No. 760,063. PATENTED MAY 17, 1904.

J. EMIG & A. McKAIG, Sr.

WRENCH.

APPLICATION FILED APR. 16, 1903.

NO MODEL.

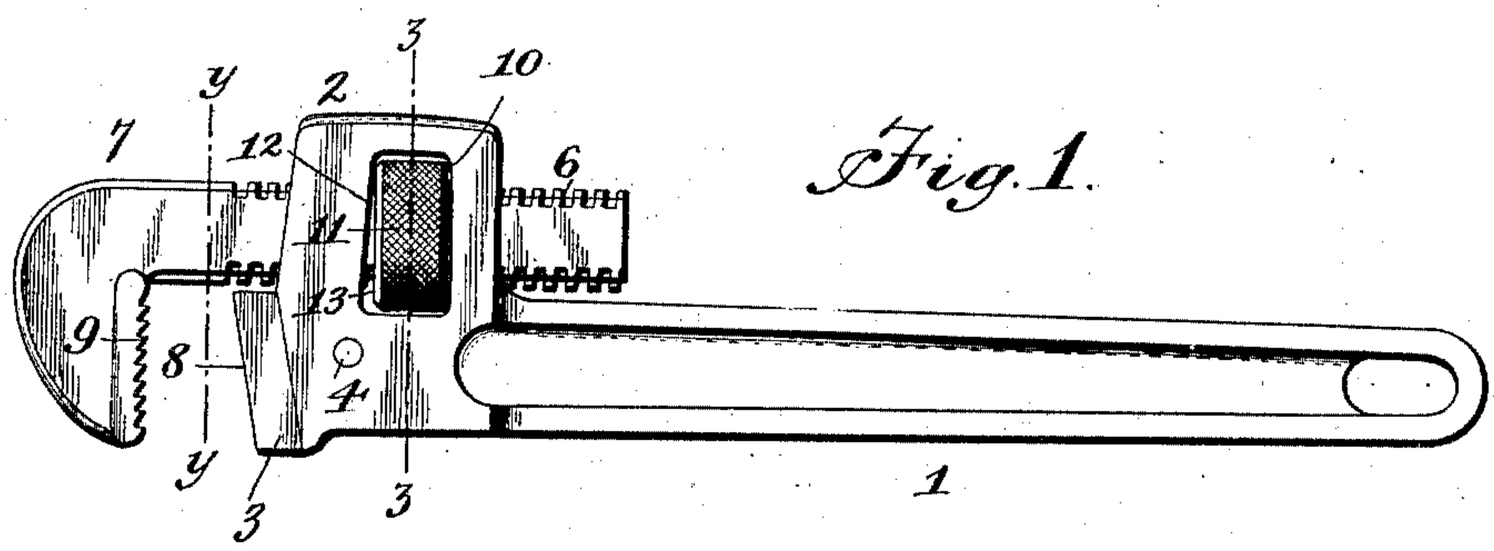

Fig. 1.

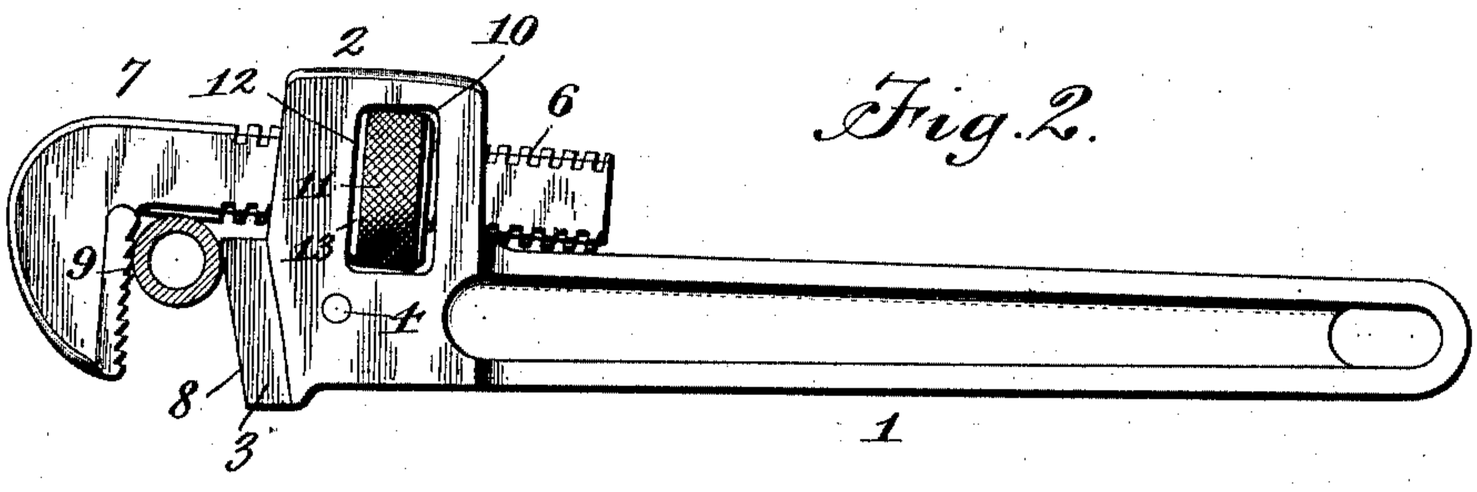

Fig. 2.

