(No Model.)

H. PHILLIPS.

PIPE WRENCH.

No. 454,917. Patented June 30, 1891.

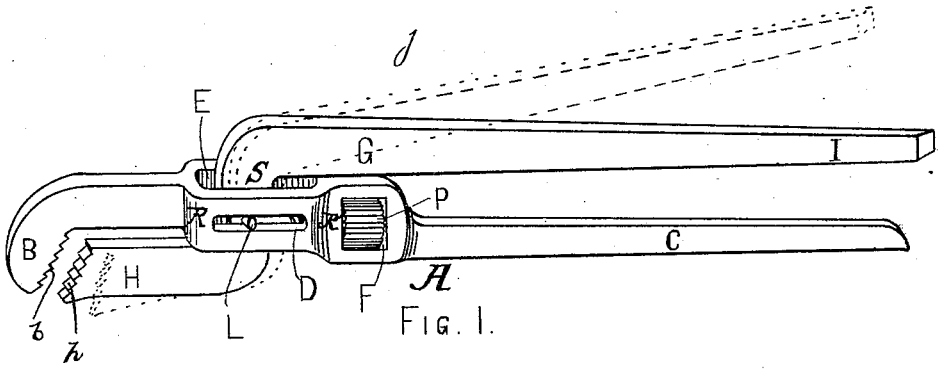

FIG. 1.

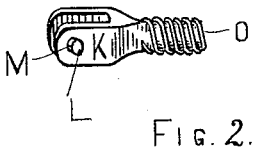

FIG. 2.

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HENRY PHILLIPS, OF CHICAGO, ILLINOIS.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 454,917, dated June 30, 1891.

Application filed June 19, 1890. Serial No. 356,005. (No model.)

To all whom it may concern:

Be it known that I, HENRY PHILLIPS, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Pipe-Wrenches, of which the following is a full, clear, and exact specification.

My invention relates to pipe-wrenches such as are used in gas and plumber work and the like. It is illustrated in the accompanying drawings, wherein—

Figure 1 shows a side view of the pliers, dotted lines indicating them when extended; and Fig. 2 shows a detail of the sliding pivot-block.

Like parts are indicated by the same letter in both the figures.

A is the straight bar, having a foot-piece B, with the elongated serrated edge *b* at one end and the handle C at the other and enlargements R and R′ intermediate the foot-piece and handle.

D is a slot through the enlarged portion R of the bar A in one direction, and E is a slot perforating the said enlargement in the transverse direction.

F is a slot or aperture through the enlargement R′, the said aperture F being connected with the central opening in the bar caused by the intersection of the two apertures D and E.

G is the companion bar, having the clamping-jaw H at one end, provided with the elongated serrated face *h*, and the handle I at the other, said jaw being offset from the handle by the neck S.

K is a bifurcated sliding pivot-block, having the aperture M, through which the pivot-pin L passes, and having the screw-threaded stem O to receive the thumb-nut P, which rests in the aperture F.

The enlargement R, having the aperture D, constitutes a housing for the companion bar, and is hereinafter referred to as the "housing R," and the enlargement R′, having the aperture F, constitutes a housing for the nut P, and is hereinafter referred to as the "housing R′."

The use and operation of my invention are as follows: The sliding pivot-block passes within the housing R in the center of the bar A, its screw-threaded end brought to the edge of the aperture or slot F in the housing R′, and the thumb-nut then placed in such aperture and the parts brought together, so that the rotation of the thumb-nut will cause the pivot-block to reciprocate upon the bar. The companion bar G is now passed through the aperture E in the housing R of the straight bar A and between the sides of the bifurcated pivot-block, and the pivot-pin is passed through the pivot-block, the companion G, and the two longitudinal slots D in the first-mentioned bar. By driving out the pivot-pin the parts may be easily separated, so as to permit of replacing broken or worn portions or for other purposes. If the bars of the wrench are set so as to have when parallel to each other a distance of, say, one-half inch between their serrated ends, they will clearly be capable of gripping a one-half-inch pipe or nut, and they may be separated by rotation upon the pivot-point or by separating the handles on which their edges are serrated by an interval—as, for example, of an inch—when they will still be capable of with accuracy gripping a pipe or nut, but so that any part varying from one-half inch to an inch and a quarter may be gripped by the wrench without gripping the bars upon each other. If now it be desirable to set them for gripping still larger parts, it may be done by reciprocating the parts upon each other by rotating the thumb-nut. It will be readily seen that this construction gives a wide and varied field of use to the apparatus and that the device will be applicable to quite a variety of sizes of nuts or pipes without readjustment, and can be easily readjusted whenever it is necessary. It is clear that the parts could be considerably varied without departing from the spirit of my invention. The bars are so connected together that they are capable of oscillating upon each other, or at the same time they reciprocate with reference to one another. By arranging the pivot-block K so that it shall slide in a path parallel to the length of the tool, I insure that the gripping-faces of the opposing jaws B and H shall occupy the same positions relative to each other, whether they be moved close together or far apart.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is as follows:

The combination of the straight bar having the enlarged portions R and R′ and the slots E and D and F, with the bar G, having the angle, as shown, and passing through the slot E, the pivot-block K, having the jaws between which the bar G passes and the aperture M and the screw-threaded portion O, the thumb-nut P to engage the portion O, said pivot-block being adapted to reciprocate within the slots E and F, and a pin L, which passes through the bar G and the block K and rests in the sides of the slot D, said bars provided with the opposite elongated serrated jaws or faces *b* and *h*, whereby the jaws may be moved toward or from each other in a line parallel to the length of the tool, and the bars are pivoted together so as to be rotated upon each other on the pin which receives substantially all of the pressure of the work, the pivot-block being substantially free from such pressure.

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