L. PANZER.

WRENCH.

APPLICATION FILED AUG. 21, 1909.

960,691.

Patented June 7, 1910.

Fig. 3.

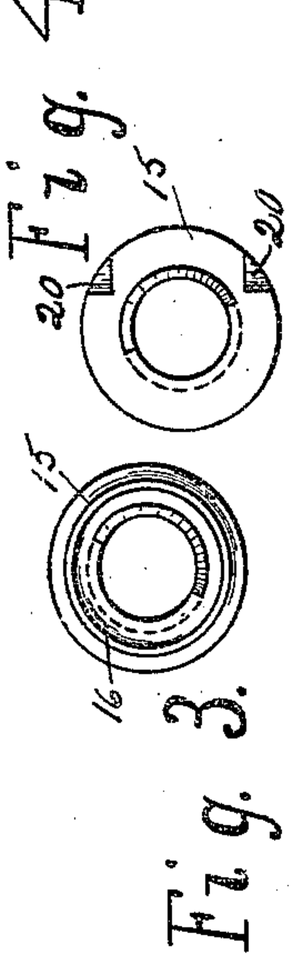


Fig. 4.

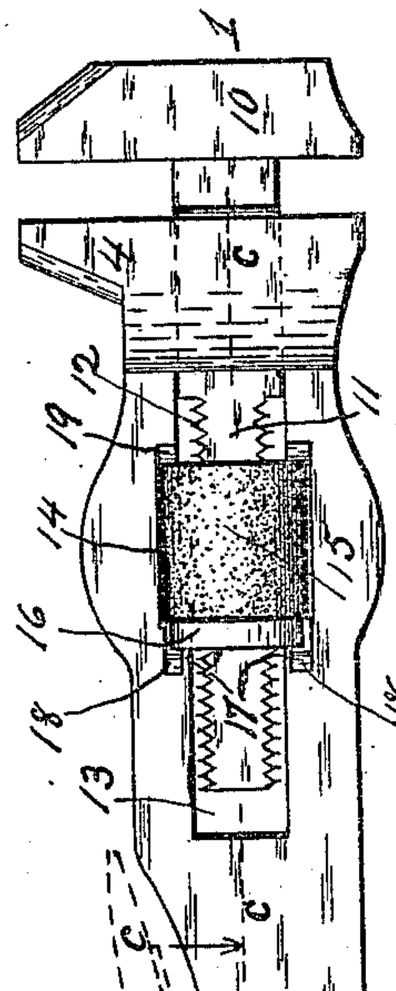


Fig. 6.

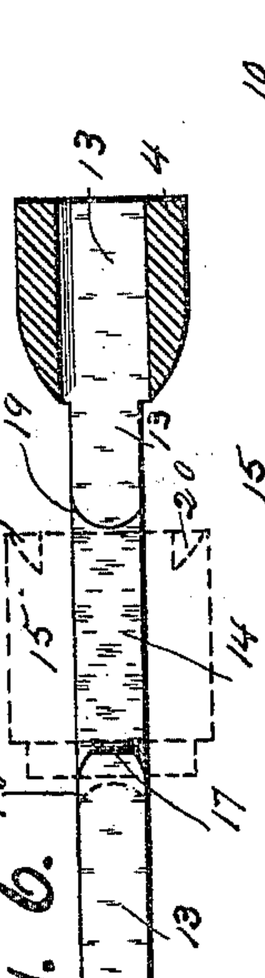


Fig. 5.

Fig. 2.