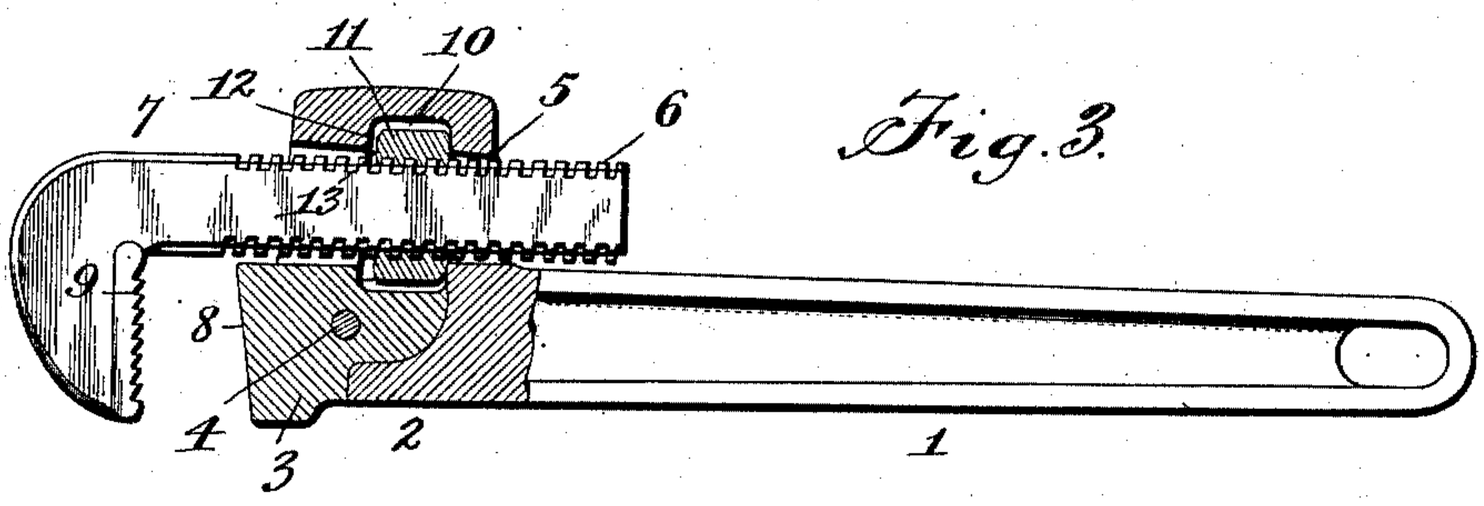

Fig. 3.

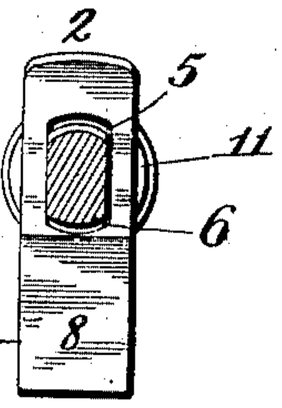

Fig. 4.

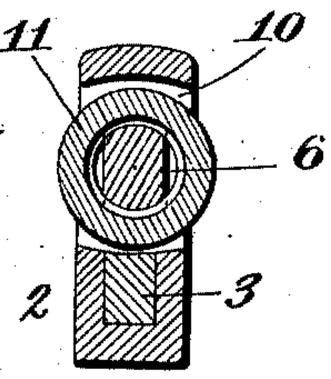

Fig. 5.

Witnesses:

Julius Lankes

Bert Mason

Jacob Emig

and Archibald McKaig, Sr. Inventors.

By Neukart & Burkhart

Attorneys.

No. 760,063. Patented May 17, 1904.

UNITED STATES PATENT OFFICE.

JACOB EMIG AND ARCHIBALD McKAIG, SR., OF WAYLAND, NEW YORK, ASSIGNORS TO AMERICAN DROP FORGING & TOOL COMPANY, OF WAYLAND, NEW YORK, A CORPORATION OF NEW YORK.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 760,063, dated May 17, 1904.

Application filed April 16, 1903. Serial No. 152,925. (No model.)

