

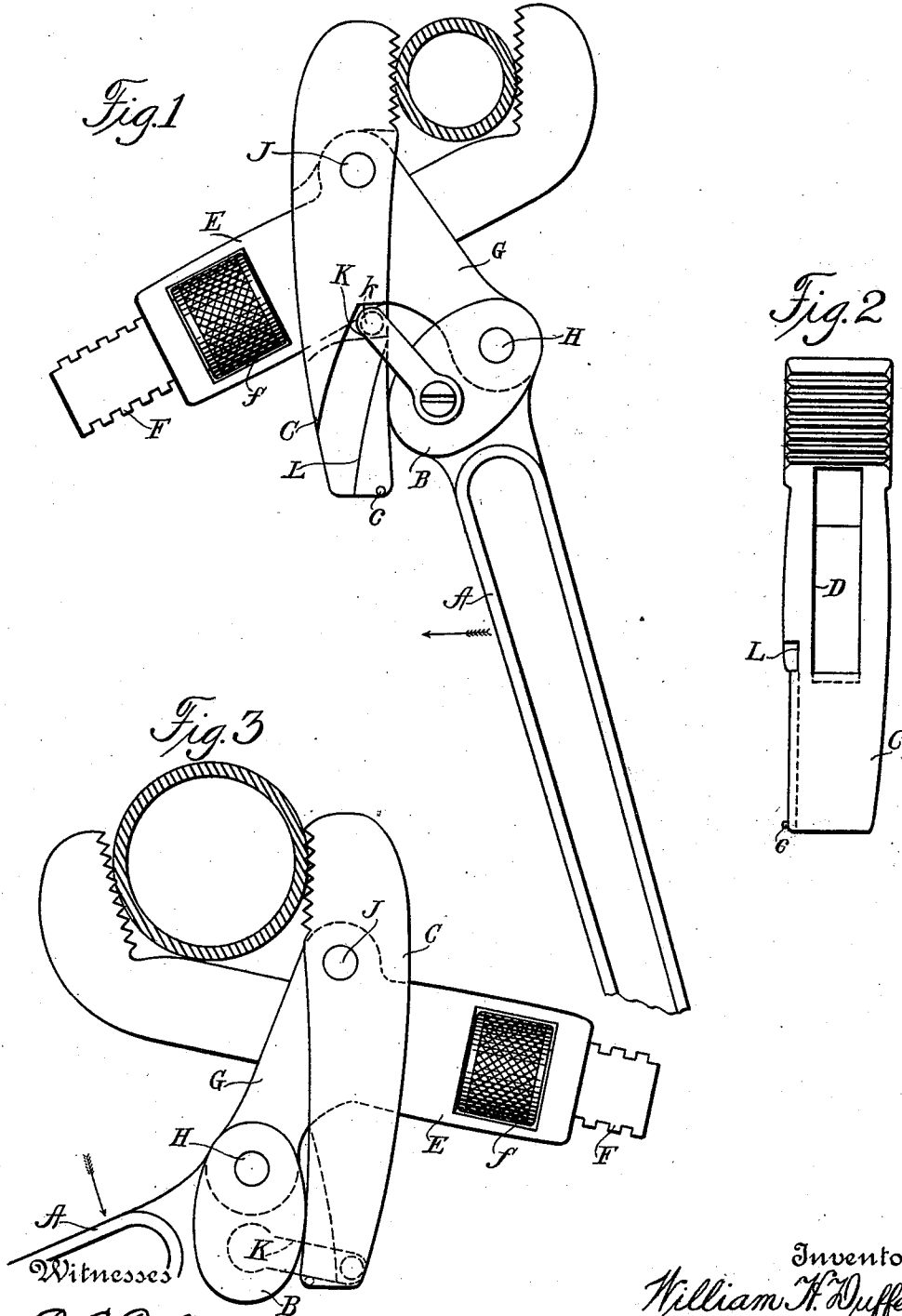
W. H. DUFFEY.

PIPE WRENCH.

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1,000,724.

Patented Aug. 15, 1911.



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WILLIAM H. DUFFEY, OF SOUTH BETHLEHEM, PENNSYLVANIA.

PIPE-WRENCH.

