No. 813,892. PATENTED FEB. 27, 1906.

J. W. HIELSCHER & W. F. STANDLEY.

WRENCH.

APPLICATION FILED APR. 11, 1905.

Fig. 1.

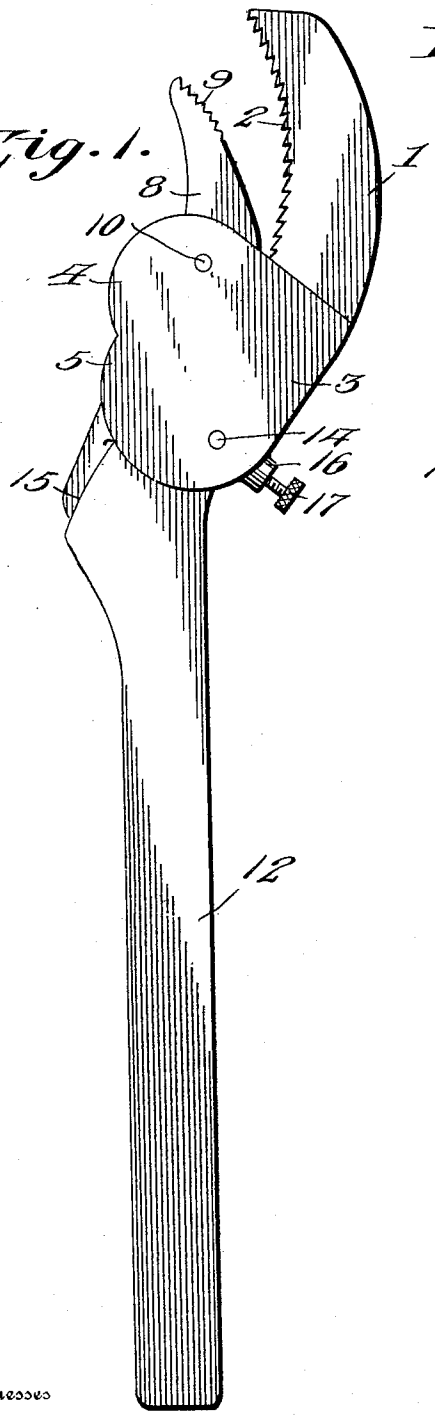
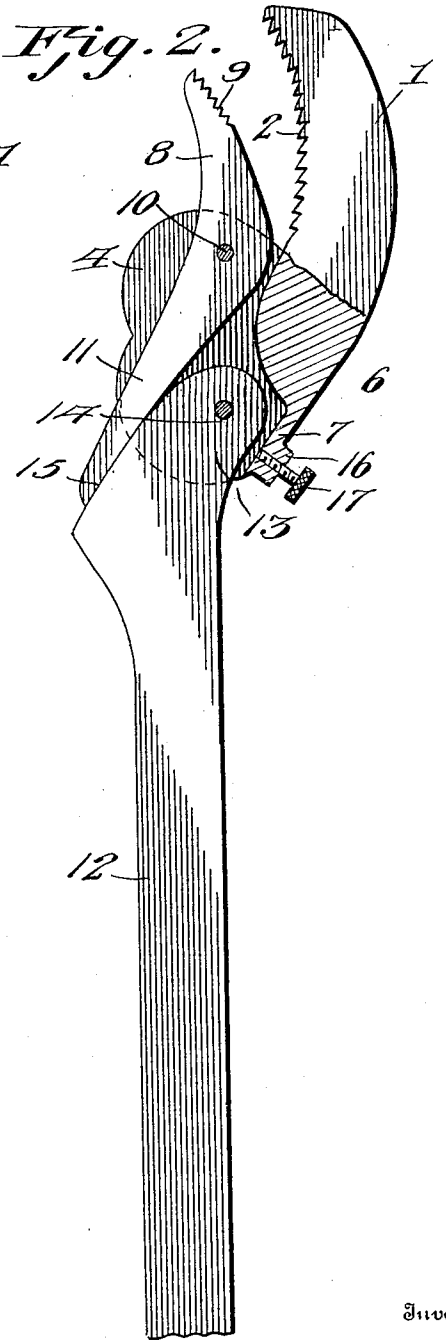


Fig. 2.



Witnesses

Frank B. Hoffman.

C. C. Hines.

Inventors

John W. Hielscher and

William F. Standley

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

JOHN W. HIELSCHER AND WILLIAM F. STANDLEY, OF KNIMAN, INDIANA.

