

Oct. 20, 1925.

1,558,399

J. N. RYLEN

COMBINED PLIERS AND WRENCH

Filed Aug. 9, 1924

Fig. I Fig. II Fig. III

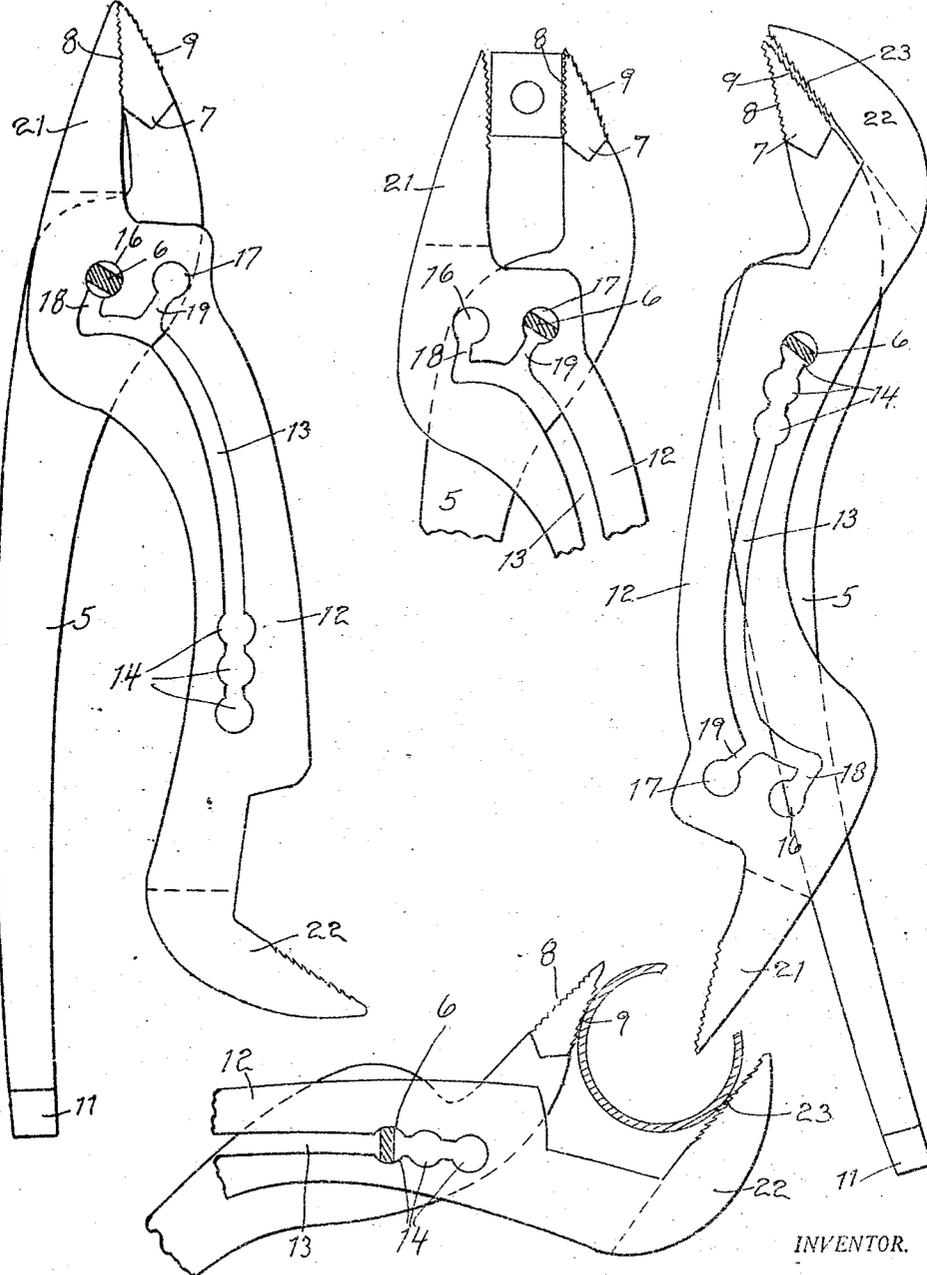


Fig. IV

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## UNITED STATES PATENT OFFICE.

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## COMBINED PLIERS AND WRENCH.

Application filed August 9, 1924. Serial No. 731,088.

