J. G. & O. G. JOHNSON.
Wrench.

No. 215,128. Patented May 6, 1879.

Fig: 2.

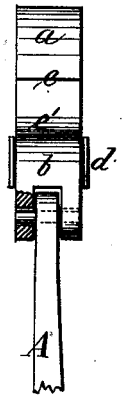

Fig: 1.

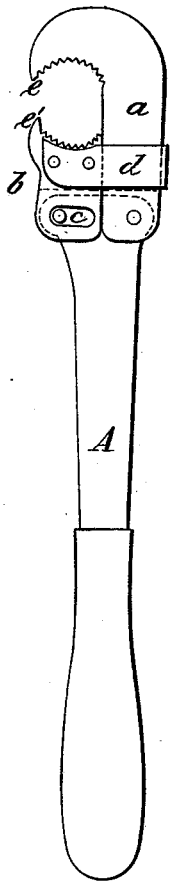

Fig: 3.

Fig: 4.

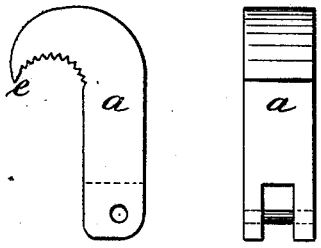

Fig: 5.

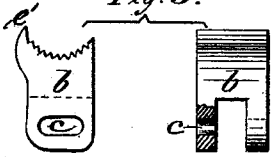

Fig: 6.

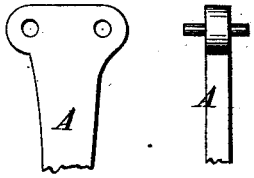

Fig: 7.

WITNESSES:

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C. Sedgwick

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BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN G. JOHNSON AND OLIVER G. JOHNSON, OF GIRARDVILLE, PA.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **215,128**, dated May 6, 1879; application filed November 25, 1878.

To all whom it may concern:

Be it known that we, JOHN G. JOHNSON and OLIVER G. JOHNSON, of Girardville, in the county of Schuylkill and State of Pennsylvania, have invented a new and Improved Wrench, of which the following is a specification.

This invention relates to an improvement in pipe-wrenches for making screw-connections between pipes and couplings, &c., the object whereof is to supply a wrench simple and cheap in construction and easily operated.

The invention will first be described in connection with the drawings, and then pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation of our improvement. Fig. 2 is a front view. Fig. 3 is a rear view; and Figs. 4, 5, 6, and 7 are details of the improvement.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A is the handle of the wrench, to the top whereof, on one side, is pivoted the jaw *a*, while parallel with this is pivoted another jaw, *b*, the former being the upper jaw to hook over the tube, while the latter is the under jaw. Jaw *b* has horizontal slots *c*, into which the pivots on handle A enter.

Passed around jaw *a* is a strap, *d*, the ends whereof are fastened to the sides of jaw *b*. This holds the two jaws together parallel.

The operation of the wrench is as follows: When about to be applied to a pipe or tube jaw *a* is turned back on its pivot from jaw *b*, but as they are connected together by the strap *d* they both turn on their pivots; but, being on separate pivots or axes, jaw *a* slides up through the strap *d*, thus increasing the distance between the lips *e e'* of the jaws, the slot *c*, in jaw *b* permitting the end thereof to move laterally, and thus allow jaw *a* to turn freely. When there is sufficient space between the lips *e e'* to admit the pipe, and it gets well in between the jaws, jaw *a* is moved back till the pipe is held firmly between the two, and then the whole wrench is turned in the direction of its open jaws. It bites into the pipe or tube firmly and securely, and the harder the act of turning the more secure is the hold, as the farther it is turned in that direction the closer the jaws are brought together.

The wrench will turn as large a pipe as will go between the lips *e e'* when the jaws are thrown back as far as they will go, and as small a one as the space between the faces of the jaws when thrown forward as far as they will go.

We are aware that it is not new, broadly, to pivot wrench-jaws to the handle and hold them together by a strap or analogous connection; but

What we claim as new is—

A wrench whose jaws *a b* are pivoted near the end of handle A, the jaw *a* passing through the loop of a strap, *d*, that is rigidly fastened to jaw *b*, and the latter cross-slotted at *c*, as and for the purpose specified.

JOHN GEORGE JOHNSON.
OLIVER GOLIGHTLY JOHNSON.

Witnesses:
B. J. SMITH,
JOSEPH COWELL.