the pivot-pin passed through the slot of the head, all substantially as and for the purposes set forth.

HERMAN SCHEATZKA.

Witnesses:

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