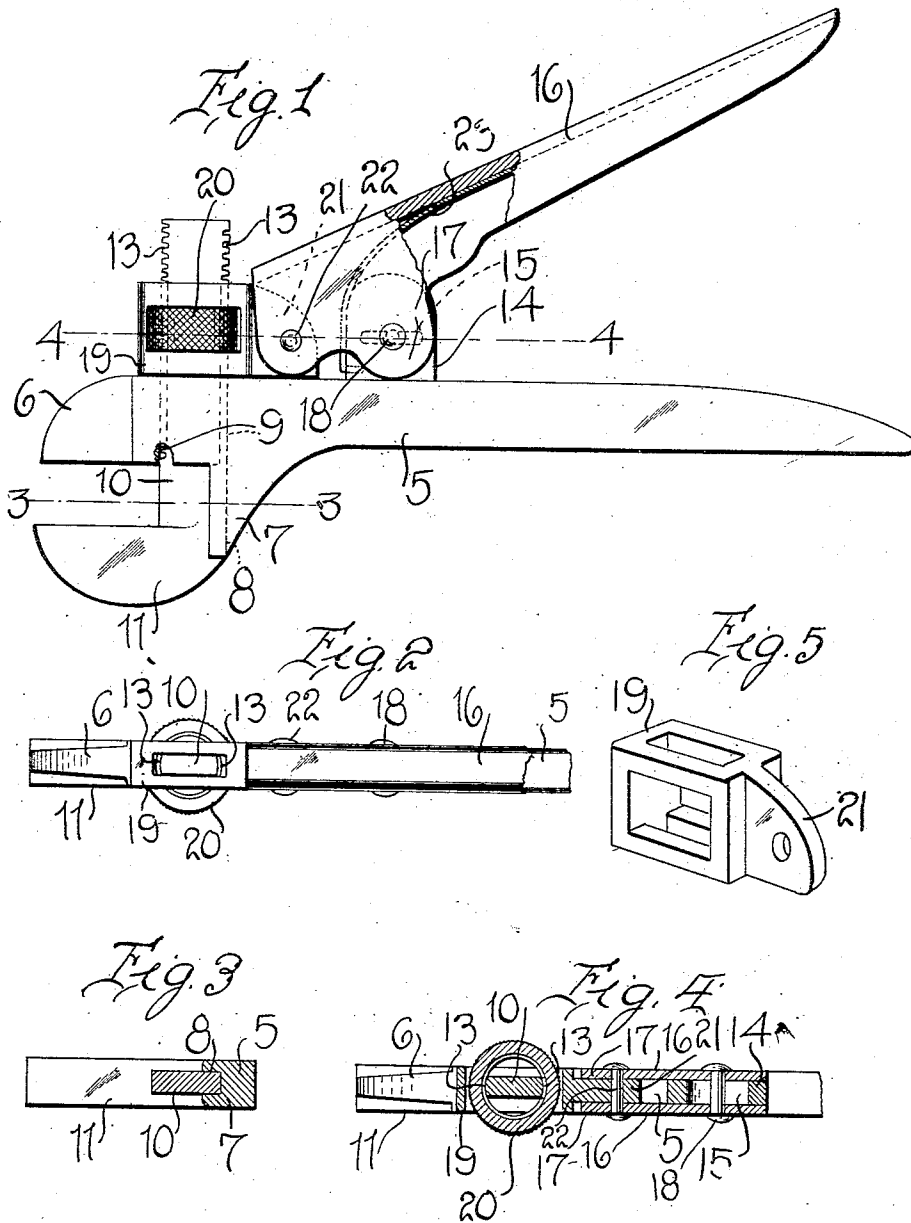


LE ROY F. LORRAINE.
TOOL.
APPLICATION FILED APR. 7, 1915.

1,144,555.

Patented June 29, 1915.



Inventor

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TOOL.

1,144,555.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LE ROY F. LORRAINE, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Tools, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to tools and has for its primary object to provide a combination wrench and plier which is strong and durable in its construction and very serviceable and convenient in practical use.

It is another important object of my invention to produce a device of the above character in which all of the several parts are disposed in the same plane so that the jaws of the tool may be readily engaged with an object in restricted spaces where the ordinary wrench could not be conveniently employed.

The invention has for a further and more specific object to provide a shank having a jaw on one end and a lateral seat projecting from the inner end of said jaw, a movable jaw slidably mounted upon the seat and having a shank, and means cooperating with said shank to adjust the movable jaw with respect to the relatively stationary jaw including a yoke member through which said shank is movably disposed, and a lever fulcrumed upon one end of the shank and pivotally connected to said yoke member, whereby the movable jaw may be moved upon its seat toward the stationary jaw and into gripping engagement with an object.