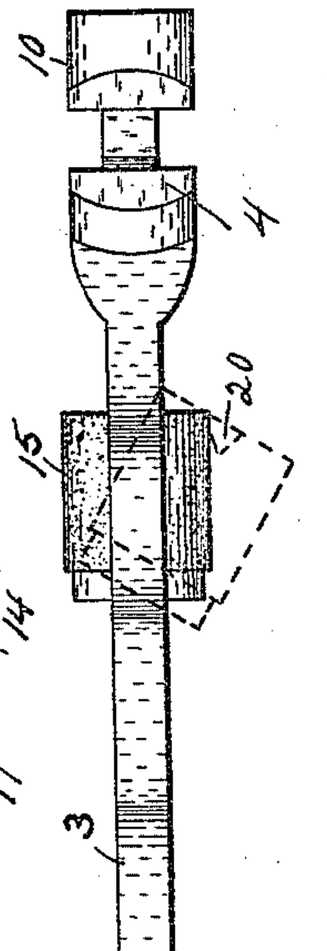


Fig. 9.

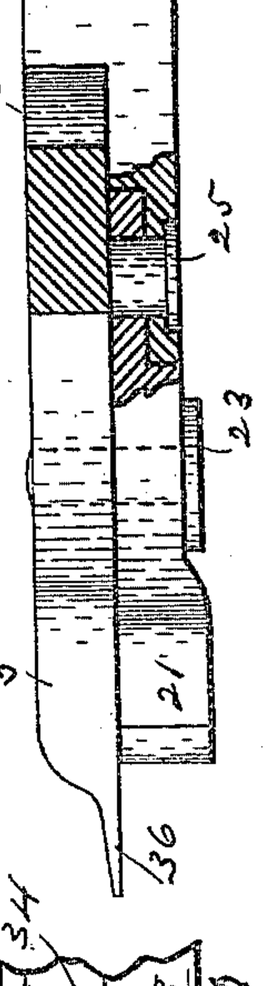


Fig. 8.

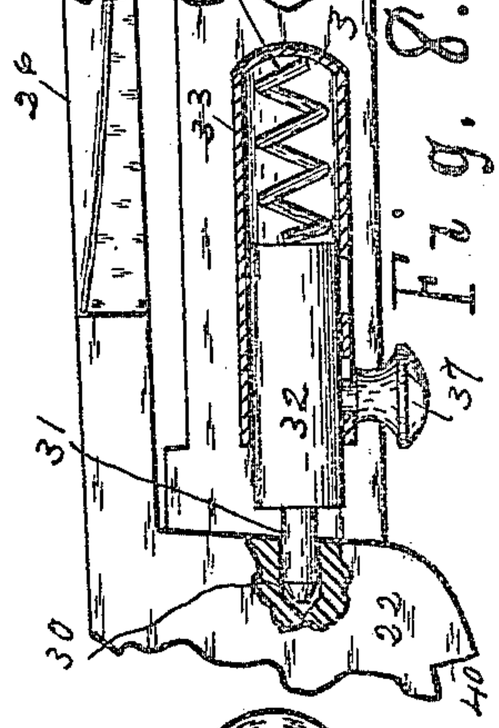


Fig. 1.

