

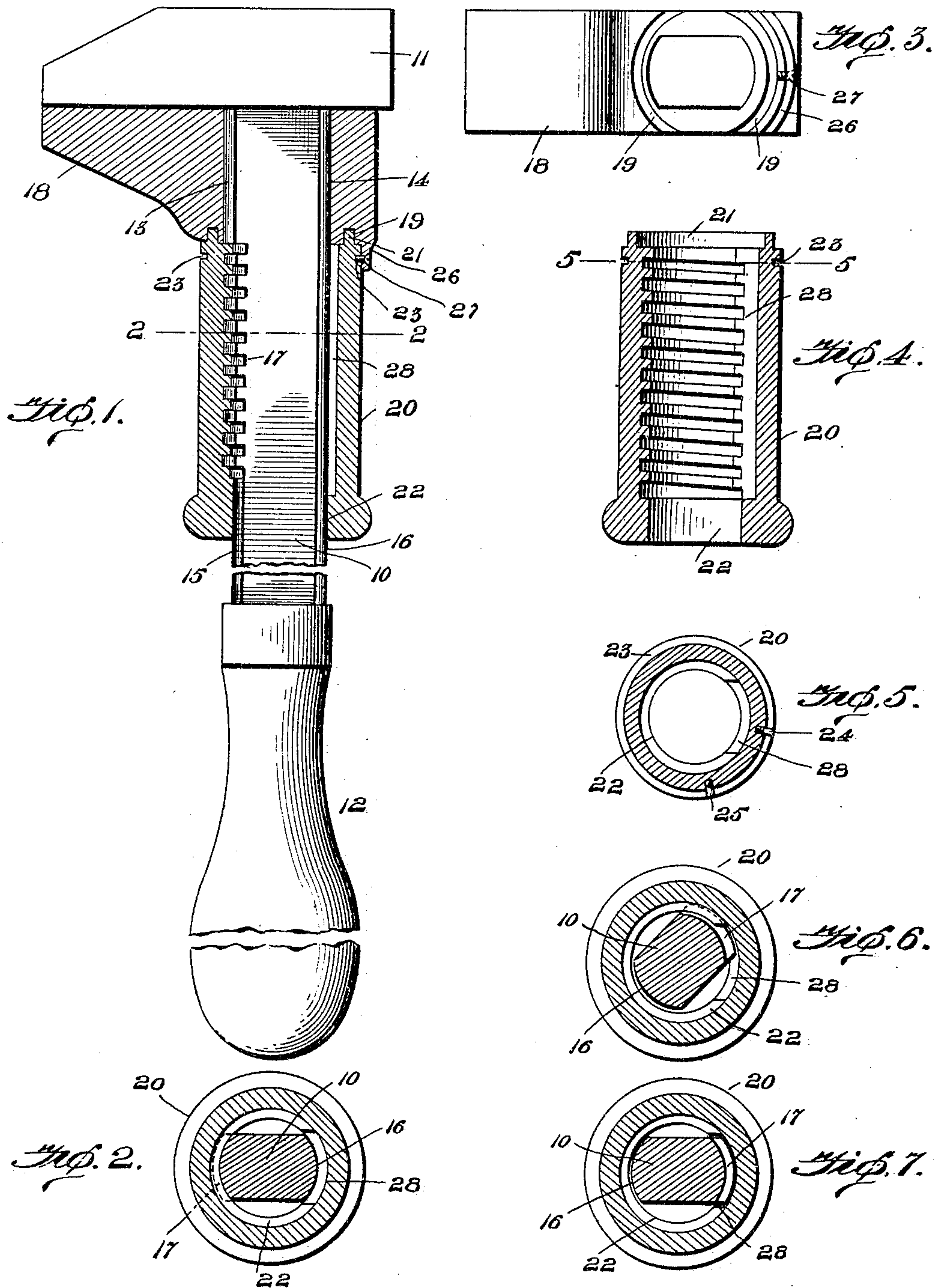
No. 788,141.

PATENTED APR. 25, 1905.

H. J. PAWLING.

WRENCH.

APPLICATION FILED APR. 30, 1904.



Witnesses
E. J. Stewart
C. H. Woodward

Harry J. Pawling,
Inventor
by *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

HARRY J. PAWLING, OF NEW COLUMBIA, PENNSYLVANIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 788,141, dated April 25, 1905.

Application filed April 30, 1904. Serial No. 205,789.

To all whom it may concern:

Be it known that I, HARRY J. PAWLING, a citizen of the United States, residing at New Columbia, in the county of Union and State of Pennsylvania, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to that class of implements known as "quick-action wrenches," and has for its object to produce a device of this character simple in construction, strong, durable, and easily operable, and by means of which the nut, pipe, or other article being held may be tightly pinched between the jaws.

