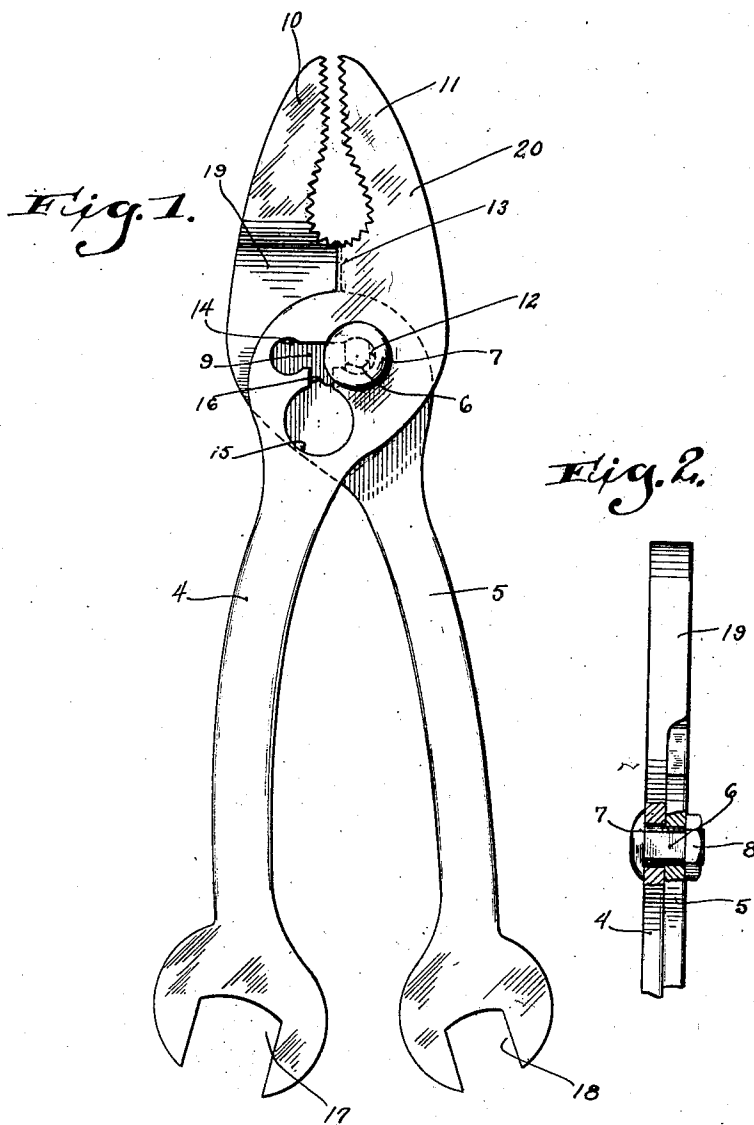


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A. J. MEYER.
COMBINED WRENCH AND PLIERS.
FILED JULY 24, 1920.

1,442,083.



Inventor:
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UNITED STATES PATENT OFFICE.

ANTON J. MEYER, OF MILWAUKEE, WISCONSIN.

COMBINED WRENCH AND PLIERS.

Application filed July 24, 1920. Serial No. 398,743.

To all whom it may concern:

Be it known that I, ANTON J. MEYER, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Combined Wrenches and Pliers, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in combined wrenches and pliers.

An object of this invention is to provide a combination tool which will serve both as pliers and as a wrench.

Another object of the invention is to provide a tool which may serve either as an adjustable pliers or tongs, a wire-cutter, or a wrench.

A further object of the invention is to provide pliers in which the arm members are removable, thereby facilitating the use of the wrenches carried at the end of each arm.

With the above and other objects in view, the invention consists of the improved device and its parts and combinations as set forth in the claims and all equivalents thereof.

In the accompanying drawing in which the same reference characters indicate the same parts in both of the views:

Figure 1 is a side elevation of the device embodying my invention; and

Fig. 2 is an edge view of the device, parts being shown in section.

The device consists of the two arm members 4 and 5, pivotally connected intermediate of their ends by means of a bolt 6, said bolt being provided with a head portion 7 and carrying at its other end a lock-nut 8. This bolt member 6 is firmly carried in arm member 5 and engages and secures arm member 4 through the elongated slot provided in said arm member 4. The bolt 6 is of such a length as to allow the head 7 to rest firmly on the upper surface of arm member 4. The elongated slot 9 further provides for the adjustment of the jaws 10 and 11 of the pliers.

When arm member 4 is adjusted so that the enlarged rounded extremity 12 of the elongated slot engages bolt member 6, the engaging area of the jaws is at a minimum. Also, this position permits the use of the wire-cutting slot 13. However, when the arms are so adjusted that bolt member 6

engages the other enlarged rounded extremity 14 of the elongated slot 9, the engaging area of the jaws reaches a maximum, and the jaws in that position are adapted for grasping circular objects.

Connected to and extending at right angles from the elongated slot 9, is a circular slot 15, by which means arm member 4 may be detached from arm member 5. This is accomplished by sliding bolt member 6 through a short slot connecting elongated slot 9 with the circular slot 15, and thus bringing bolt member 6 into slot 15. The circumference of circular slot 15 is slightly larger than the circumference of the head 7 of the bolt member 6, and arm member 4 may then be lifted up over the head 7, thus disengaging arms 4 and 5.

The outer ends of the arm members are provided with wrenches 17 and 18 respectively, while the inner opposed edges of the upper head portions 19 and 20 are serrated to form gripping jaws. It will be noticed that the wrenches are of different sizes so as to permit their use on varying sizes of objects.

In operation, if it is desired to use the device as a wire-cutter, the arms are adjusted as shown in Fig. 1, with extremity 12 of elongated slot member 9 engaging bolt member 6. In this position, the device may also be used as pliers to grasp flat objects. If it is desired to have the jaws grasp circular objects, the arms are adjusted so that the bolt member 6 is positioned in the opposite end of the elongated slot.

Without the provision for removability of the arm members, the use of the wrenches at the extremity of the arms would be difficult, inasmuch as one arm would interfere with the use and full operation of the other. In the present invention, I have eliminated that objectionable feature by providing the construction hereinbefore described, whereby one arm member can be totally disengaged from the other thus allowing either arm to be used as a wrench without having the other arm interfere with its use.

Thus, it will be seen that I provide a convenient and quickly operated device which entirely eliminates the features which have heretofore been objectionable in devices of this character.

What I claim as my invention is:

1. A tool implement, comprising two arm members of wrench formation at one end

and extending across each other medially of their length, one of said members at the crossing part having a transversely extending slot and another opening in communication therewith, and a headed bolt member projecting from the other arm member medially of its length and extending pivotally through the slot and movable to the opening to permit separation of the two members. 15

2. A tool implement, comprising two arm members of wrench formation at one end and extending across each other medially of their length, one of said members at the crossing part having a transversely extending slot with rounded ends and another opening in line with a medial portion of the slot and connected thereto by a connecting slot of less width than the opening, and a headed bolt member projecting from the other arm member medially of its length and extending pivotally through the slot and movable through the connecting slot into the opening when in a predetermined position to permit separation of the two members. 20

In testimony whereof I affix my signature. 25

ANTON J. MEYER.