WRENCH.

No. 813,892. Specification of Letters Patent. Patented Feb. 27, 1906.

Application filed April 11, 1905. Serial No. 254,979.

To all whom it may concern:

Be it known that we, JOHN W. HIELSCHER and WILLIAM F. STANDLEY, citizens of the United States, residing at Kniman, in the county of Jasper and State of Indiana, have invented new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches for gripping, holding, and turning pipes, bars, and other like objects, the purpose of the invention being to provide a wrench which is simple of construction, durable and efficient in use, and inexpensive of manufacture, and which affords a wide range of adjustment of the jaws to grip objects of different sizes.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of a wrench constructed in accordance with our invention, the jaws appearing in their normal or open position; and Fig. 2 is a similar view, one of the ears of the fixed jaw-carrier being broken away to clearly show the construction of the parts.

Referring now more particularly to the drawings, the numeral 1 represents the fixed jaw of the wrench, which is of arcuate form and provided with a toothed or serrated concave gripping-face 2 and is rigidly mounted upon a tilting carrier or support 3, comprising spaced plates or ears 4 and 5. These ears are open or unconnected except at the rear, where they are joined and closed by the body portion 6 of the fixed jaw 1, which projects between the same and is formed integrally therewith, the front side of said body portion being curved rearwardly and terminating in advance of an extension 7, projecting from the the rear portion of the body.

Coöperating with the fixed jaw 1 is a movable or adjustable jaw 8, having a toothed or serrated gripping-surface 9. The jaw 8 curves outwardly or away from the jaw 1 to provide an intermediate receiving-space for the object to be gripped, which converges toward the carrier 3, and the jaw 8 is pivotally mounted between the ears 4 and 5 upon a pivot-pin 10, supported by said ears, and provided with an integral shank 11, extending outwardly at an angle in a direction away from the body portion 6 of the fixed jaw 1.

An operating-handle 12 is provided for supporting and operating the jaws and is formed with an angularly-extending toe portion 13, which projects into the space between the ears 4 and 5 and lies between the extension 7 of the body 6 and the shank 11 of the jaw 8 and is pivotally mounted upon a pin 14, carried by the ears. This toe portion enlarges the outer end of the handle, which is formed with an outer-curved or cam-operating face 15.

In operation the wrench is adjusted to bring the object to be gripped between the serrated faces of the jaws 1 and 8, after which the handle 12 is rocked on its pivot to the left in Fig. 2, thus moving the cam-face 15 to ride upon the shank 11 of the jaw 8 and move the latter toward the jaw 1, thus causing the jaws to grip the object between them, after which the handle may be moved in the same direction to turn the object, if desired. By the construction described it will be seen that the action of the cam-face 15 will cause the jaw 8 to be moved with sufficient force to clamp the object securely between the same and the fixed jaw 1, but not with sufficient force to crush or otherwise injure the object, as the pressure of the jaws will be distributed over a maximum surface or area. In order to render the wrench capable of gripping small objects with a minimum adjustment of the movable jaw 8, it is desirable to provide means whereby the carrier 3 may be adjusted or rocked upon the pivot 14 relative to the handle 12 to effect an inward movement of the jaw 8 relative to the jaw 1, and thereby diminish the space between them. To this end the extension 7 of the body 6 is formed with a boss 16, having a threaded bore for the reception of a thumb or adjusting screw 17, the shank of which is arranged to impinge at its inner end against the outer face of the toe 13. By adjusting this screw the carrier 3 may be rocked upon the pin 14 to vary the position of said carrier relative to the handle and to thereby cause the cam-face 15 to force the shank 11 outward to a greater or less extent, thus bringing the jaw 8 closer to the jaw 1.

From the foregoing description, taken in connection with the accompanying drawings, the construction and mode of operation of the invention will be understood without a further extended description.

Changes in the form, proportions, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed as new is—

A wrench comprising a carrier, a fixed jaw supported thereby, a movable jaw having a shank arranged at an angle thereto and provided with an abutting face, an operating-handle pivoted to the carrier, whereby the latter is adapted to tilt thereon, said handle having a cam-face to engage the abutting face of the shank and swing the pivoted jaw, and an adjusting device on the carrier to engage the handle, whereby the carrier may be adjusted on the handle to regulate the normal distance between the jaws.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN W. HIELSCHER.
WILLIAM F. STANDLEY.

Witnesses:
JUDSON J. HUNT,
MOSES TRAPOLD.