With these and other objects in view, which will appear as the nature of the invention is better understood, the same consists in certain novel features of construction, as hereafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that the invention is not necessarily limited thereto, as various changes in the shape, proportions, and general assemblage of the parts may be resorted to without departing from the principle of the invention or sacrificing any of its advantages, and the right is therefore reserved of making all the changes and modifications which fairly fall within the scope of the invention and the claim made therefor.

In the drawings thus employed, Figure 1 is a sectional elevation of the improved wrench. Fig. 2 is a transverse section on the line 2 2 of Fig. 1. Fig. 3 is a bottom plan view of the movable jaw detached. Fig. 4 is a longitudinal section of the threaded sleeve. Fig. 5 is a transverse section of the sleeve on the line 5 5 of Fig. 4. Figs. 6 and 7 are sectional views similar to Fig. 2, showing different relative positions of the parts to illustrate the operation.

The improved wrench consists of a stock 10, rectangular in cross-section and having at one end the stationary jaw 11 and with a handle 12 of any suitable construction at the other

end. The portion of the stock 10 adjacent to the jaw 11 has its opposite edges 13 14 curved in segments of a circle, while the portion of the stock adjacent thereto has the same opposite edges curved in the segment of a circle, as at 15 16, but of smaller diameter and disposed eccentric to the larger segmental portions 13 14. The curved surfaces 14 and 16 are in alinement longitudinally of the stock, while the surface 15 is inset from the surface 13. For a portion of its length the surface portion 15 is screw-threaded, as at 17, the outer faces of the threads being substantially uniform with the curved surface 13. A movable jaw member 18 is mounted to slide over the stock 10 and with its interior conforming to the larger diameter of the stock and the outer surface of the threaded portion 17 and provided in its lower side with an annular channel 19, eccentric to the larger diameter and concentric to the smaller diameter of the stock.

Surrounding the stock 10 and rotative thereon is a sleeve 20, having an annular rib 21 at one end for engaging the annular channel 19 in the movable jaw and with the other end provided with an intumed flange forming a bearing 22 for engaging the smaller diameter of the stock opposite the screw-threads 17. The sleeve 20 is internally screw-threaded, excepting at one side at 28 for a distance equal to the narrower diameter of the stock or the length of the screw-threads 17, the threads of the sleeve engaging the threads of the stock, as shown. Near the end of the sleeve 20 adjacent to the movable jaw member an annular channel 23 is formed, and inserted into this channel are spaced stop-pins 24 25. Depending from the jaw member 18 is a lip 26, having a pin 27 for engaging the channel 23.

The stop-pins 24 25 are so disposed that when the sleeve 20 is rotated to bring one of the pins 24 or 25, as the case may be, into engagement with the stop-pin 27 the threaded side of the stock will be opposite the vacant or unthreaded portion of the sleeve, and when this occurs it will be obvious that the movable jaw member, together with the sleeve coupled thereto, may be quickly moved bodily upon the stock to any desired position, and when

the desired adjustment is accomplished a simple reverse movement of the sleeve will reengage the teeth of the stock with the teeth of the sleeve and not only firmly and instantly couple the movable jaw to the stock, but also cause a positive and powerful movement of the jaw member 18 toward the stationary jaw member throughout the remainder of the rotative movement of the sleeve or until the pin 27 engages the other pin 24 or 25.

The length of the threads 17 is only about one-fourth of the length of the threads of the sleeve 20, so the sleeve has a rotation of three-fourths or more of a complete revolution. Hence the longitudinal movement of the jaw 18 will be equal to three-fourths or more of the pitch of the threads. This is a very important advantage, especially when the device is employed upon pipe-wrenches, as the necessary grip may thus be quickly and easily applied to enable the jaws to effect the requisite bite upon the pipe. The ability to thus forcibly move the jaw member 18 is also of great advantage when the improvements are applied to ordinary nut or monkey wrenches, as the nuts can be thereby tightly gripped when required.

The device may be arranged to work either right or left handed, as will be obvious, without material structural change and may be manufactured in any size or of any required or suitable material.

The lip 26 may be placed at any desired point on the jaw member 18, and the pins 24

25 may be replaced by a solid member inserted into the channel 23, or the channel may be arranged partially around the sleeve, as may be required to accomplish the same results.

It will be noted that a very strong, durable, and compact implement is produced which may be inexpensively manufactured and may be advantageously manufactured in all sizes and for all classes of work.

Having thus described the invention, what is claimed is—

In a wrench, an outer jaw member, a stock rigid therewith and having two flat and two curved sides, one of the curved sides being smooth, and the other threaded, an inner slidable jaw mounted on the stock, and an internally-threaded sleeve connected to the slidable jaw, the threads extending completely around the internal wall of the sleeve except for a distance about equal to the width of one of the curved faces of the stock, that end of the sleeve remote from the jaw having an intumed flange bearing against the unthreaded curved face of the stock and serving as a rigid support when said unthreaded curved face is directly opposite the unthreaded portion of the sleeve, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HARRY J. PAWLING.

Witnesses:

JOSEPH A. RANCK,
NINA H. RANCK.