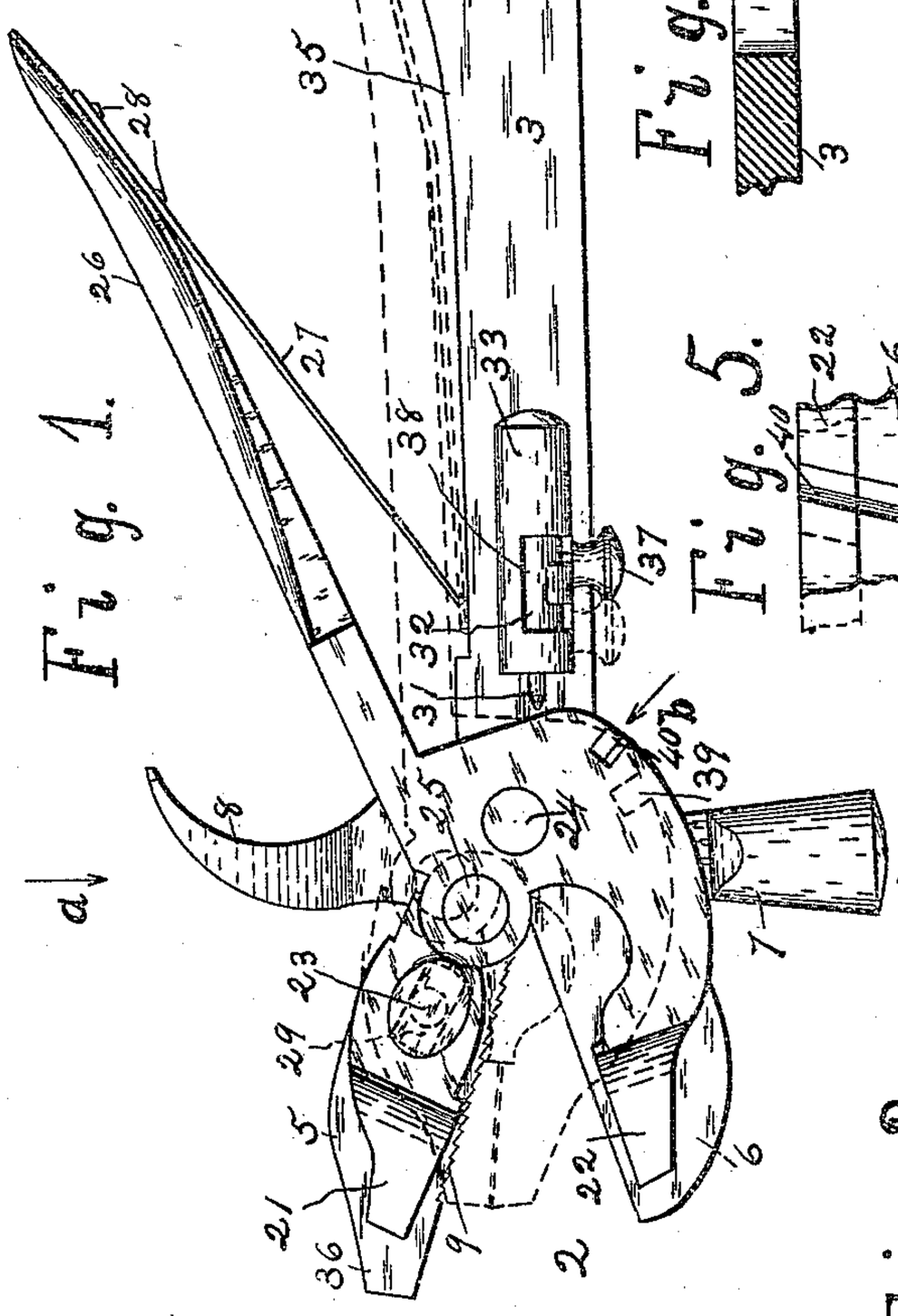
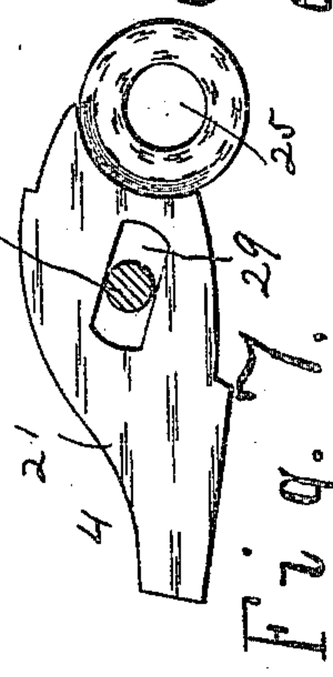


Fig. 7.



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UNITED STATES PATENT OFFICE.

LOUIS PANZER, OF CANANDAIGUA, NEW YORK.

WRENCH.

960,691. Specification of Letters Patent. Patented June 7, 1910.

Application filed August 21, 1909. Serial No. 514,025.