To all whom it may concern:

Be it known that we, JACOB EMIG and ARCHIBALD MCKAIG, Sr., both of Wayland, Steuben county, New York, have invented certain new and useful Improvements in Wrenches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

Our invention relates to an improved wrench of that type having a sliding jaw provided with a shank guided on the handle carrying the fixed jaw; and it has for its object the production of a simple, inexpensive, and durable wrench of this type comprising few parts and which can be quickly released from the pipe at all times.

To this end the invention consists in features of novelty and in the construction and arrangement of parts, as will be hereinafter described, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of our improved wrench, showing the position of the sliding-jaw shank and its adjusting-nut when the wrench is not in use. Fig. 2 is a similar view showing the position of the sliding-jaw shank and its adjusting-nut when the wrench is applied to a pipe for turning the same. Fig. 3 is a sectional elevation of the same. Fig. 4 is a cross-section on line *y y*, Fig. 1. Fig. 5 is a cross-section on line *z z*, Fig. 1.

Referring to the drawings in detail, like numerals of reference refer to like parts in the several figures.

The numeral 1 designates the handle, having an enlargement or head 2 grooved in its end face to receive a hardened wearing-piece 3, which is securely held in said groove by a transverse pin 4 or in any other suitable manner. The said head is provided with a longitudinal opening 5, in which the threaded shank 6 of the slidable jaw 7 is guided. The outer or gripping face 8 of the wearing-piece 3 is inclined rearwardly from the upper end and coöperates with the serrated inner face 9 of the slidable jaw to take a firm grip of the pipe. The inner face of the upper confining-wall of the longitudinal opening 5 is inclined downwardly from its front end, and formed in the enlargement or head 2 of the handle, so as to intersect the said longitudinal opening, is a transverse opening 10, in which the adjusting-nut 11 is held. The said transverse opening is somewhat wider than the adjusting-nut 11, and the inner face of its front confining-wall 12 is inclined forwardly from its upper end and forms a solid bearing for the said adjusting-nut. The longitudinal opening 5 is somewhat deeper than the width of the shank to permit the latter to move freely therein when the wrench is being applied to a pipe. This movement allows the wrench to be quickly applied to a pipe and tends to more firmly grip the same. When the wrench is applied to a pipe, the outer face 13 of the adjusting-nut bears against the inclined inner face of the wall or bearing 12, and the shank 6 of the slidable jaw bears with its upper face against the inclined upper confining-wall of the longitudinal opening 5 and with its lower face at the inner end thereof against the handle. This causes the entire strain on the wrench to be divided and thrust upon the front wall of the hollow head 2, the upper wall thereof, and the handle, thus providing a very durable wrench which is perfect in action and which can be freely and quickly released from a pipe by exerting a backward pressure on the handle.

By inclining the front confining-wall of the transverse opening 10 forwardly from its upper end the jaws are allowed to come together to a certain extent only, which is sufficient, however, to grip the pipe and bring the adjusting-nut squarely against said inclined wall to obtain full bearing thereagainst. The jaws are therefore prevented from closing farther, which prevents collapsing of the pipe and causes the entire pressure exerted to be borne by the said inclined wall, the upper inclined wall of the head, and the handle directly in rear of the head.

Having thus described our invention, what we claim is—

1. The combination of a handle provided

with a fixed jaw and an enlargement or head having a transverse opening providing a front bearing-wall having a forwardly and downwardly inclined inner face, said enlargement or head having also a longitudinal opening providing an upper confining-wall having a downwardly and rearwardly inclined inner face, a jaw movable toward and from the fixed jaw and having a threaded shank movable in said longitudinal opening, and an adjusting-nut on said shank and being held in said transverse opening so as to bear with its outer face against the said inclined front bearing-face of the transverse opening when the wrench is gripped to a pipe.

2. The combination of a handle provided with a fixed jaw and an enlargement or head having a transverse opening providing a front bearing-wall having a forwardly and downwardly inclined inner face, said enlargement or head being formed integrally with the handle and having also a longitudinal opening, a jaw movable toward and from the fixed jaw and having a threaded shank movable in said longitudinal opening, and an adjusting-nut on said shank held in said transverse opening and being adapted to bear with its outer face against said inclined bearing-face of the transverse opening when the wrench is gripped to a pipe.

3. The combination of a handle provided with a fixed jaw and an enlargement or head having a transverse opening provided with a front bearing-wall having a forwardly and downwardly inclined inner face, said enlargement or head being also provided with a longitudinal opening having its upper wall inclined downwardly from its front end, a jaw movable toward and from the fixed jaw and having a threaded shank movable in said longitudinal opening, and an adjusting-nut on said shank held in said transverse opening and being adapted to bear with its outer face against the inclined bearing-face of said transverse opening when the wrench is gripped to a pipe.

In witness whereof we affix our signatures in the presence of two subscribing witnesses.

JACOB EMIG.
ARCHIBALD McKAIG, Sr.

Witnesses:
HENRY L. MOORA,
PHILLIP HOFFMAN.