

M. COURTNEY.
WRENCH.
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995,223.

Patented June 13, 1911.

Fig. 1.

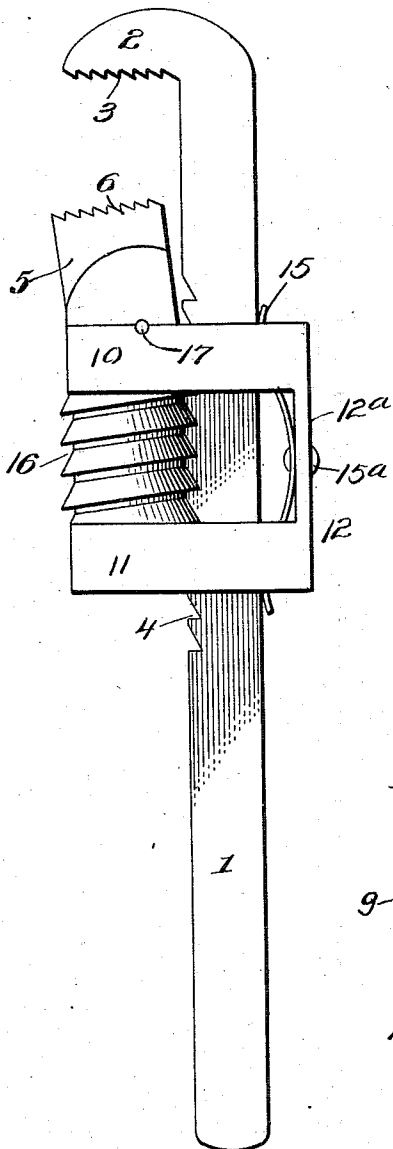


Fig. 2.

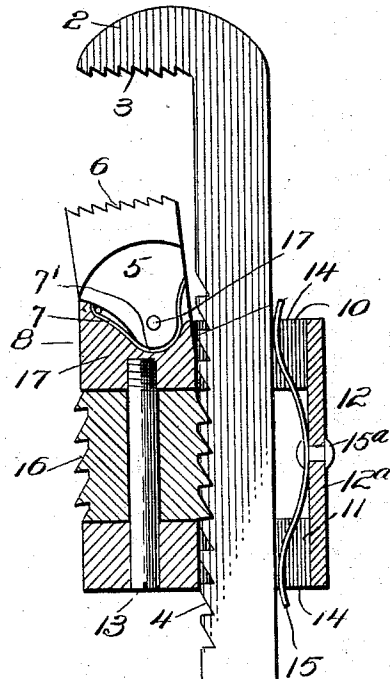
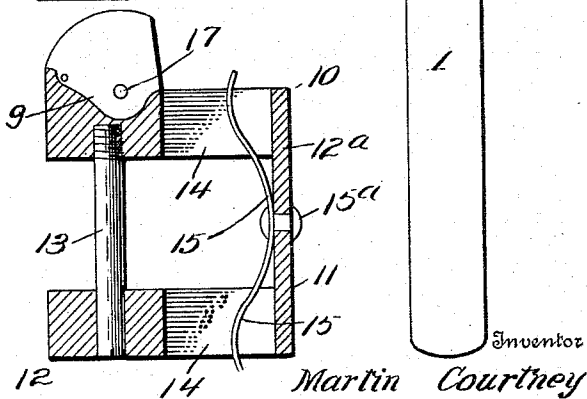


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

MARTIN COURTNEY, OF LIMA, OHIO, ASSIGNOR OF ONE-HALF TO THOMAS D. KIDD, OF LIMA, OHIO.

WRENCH.

995,223.

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To all whom it may concern:

Be it known that I, MARTIN COURTNEY, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented new and useful Improvements in Wrenches, of which the following is a specification.

This invention is an improved wrench adapted for use both as a monkey wrench and as a pipe wrench and the said invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

The object of this invention is to provide an improved wrench of this class with novel means whereby the sliding jaw may be almost instantly adjusted to any desired position with reference to the fixed jaw, a further object being to effect improvements in the means for adjusting the sliding jaw, and in the construction of the sliding jaw and the frame which carries the same.

In the accompanying drawings:—Figure 1 is an elevation of a wrench constructed in accordance with my invention. Fig. 2 is partly an elevation and partly a sectional view of the same. Fig. 3 is a detail sectional view of the frame which carries the sliding jaw, the latter and also the adjusting screw being omitted.

