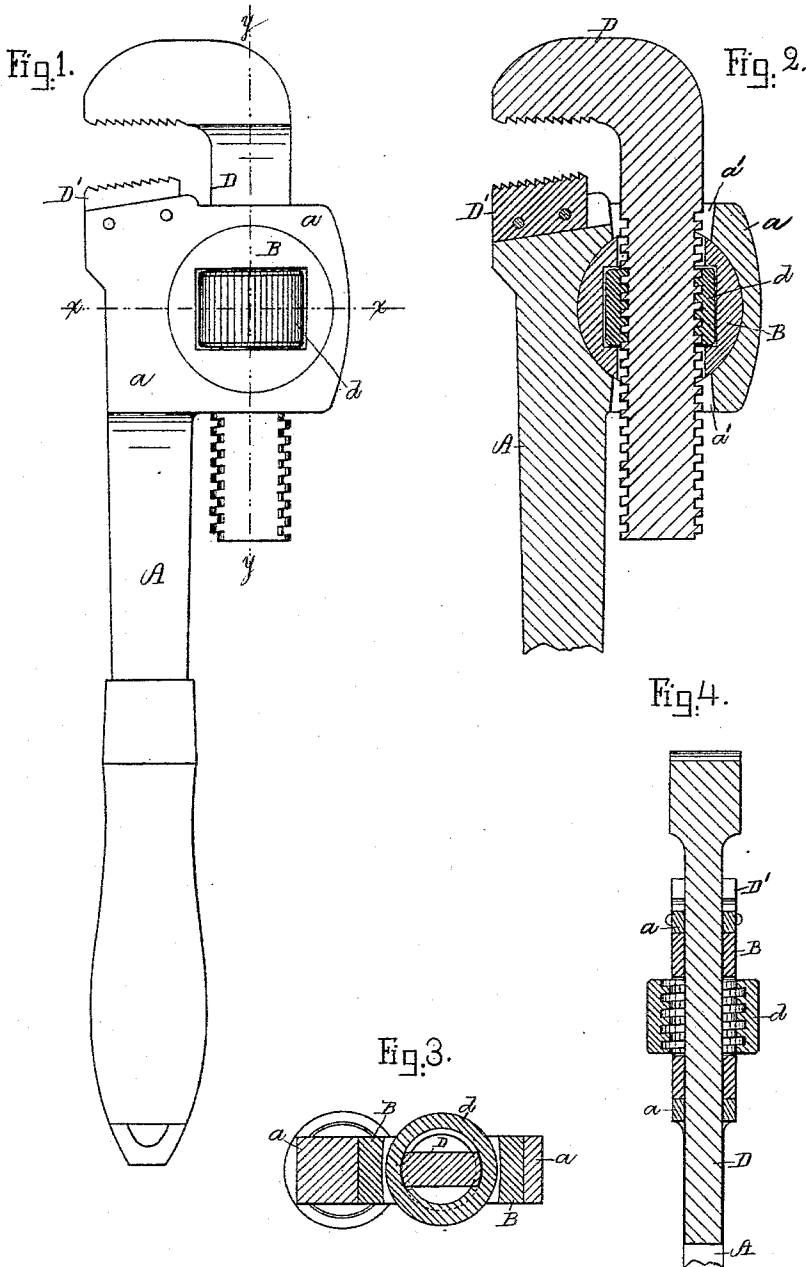


(No Model.)

J. F. GUTHRIE, Jr.
WRENCH.

No. 359,722.

Patented Mar. 22, 1887.



Witnesses.

Lauritz N. Möller.
John R. Snow.

Inventor.

James F. Guthrie Jr.
by his attorney,
J. L. Magruder.

UNITED STATES PATENT OFFICE.

JAMES F. GUTHRIE, JR., OF SOMERVILLE, ASSIGNOR OF ONE-HALF TO
THOMAS C. ASHLEY, OF BOSTON, MASSACHUSETTS.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 359,722, dated March 22, 1887.

Application filed January 9, 1886. Serial No. 188,057. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. GUTHRIE, JR., of Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Pipe-Wrenches, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan of my improved wrench; Fig. 2, a longitudinal section of the same; and Figs. 3 and 4 sections on lines *x x* and *y y*, respectively, of Fig. 1.

My invention consists in the combination of a carrier which receives the movable jaw and its nut with the main parts of a wrench, whereby the movable jaw is tipped on the axis of the carrier when the wrench is used.

In the drawings, bar A is enlarged at *a*, and there bored to receive carrier B, and slotted at *a'* to admit movable jaw D. Carrier B is slotted to receive jaw D, and has a hole through it in which is nut *d*.

When the parts are arranged together, as shown, and the wrench is applied to a pipe in the usual way, jaw D will tip on the axis of carrier B in such wise as to make my wrench a more effective instrument than any other known to me.

The jaw D' is preferably made removable.

I am aware of Letters Patent No. 166,428, August 3, 1875, to Stouffer; No. 182,492, September 19, 1876, to Stouffer; No. 133,804, December 10, 1872, to Secor; and No. 65,111, May 28, 1867, to Ordner, and disclaim all that is shown in them, my pipe-wrench differing essentially from each of the pipe-wrenches set forth in said Letters Patent, because its movable jaw D, carrier B, and nut *d* are all carried in the enlargement *a* of one end of the main bar A, whereby my wrench is made stronger and more convenient for practical work than any pipe-wrench known to me.

What I claim is—

The main bar A, enlarged at *a*, with the jaw D' at one end, in combination with carrier B, mounted in the bore of the enlarged part *a* of bar A, nut *d*, and movable jaw D, whose shank is threaded, as shown, and passes through the enlarged part *a* of bar A, carrier B, and nut *d*, all substantially as described.

J. F. GUTHRIE, JR.

Witnesses:

J. E. MAYNADIER,
JOHN R. SNOW.