To all whom it may concern:

Be it known that I, LOUIS PANZER, of Canandaigua, in the county of Ontario and State of New York, have invented a new and useful Improvement in Wrenches, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

This invention relates to certain new and useful improvements in wrenches of that class in which are embodied in the one tool a plurality of implements.

It has for its objects, among others, to provide an improved wrench of this general character.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the characters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of the improved implement, with parts shown in two positions by full and dotted lines. Fig. 2 is a view of the implement looking in the direction of the arrow *a* in Fig. 1. Fig. 3 is an end view of the knurled nut employed in connection with the parts forming the monkey wrench. Fig. 4 is a view looking at the opposite end of said nut. Fig. 5 is an elevation of parts indicated by the arrow *b* in Fig. 1, showing the wire-cutting device. Fig. 6 is a longitudinal section of a part of the body portion of the implement, taken on the line *c c* in Fig. 1 looking in the direction of the arrow *c*. Fig. 7 is a plan view of the upper jaw of the pincers. Fig. 8 is a side elevation of parts seen as in Fig. 1, a portion of the lever jaw and the bolt-barrel being vertically and longitudinally sectioned, and a portion of the jaw being broken away. Fig. 9 is a plan of parts at one end of the implement, the parts adjacent the pivot being sectioned and a portion broken away. Figs. 1 and 2 are drawn to a scale of three-quarters the full size, the remaining figures being to a scale full size.

Like characters of reference indicate like parts throughout the several views.

Referring to the drawings the members at the one end 1, constitute a monkey wrench. The members at the opposite end 2 serve as a pipe wrench or the like, a hammer, with a driving head and claws, pincers and a wire-cutter.

3 is the body portion; it is formed at one end with the stationary jaw 4, and at the other end with the jaws 5 and 6, the hammer head 7 and the claws 8. The jaws 5 and 6 are relatively fixed and one of them is toothed as seen at 9, the teeth or notches being turned inward or toward the angle of the jaws as seen in Fig. 1 so as to better hold a rod or pipe.

10 is the movable jaw of the monkey wrench. It is provided with a shank 11 which is screw threaded as seen at 12 and this shank is movable in a longitudinal bore or passage 13 in the body portion and through the stationary jaw as shown in Figs. 1 and 6. The longitudinal passage or cavity in the body portion is formed with an enlargement 14 in which is disposed the nut 15, the periphery of which is roughened or milled as shown for an obvious purpose. The construction of the nut and this cavity and enlargement is such that the nut which is cylindrical may be removed from or inserted into the cavity whenever desired. The nut is formed with a longitudinally-projecting flange 16 as seen in Figs. 1 and 3 this projecting flange being in the form of a hollow ring as seen best in Fig. 3 in which project two tongues 17 extending from the body portion upon opposite sides of the cavity, as a means for holding the nut in place. Adjacent the said tongues the material of the body portion is cut away upon opposite sides as seen at 18, the cut being practically upon a curve as seen by the dotted line at the left of Fig. 6 and as will be evident also from Fig. 1. At the opposite end of the enlargement 14 of the cavity the material of the body portion is cut away as shown at 19 in Figs. 1 and 6, the nut 15 being provided with notches 20 at the outer end so as to clear the two projections 19 when the nut is swung into place. When being put into place the nut is held in an inclined position with relation to the length of the body portion as shown in dotted lines in Fig. 2, the left hand or flanged end of the nut being first entered in place, the nut then being swung to place. Thus connected the nut will hold to its place in every position it may assume except when turned so that the notches 20 will exactly coincide with the rounded parts 19. When the screwed shank

of the movable jaw 10 of the monkey wrench is in its place the nut receiving the same, the nut cannot escape from the body portion. It is to be understood that in order to be removed the nut must be tilted or brought into its inclined position as indicated by the dotted lines in Fig. 2.