The stem or handle 1 of my improved wrench is formed with a fixed jaw 2 at one end, which jaw is provided with a serrated engaging face 3. On the edge of the stem or handle from which the fixed jaw extends are teeth or serrations 4. The movable jaw 5 is provided with a serrated engaging face 6 at one end which is disposed opposite the serrated face 3 of the fixed jaw 2 and the inner end of said movable jaw 5 is narrowed and is placed and pivotally mounted in a socket 9 in the member 10 of the frame 12. A spring 7 is secured at one end in said socket and the opposite end of said spring bears against the inner side of said jaw 5, the function of the spring being to normally tilt or incline the jaw 5 with reference to the stem 1 as shown. The frame 12 comprises in addition to the member 10, a member 11 which is connected to the member 10 by a screw pin 13 and said members 10, 11, are also connected together by a back 12^a. Said members 10, 11, are provided with openings 14 through which the stem or handle 1 extends so that the said frame 12, which carries

the movable jaw 5, is slidable longitudinally on said stem. The width of the openings 14 considerably exceeds that of the stem 1 so that the movable jaw-carrying frame is adapted for lateral movement on the stem 1 in addition to longitudinal movement thereon. A spring 15 has its central portion secured to the inner side of the back 12^a as at 15^a. The end portions of said spring extend through the openings 14 and bear against the rear side of the stem 1 so that the spring serves to normally hold the frame 12 in the position shown in Figs. 1 and 2 with the adjusting screw 16 which is mounted on the pin 13 in engagement with some of the teeth or serrations 4 of the stem. The movable jaw 5 is secured to the member 10 of the frame 12 by a pivot pin 17.

It will be observed by reference to Figs. 1 and 2 of the drawings that owing to the shape of the inner end of the movable jaw and the action of the spring 7, the said movable jaw is normally disposed in an angular position with reference to the stem 1 and inclines outwardly therefrom so that the serrated face of the said movable jaw is at an angle to the serrated face 3 of the fixed jaw 2. Furthermore, the movable jaw 5, at its narrowed inner end, is rounded at the edge thereof, and likewise the bed or bottom of the socket 9 is rounded correspondingly thereto to receive the same, thus it being obvious that the movable jaw 5 may easily rotate upon the pivot 17 to a limited degree without being interfered with by the adjacent walls of the socket. The spring 7 is shaped correspondingly to the narrowed portion of the movable jaw 5 and is also provided with a rounded medial portion corresponding to the rounded portions of the said inner edge of the jaw and socket therefor. This rounded portion of the spring 7 is snugly interposed between the said rounded portions of the movable jaw 5 and the bottom of the socket 9. Thus it is seen that all strain is relieved from the pivot 17 supporting the said movable jaw 5 when pressure is exerted thereon, so that the pivot will not be fractured or bent during severe usage of the wrench.

In order to adjust the wrench, the frame 12 may be rapidly moved from one position to another by first drawing the same laterally against the tension of the spring 15 so as to cause the screw 16 to disengage the

serrated edge of the stem 1. After the movable jaw has thus been adjusted to the required position, the adjusting screw 16 is then reengaged with the serrated or toothed edge of the stem and may be turned to move the frame 12 slightly as may be required to finish the adjustment of the movable jaw. It will be understood that when the screw 16 is in engagement with the serrated edge of the stem 1, it serves to firmly hold the frame 12 and the movable jaw so as to enable the movable jaw to withstand the stress which is applied thereto in the use of the wrench. Owing to the fact that the movable jaw is initially disposed angularly to a slight extent with respect to the stem 1, when the stress is applied to the wrench, the object, nut, pipe or other work engaged by and between the fixed jaw and the movable jaw will cause the latter to turn and tend to assume a parallel position with respect to the stem 1 and the resulting angular movement of said movable jaw causes the object to be more tightly clutched between it and the fixed jaw, as will be readily understood, so that the greater the stress to which the wrench is subjected the more securely will the work be gripped by and between the fixed and movable jaws.

What is claimed is:—

A wrench of the class described, compris-

ing a shank having a stationary jaw, a laterally displaceable frame slidably mounted upon said shank and having a socket opposite the stationary jaw, a movable jaw pivoted in the socket and having a narrow rounded inner end, the said socket at its bottom wall being correspondingly rounded with respect to the inner end of the movable jaw, a leaf spring having a medial rounded portion corresponding to the inner end of the movable jaw and entirely filling the space between the latter and the bottom of the socket, whereby the movable jaw will have a solid seating within the socket throughout its movements, a fastening member carried by the frame and engaged with one end of the spring, whereby the opposite free end of the latter will play against said movable jaw for normally holding it at a forward inclination, adjusting means carried by the frame and normally engaging the shank for moving said frame, and spring means interposed between the frame and shank to hold the adjusting means engaged with the latter.

In testimony whereof I affix my signature in presence of two witnesses.

MARTIN COURTNEY.

Witnesses:

H. W. STALLTER,
CLIFFORD WEBB.