July 22, 1924. 1,502,192

J. HELWIG

WRENCH AND PROCESS OF MANUFACTURING THE SAME

Original Filed March 1, 1917

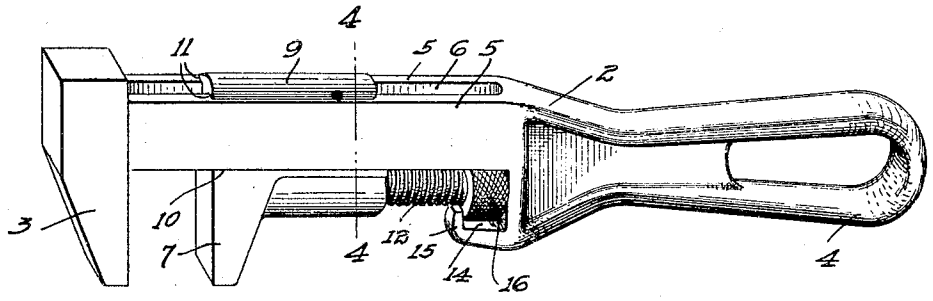

FIG. 1.

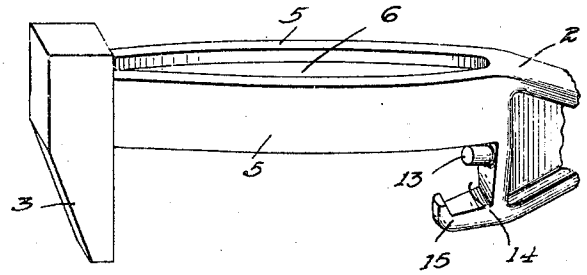

FIG. 2.

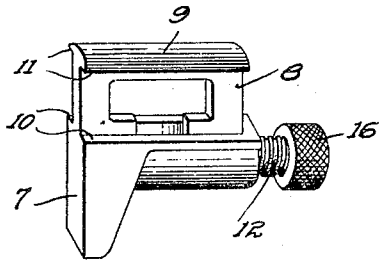

FIG. 3.

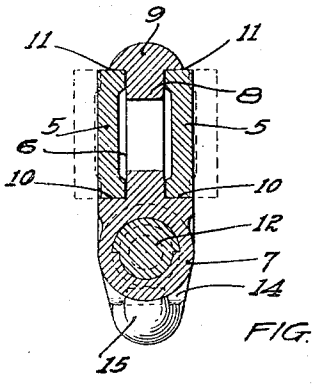

FIG. 4.

WITNESSES
M. R. M
E. A. Paul

INVENTOR
JOHN HELWIG
BY Paul & Paul
ATTORNEYS

Patented July 22, 1924. 1,502,192

UNITED STATES PATENT OFFICE.

JOHN HELWIG, OF ST. PAUL, MINNESOTA.

WRENCH AND PROCESS OF MANUFACTURING THE SAME.

Application filed March 1, 1917, Serial No. 151,670. Renewed October 20, 1921. Serial No. 509,202.

To all whom it may concern:

Be it known that I, JOHN HELWIG, citizen of the United States, resident of St. Paul, county of Ramsey, State of Minnesota, have invented certain new and useful Improvements in Wrenches and Process of Manufacturing the Same, of which the following is a specification.

The object of my invention is to provide a wrench composed of but few parts and of such construction that these parts can be easily and quickly assembled and when in operating relation cannot accidentally become separated.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in a wrench and process of making the same, as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification,

Figure 1 is a perspective view of a monkey wrench embodying my invention,

Figure 2 is a perspective view of a portion of the shank of the wrench,

Figure 3 is a perspective view of the movable jaw detached from the shank,

Figure 4 is a sectional view on the line 4—4 of Figure 1.

In the drawing, 2 represents the wrench shank, 3 the stationary jaw thereon at one end, and 4 the handle on the opposite end. This shank is composed of a casting or forging, which may be of malleable iron, steel, or any other suitable metal or composition which, when molded or forged, will have side bars 5, outwardly bowed in the molding or forging process upon each side of a longitudinal opening 6. 7 represents a movable jaw having a web 8 thereon, provided with a head 9 made by casting or forging, as may be preferred. The molding or forging of the shank to provide the longitudinal opening and the bowed side bars forms the first step in the process. The longitudinal opening is of sufficient width when the side bars are bowed outwardly to allow the insertion of the head 9 and the web 8 between them, and when this has been done, pressure is applied to the bars 5 to squeeze them toward each other into parallel relation, the jaw 7 having bearing surfaces 10 on each side of the web to engage the longitudinal edges of the bars on one side and the head 9 having corresponding surfaces 11 to contact with the edges of the bars 5 on the opposite side of the shank, and thus the bars will form guides for sliding the movable jaw back and forth between them. Movement of this jaw is obtained by providing a screw 12 therein to receive a pin 13 formed within a recess 14 in said shank, a lug 15 being provided for engaging a finger grip 16 that is mounted on the screw 12, revolution of this nut revolving the screw and feeding the movable jaw back and forth in the usual way.

I have found that a wrench of this character can be manufactured at a comparatively small expense, being composed of but few parts, and can be easily and quickly assembled to form a strong, durable wrench.

I claim as my invention:

1. A process of manufacturing a monkey wrench which consists in first forming a longitudinal opening in the wrench shank, bowing the side bars of the shank outwardly to widen said opening and then inserting the web and head of the movable jaw into said opening and finally pressing said side bars toward one another to form guides for said head and web thereon.

2. A process of manufacturing a monkey wrench which consists in forming the shank of the stationary jaw with a longitudinal opening and outwardly bowed side bars or rails, inserting the head and web of a movable jaw through said opening between said bars, then pressing the said bars toward each other until they are in parallel relation, the head of said web being guided by said bars and holding said web in place between them.

3. A wrench, comprising a shank, having a fixed jaw integral with said shank at one end thereof, and at its other end an integral extension forming a handle, said shank having a longitudinal slot therein, a movable jaw slidable in said slot and having a web with a head wider than said slot, said jaw and head being formed integrally with said web and having bearing surfaces engaging the opposite edges of said shank, and an adjusting screw arranged between said movable jaw and said handle.

4. A wrench comprising a fixed jaw, a

handle, and an interposed slotted shank, said parts being all formed integrally, a movable jaw having integrally therewith a web and a flanged head, said web being arranged in the slot in the shank, and held therein by engagement of the flanged head and the movable jaw with the walls of the shank at the edges of said slot, and an adjusting screw interposed between said movable jaw and said handle.

In witness whereof, I have hereunto set my hand this 20th day of March, 1916.

JOHN HELWIG.

Witnesses:
A. HELWIG,
M. HELWIG.