21 and 22 are jaws which constitute a pair of pincers. They are mounted for movement independent of the body portion and of the jaws 5 and 6. The jaw 21 rocks on a shaft or pin 23 rigid in the body portion 3, while the jaw 22 rocks or turns on a pivot 24 also rigid in the body portion 3. The said jaws 21 and 22 are pivotally connected by the pivot 25. The jaw 22 is provided with a handle 26 for operating it when desired. A flat spring 27 having one end secured to the under side of this handle portion as shown at 28 has its other end bearing against the adjacent edge of the body portion 3 as seen clearly in Fig. 1 and sliding thereupon, serves to hold the pincer jaws 21 and 22 normally open with the lever or handle 26 swung outward in the position in which it is shown by full lines in Fig. 1. The jaw 21 is provided with an elongated slot 29 in which the pin 23 is received and in which the said pin has movement as will be readily understood by reference to Figs. 1 and 7. When the pincers are in use the upper jaw 21 will have a longitudinal movement on the pin 23 as well as rocking on said pin as will be clearly understood by observing the line of the three pivots 24, 25 and 23, in Fig. 1. When the jaws 21 and 22 are forced together by pressing upon the handle or lever 26, their acting or operating faces meet as indicated by the dotted lines in Fig. 1. The jaw 22 is formed with a depression or the like 30 as seen best in Fig. 8, said hole being in the rear edge or face of the jaw and adapted to receive the pin or reduced end portion 31 of a bolt 32 which is mounted to slide longitudinally in a barrel or casing 33 rigidly affixed to the body portion 3. The bolt is moved by a spring 34 disposed between the inner end of the bolt and the end of the barrel or casing as shown in Fig. 8 and tending to hold the end of the bolt normally in engagement with the hole on the jaw 22. The object and purpose of this bolt is to hold the lever 26 down as indicated in dotted lines in Fig. 1 and by full lines in Fig. 8, so that it may be out of the way while using the device as a monkey wrench, or a pipe wrench, or as a hammer for driving or pulling nails or the like. The adjacent face of the body portion, is, as seen in Fig. 1, hollowed out as at 35 to receive this lever or handle 26 when in the closed position.

One of the fixed jaws of the wrench, preferably the jaw 5 has its end slightly extended as seen at 36 in Figs. 1 and 2 to serve as a screw driver or the like. The sliding bolt is provided with suitable means, as the knob or handle 37, movable in a slot 38 in the barrel or casing, by which it may be readily moved. The wire cutting mechanism comprises a shear cut 39 as seen in Figs. 1 and 5. One portion is formed in the jaw 6 and the other 40 in the jaw 22, the operation being as is common in this form of wire cutters.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages. For instance, the head of the pivot or pin 23 is shown as elongated to cover the slot 29, as seen clearly in Fig. 1, but this is not essential and may be omitted in some cases. Other like changes in the details of construction I should consider as coming clearly within the scope of my invention as covered by the appended claims. The devices, aside from those forming the wrench, as hereinafter claimed, are for illustrative purposes only, and form no part of the present invention.

What is claimed as new is;—

1. In a wrench, a body portion with a stationary jaw, said body portion having a longitudinal cavity and tongues, said cavity being laterally enlarged, a movable jaw with a threaded shank received in said cavity, and a nut with an annular longitudinally-projecting hollow flange received in the enlargement of said cavity and within which said tongues engage, said body having longitudinally extending projections at one end of said enlarged portion of the cavity and the nut being provided at its outer end with notches for coöperation therewith.

2. In a wrench, a body portion with a longitudinal cavity laterally enlarged, said body portion having at one end of said enlarged portion of the cavity at opposite sides tongues and the wall at the said end of the enlarged cavity being cut away upon curved lines, and the opposite end wall being cut away upon curved lines, and a jaw having a threaded shank received in said cavity and a nut received in the enlarged portion of the cavity and formed at one end with a longitudinally-projecting hollow flange and at the other end with notches.

In witness whereof, I have hereunto set my hand this 16th day of August, 1909, in the presence of two subscribing witnesses.

LOUIS PANZER.

Witnesses:
E. B. Whitmore,
A. M. Whitmore.