

L. HERMANN.
WRENCH.

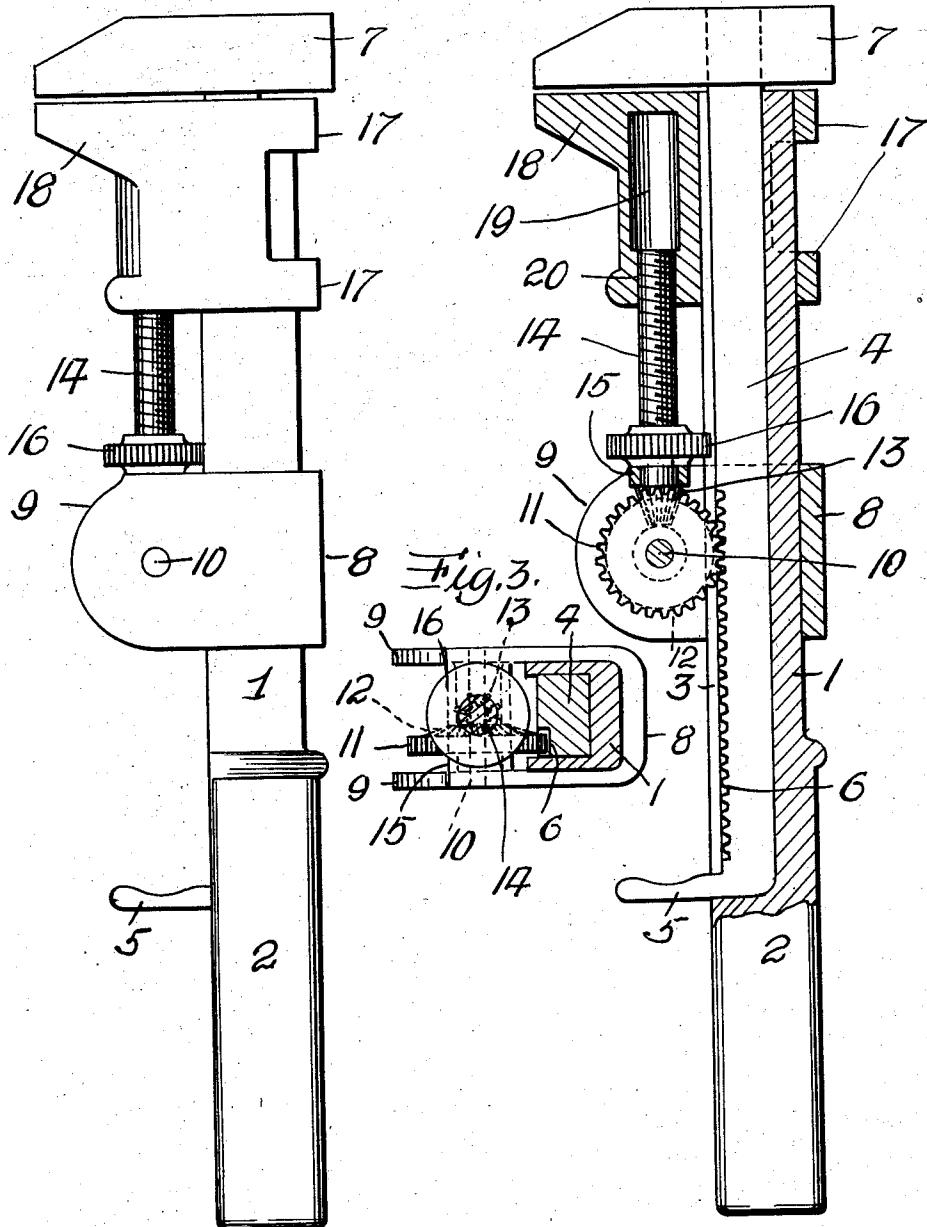
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Fig. 1.

Fig. 2.



WITNESSES:

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LOUIS HERMANN, OF CHICAGO, ILLINOIS.

WRENCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS HERMANN, a subject of the King of Hungary, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to wrenches, and the primary object of my invention is the provision of positive and reliable means, in a manner as will be hereinafter set forth, for simultaneously adjusting the jaws of
15 a wrench whereby said jaws can be easily and quickly placed in engagement with a nut or other object or removed from said nut.