*To all whom it may concern:*

Be it known that I, JOSEPH N. RYLEN, a citizen of the United States, residing at Turlock, in the county of Stanislaus and State of California, have invented new and useful Improvements in Combined Pliers and Wrenches, of which the following is a specification.

This invention relates to improvements in combined pliers and wrenches.

The principal object of this invention is to provide a convertible wrench wherein a flat-sided joining bolt mounted in one of the handles of the wrench may move in a slot in the other handle of the wrench thereby permitting both ends of one handle to be employed in a gripping capacity.

Another object is to produce a wrench which will grip a hexagonal object as well as a square or round object.

Another object is to produce a tool which will function both as a pair of pliers and also as a wrench capable of gripping circular objects such as pipes and the like.

A further object is to produce a device of this character which is extremely simple in construction and therefore cheap to manufacture.

A still further object is to provide a device which will be convenient to handle, light in weight and one which will take up but a minimum amount of space.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation of my complete tool;

Fig. 2 is a fragmentary detail view showing a tool adjusted for a large sized nut;

Fig. 3 is a side elevation of my tool with one of the parts reversed so as to form a wrench capable of manipulating a round object of small size; and

Fig. 4 is a fragmentary detail view showing the wrench adjusted for a round object of large size.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 refers to one of the handles of my tool which handle carries a pivot bolt 6 and has a double-faced nose 7 attached

thereto. One surface of this nose is provided with serrations 8, while the other face 9 is provided with ratchet teeth.

A screw-driver 11 is formed upon the opposite end of the handle from the nose. At 12, I have shown the handle of the other member of my wrench which handle is slotted as shown at 13. At one end of the slot I provide a plurality of enlargements 14, the purpose of which will be later seen, while at the opposite end of the slot I provide two enlargements designated at 16 and 17, which are connected by passages 18 and 19, with the slot 13.

A nose 21 is formed upon the handle which nose is provided with a serrated surface adapted to contact the serrated surface 8 of the nose 7. Formed upon the opposite end of the handle 12 from the nose 21 is a head 22 provided with ratchet teeth 23.

The operation of my device is as follows:—

Assuming that the parts are arranged as shown in Fig. 1 pivotal movement of the handles 5 and 12 upon the pivoted bolt 6 will cause the noses 7 and 21 to separate, after which it is possible to grip small objects such as wire or the like. When it is desired to grip large objects, the handles are moved so as to permit the pivot bolt, which it will be noted is provided with flat sides to pass through the passage 18 into the slot 13, thence into the passage 19 and into the enlargement 17, after which adjustment the wrench will appear as shown in Fig. 2 and at this time large objects may be grasped.

When it is desired to grasp round objects such as small tubes or pipes, rods or the like the wrench is adjusted as shown in Fig. 3, which is accomplished by pivoting the handles so as to permit the pivot bolt 6 to pass from the position shown in either Figure 1 or Figure 2 through the slot 13 and to be confined in one of the enlargements 14.

Fig. 4 discloses the pivot bolt confined in the enlargement 14 which permits the largest adjustment of the wrench and when in this position, a large sized circular object, such as a ring or a pipe may be readily grasped as disclosed in this figure.

It will thus be seen that I have provided a very simple wrench and yet one which is efficient for a large range of usage.

It is to be understood that the form of my invention herewith shown and described

is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the sub-  
 5 joined claims.

Having thus described my invention, I claim:—

1. In a tool of the character described,  
 10 a pair of handles, one of said handles having a pivot secured therein, the other of said handles having an elongated slot extending through the substantially entire length  
 15 thereof, there being enlarged areas communicating with said slot, a nose formed upon one end of said first-mentioned handle and having serrated surfaces on both faces thereof, a nose formed upon one end of said  
 20 slotted handle and having a serrated face adapted to contact one of the serrated faces first mentioned, a head formed on the op-

posite end of said slotted handle and having a serrated surface adapted to be brought into engagement with the other serrated face on said first-mentioned nose, for the  
 25 purpose specified.

2. In a wrench of the character described, a pair of handles, one of said handles having a pivot secured thereto, the other of said  
 30 handles having a slot formed therein, one of said handles having a double-faced nose and having serrations formed on each of its faces, the other of said handles having a nose at one end thereof, a head at the op-  
 35 posite end thereof, and means communicating with said slot for adjusting said handles for the purpose of moving said noses and said head to or away from each other, for the purpose specified.

In testimony whereof I affix my signature.

JOSEPH N. RYLEN.