With the above and other objects in view, my invention consists in the novel features of construction, combination, and arrangement of parts to be hereinafter more fully described, claimed, and illustrated in the accompanying drawing, in which,

Figure 1 is a side elevation of a tool constructed in accordance with the preferred embodiment of my invention; Fig. 2 is an edge view thereof; Fig. 3 is a section taken on the line 3—3 of Fig. 1; Fig. 4 is a section taken on the line 4—4 of Fig. 1; and Fig. 5 is a detail perspective view of the collar or yoke member.

Referring in detail to the drawing, 5 designates the shank of the tool, upon one end of which a longitudinal projecting jaw 6 is formed. At the inner end of the jaw

6, a laterally extending arm 7 is formed, in the outer face of which a longitudinally disposed groove or channel 8 is provided. Through the inner end of the jaw 6, the transverse opening 9 is formed, in which the shank 10 of the movable jaw 11 is laterally disposed. One end of this shank is engaged in the groove or channel 8, whereby the movable jaw 11 is guided in its movement with respect to the relatively stationary jaw 6. The opposite longitudinal edges of the shank 10 are formed with teeth, indicated at 13, for a purpose to be later referred to.

A lug or ear 14 projects laterally from the opposite edge of the shank or handle member 5 with respect to the arm 7 and is provided with a slot 15 disposed in substantially parallel relation to the shank 5.

16 designates a lever which is of channel-shaped form in cross-section and has its opposite sides laterally extended at one end to provide the spaced ears 17 between which the ear or lug 14 on the handle 5 is disposed. The ears 17 are connected by a pin 18 which slides freely in the slot 15 of the lug 14.

Upon the shank 10 of the movable jaw, a rectangular collar or yoke member 19 is engaged, said yoke member being provided with an opening to accommodate the circular nut 20 which is interiorly threaded for engagement with the threads 13 on said shank. The yoke member 19 is also formed with an ear 21 which is disposed between the opposed sides of the channel-shaped lever 16 and pivotally connected thereto by means of the pin 22. One end of a leaf spring 23 is fixed to the lug or ear 14 on the handle or shank 5 of the tool and extends inwardly therefrom, and has its major portion engaged against the channel-shaped lever 16. This leaf spring normally acts to force the lever outwardly or laterally from the handle 5 and thus yieldingly retain the movable jaw 11 in spaced relation to the jaw 6.

In the use of my improved tool, it will be understood that the jaw 11 is first adjusted with respect to the jaw 6 by turning the adjusting nut 20. The two jaws are then engaged upon the opposite sides of the object and the palm of the hand is engaged upon the handle or shank 5 while the fingers grasp the lever 16 and force the same inwardly toward said shank against the action of the

spring 23. It will thus be understood that, owing to the connection of this lever 16 to the yoke member 19, the movable jaw will be forced toward the stationary jaw 6 and into clamping or gripping engagement upon the object. After the nut or other member has been turned as far as it is possible, the operator releases the pressure upon the lever 16 so that the spring 23 acts to return the adjustable jaw to its normal position and the two jaws are then again applied to the object in the manner above described, so that the same may be further turned. It will thus be apparent that the nut 20 is not alone relied upon to hold the adjustable jaw in engagement with the object, but the grip or pressure upon the movable lever 16 also effectually holds the movable jaw against an outward movement and in its applied position. A very minute adjustment may be obtained so that the jaws are applicable to various sizes of nuts or other objects. It will be particularly observed, from reference to Fig. 2, that all of the several parts are disposed in the same operating plane so that the tool may be used in close or confined spaces where the ordinary wrench could not be readily employed.

From the foregoing description, taken in connection with the accompanying drawing, the construction, manner of operation, and several advantages of the invention will be clearly and fully understood. The movable jaw may be very easily and quickly adjusted and, as the several parts of the tool are of exceedingly simple form, it will be appreciated that the same is very strong and

40 durable and provides, in effect, two tools which may be manufactured at substantially the same cost as the ordinary wrench now in common use. It is, of course, obvious that the tool may be constructed in various sizes, in accordance with the particular use for which it is primarily designed. The device is also susceptible of various changes in the form, proportion, and arrangement of the several elements, and I, therefore, reserve the privilege of resorting to all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed. 50

Having thus fully described my invention, what I desire to claim and secure by Letters Patent is:—

A tool of the character described including a handle having a stationary jaw formed on one end, an adjustable jaw opposed to the stationary jaw and provided with a shank, a yoke member through which said shank is disposed, a nut arranged in said yoke member and engaged upon the threaded shank, said handle being formed with a laterally projecting ear having a slot therein, and a spring pressed lever provided with a fulcrum shiftable in said slot, said lever being pivotally connected at its end to said yoke member. 60 65

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

LE ROY F. LORRAINE.

Witnesses:

LOUIE L. CLARK,
ARLAN E. DER BUM.