1,000,724.

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To all whom it may concern:

Be it known that I, WILLIAM H. DUFFEY, citizen of the United States, residing at South Bethlehem, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

This invention relates to pipe wrenches, and has for its object the production of a wrench having parts of special construction and arrangement enabling the invention to be conveniently and expeditiously used in corners or in narrow spaces, exerting an unusually strong grip upon the object clamped between the jaws, but which may be instantly released.

This invention belongs to that class that are provided with a cam-operated lever jaw, and a threaded nut-operated jaw.

The special construction and arrangement comprising this invention are set out in the accompanying drawings, of which—

Figure 1 represents a view of one side with the operating handle in one position. Fig. 2 is a face view of the lever jaw, and Fig. 3 is a side view of the opposite side of the invention from that side illustrated in Fig. 1, and showing the handle in another position.

The same letter is employed to refer to the same part throughout the description and drawings.

The handle A has a cam head B, normally in contact with the lever jaw C. The lever jaw C has through it a slot D, best shown in Fig. 2, and a jacket E is located within the slot D, and serves for a holder and guide for the threaded jaw F, which is moved with respect to its jacket by a nut f in the customary manner. The jacket E has a side arm or extension G, and the extremities of the arm G are connected with the cam head B of the handle and with the upper portion of the lever jaw B, by the pivot pins H and J as illustrated.

It will be observed that a special and distinguishing feature of the construction and arrangement of the parts of this invention, consists in the location of the jacket, the axis of which is always inclined to the axis of the lever jaw.

The remaining parts of this invention are thought to be most intelligibly described in

connection with the explanation of the mode of operation.

Considering Fig. 1, let it be assumed that the invention has been placed on a pipe and the threaded jaw F properly adjusted by the nut f. Now, if the handle A is forced in the direction of the arrow, the cam head acts against the lower portion of the lever jaw C strongly pressing its teeth against the pipe, with the pivot pin J as a fulcrum. The reaction tends to move the pivot H and arm G together with the jacket E in a contrary direction, which is resisted by the contact of the teeth of the threaded jaw F with the pipe. The resulting grip is found in practice to be unusually strong, and the teeth of the jaws bite into the pipe. It is desirable, in the usual operation of turning a pipe, by working the handle back and forth, that the grip should be promptly loosened. To detach the jaws from the pipe, when the handle is moved in a direction contrary to the arrow, an arm K is provided and it is secured to the cam head B. The arm K has a pintle k, that engages the side of recess L in the surface of the lever jaw C and frees the teeth of the lever from the pipe. In Fig. 1 the arm K is shown at its uppermost position, with the pintle k at the top of the recess L.

In ordinary work the parts are in about the positions shown in Fig. 1, but, where the work must be performed in a narrow space, as for example, between joists in a building in connecting up hot water or steam heating pipes, the parts may be arranged as illustrated in Fig. 3, with the handle A extended to one side. There is no change in the operation.

Having now described this invention, and explained its mode of operation, what I claim is:—

1. In a pipe wrench, the combination with a handle having a cam head, of a lever jaw provided with a longitudinal slot and having its lower portion arranged in contact with said cam head, a jacket arranged in the slot of the said lever jaw and having portions pivotally connected with the said lever jaw and with the cam head of the handle, the said jacket being always inclined with respect to the axis of said lever jaw, a threaded jaw having a shank constructed to pass movably through the said jacket,

and a nut constructed and arranged to act upon the said threaded jaw and upon the jacket to adjust the said threaded jaw.

2. In a pipe wrench, the combination with
5 a handle having a cam head, of a lever jaw provided with a longitudinal slot and having its lower portion arranged in contact with said cam head, a jacket arranged in the slot of the said lever jaw and having portions pivotally connected with the said lever
10 jaw and with the cam head of the handle, the said jacket being always inclined with respect to the axis of said lever jaw, a threaded jaw having a shank constructed

to pass movably through the said jacket, 15 a nut constructed and arranged to act upon the said threaded jaw and upon the jacket to adjust the said threaded jaw, and means connected with the handle and constructed to engage the lever jaw to release the grip 20 of said jaw.

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

WILLIAM H. DUFFEY.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."