20 Another object of this invention is to provide a wrench with an adjusting mechanism that can be quickly operated or minutely adjusted as occasion may require, whereby the wrench can be manipulated to an advantage by machinists or other arti-
25 sans.

30 A further object of this invention is to accomplish the above results by a combination of mechanical elements that will be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein:—

35 Figure 1 is a side elevation of the wrench, Fig. 2 is a similar view of the wrench partly broken away and partly in section, and Fig. 3 is a horizontal sectional view of the wrench.

40 The reference numeral 1 denotes a shank having a handle portion 2 that is rectangular in cross section and the remaining portion of the wrench is U-shaped in cross section providing a longitudinal groove 3 for a stem 4 that is slidably mounted within the groove 3. The inner end of the stem 4 has a handle 5 extending at right angles
45 to said stem and out of the groove 3 whereby it can be gripped by the hand and said stem shifted within said groove. The inner end of the stem 4 also has the front side thereof provided with a rack 6, said rack being located at one side of the stem 4, as best shown in Fig. 3. The outer end of the stem 4 is provided with a gripping jaw 7 that is suitably mounted upon the end of the stem.

55 Shrunk or otherwise mounted upon the shank 1 is a bearing strap 8 having side

arms 9 projecting from the front side of the wrench. Revolvably mounted in the arms 9 is a pin 10 and mounted upon said pin, between said arms and in closer proximity
60 to one of said arms than the other, is a pinion 11 that meshes with the rack 6. One side of the pinion has a beveled gear wheel 12 meshing with a beveled gear wheel 13 carried by the lower end of a screw 14 that
65 is revolvably mounted in a transverse bearing 15 connecting the edges of the arms 9. Mounted upon the screw 14, above the bearing 15, is a knurled nut 16 that permits of the screw being revolved to raise and lower
70 the stem 4 when a minute adjustment is desired.

Slidably mounted upon the shank 1 and retained thereon by straps 17 is an adjustable jaw 18 provided with a longitudinal
75 socket 19. One end of the socket is reduced and the walls thereof screw threaded, as at 20 to receive the screw 14.

The jaws 7 and 18 can be quickly shifted by moving the handle 5 or if it is desired
80 to minutely adjust the jaws, the nut 16 can be turned by hand. When manipulating the wrench, the finger can be retained upon the handle 5 to retain the jaws 7 and 8 in engagement with the nut or object upon
85 which they are placed.

What I claim is:—

1. A wrench comprising a shank having a longitudinal groove formed in the front side thereof, a stem movably mounted in
90 the groove of said shank and having the inner end thereof provided with a handle, a jaw mounted upon the outer end of said stem, a rack carried by the front side of said stem at one edge thereof, a bearing strap se-
95 cured to said shank, a pinion revolvably mounted in said bearing strap and meshing with the rack, a screw revolvably supported by said bearing strap and adapted to rotate in unison with said pinion, and a jaw
100 slidably mounted upon said shank and adapted to be moved by a rotation of said screw.

2. A wrench comprising a shank, a stem slidably mounted in the front side thereof, a jaw carried by the outer end of said stem,
105 a rack carried by the inner end of said stem, a bearing strap mounted upon said shank, a pinion revolvably mounted in said bearing strap and meshing with said rack, an adjustable jaw slidably mounted upon
110 said shank, a screw revolvably supported by said bearing strap and extending into said

adjustable jaw, and means for imparting a rotary movement to said screw from a movement of said pinion.

3. A wrench comprising a shank, a stem
5 slidably mounted in the front side thereof, a jaw carried by the outer end of said stem, a rack carried by the inner end of said stem, a bearing strap mounted upon said shank, a pinion revolubly mounted in said
10 bearing strap and meshing with said rack, an adjustable jaw slidably mounted upon said shank, a screw revolubly supported by

said bearing strap and extending into said adjustable jaw, means for imparting a rotary movement to said screw from a movement of said pinion, and means carried by said stem to facilitate moving said stem within said shank. 15

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

LOUIS HERMANN.

Witnesses:

JOSEPH FEKETE, Jr.,

FRANK SOLTIER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."