

Aug. 12, 1924.

1,504,401

W. C. TULL ET AL

COMBINED PLIERS AND WRENCH

Filed March 30, 1923 2 Sheets-Sheet 1

Fig. 1.

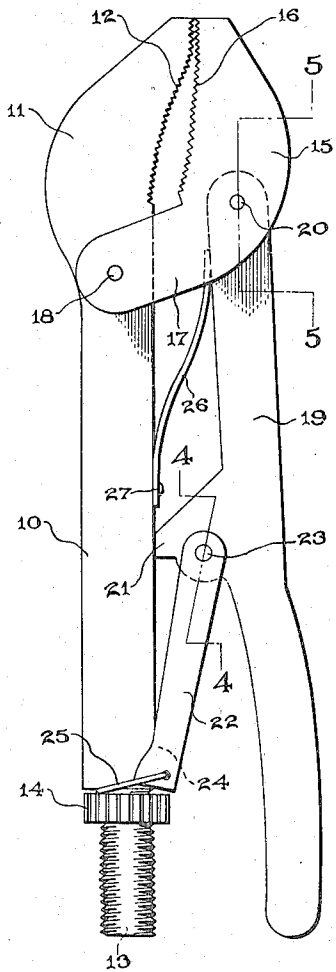


Fig. 2.

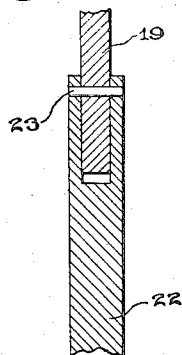
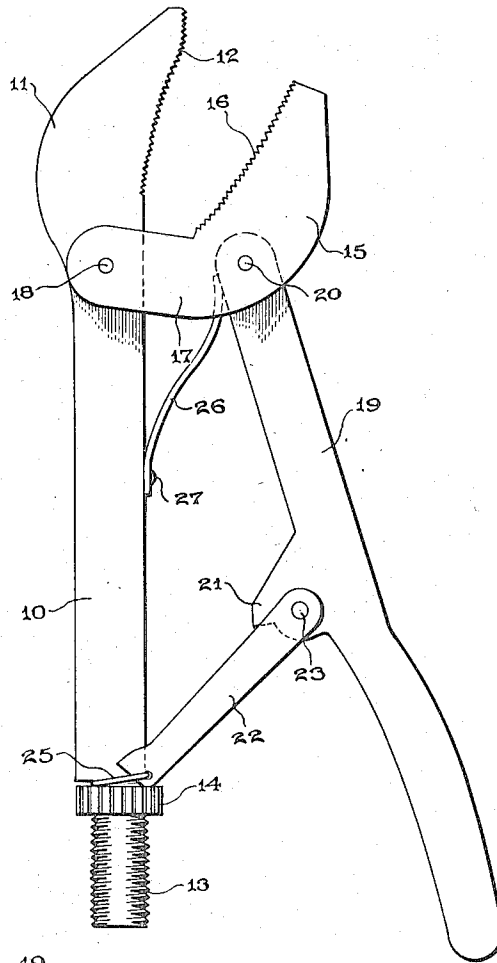


Fig. 4.

William C. Tull
Roy J. Bristol

INVENTOR

BY *Victor J. Evans*

ATTORNEY

H. A. de Clair

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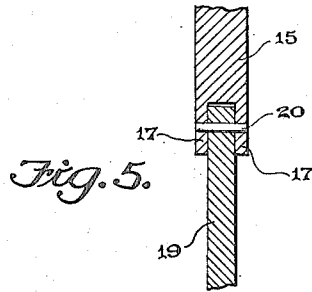
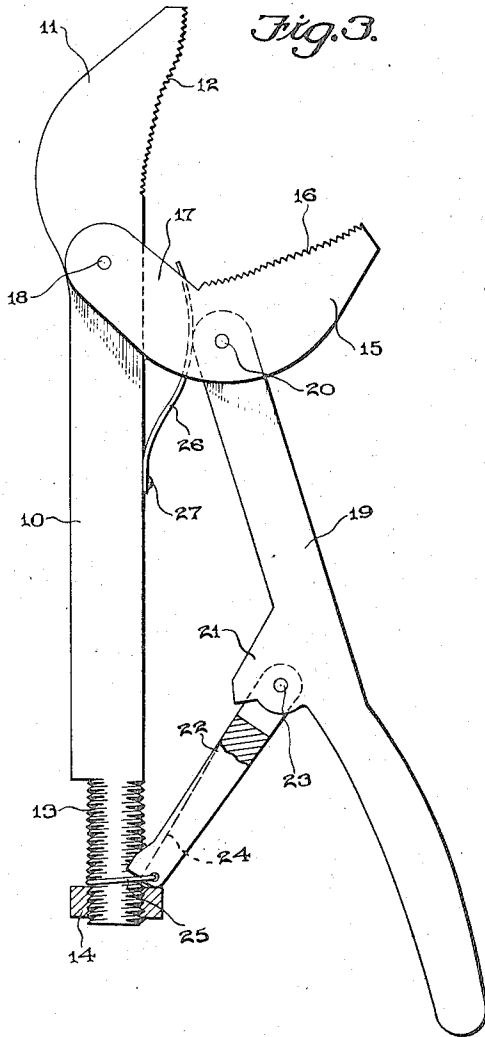
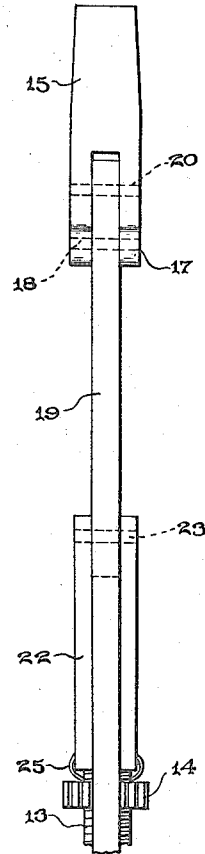


Fig. 6.



H. A. LaBlair

WITNESS:

William C. Tull
Roy J. Bristol

INVENTOR

BY *Victor J. Evans*

ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM C. TULL AND ROY J. BRISTOL, OF STANTON, NEBRASKA.

COMBINED PLIERS AND WRENCH.

Application filed March 30, 1923. Serial No. 628,824.

To all whom it may concern:

Be it known that we, WILLIAM C. TULL and ROY J. BRISTOL, citizens of the United States, residing at Stanton, in the county of Stanton and State of Nebraska, have invented new and useful Improvements in Combined Pliers and Wrenches, of which the following is a specification.

This invention relates to tools and has for its object the provision of a novel combined pliers and wrench, the device being equipped with novel means for making adjustment in the size of the jaw opening for facilitating engagement upon articles or objects of different sizes.

An important object is the provision of a tool of this character which will be simple and inexpensive in manufacture, highly efficient in use, easy to adjust, durable and practical in service, and a general improvement in the art.

With the above and other objects and advantages in view the invention consists in the details of construction to be hereinafter more fully described and claimed and illustrated in the accompanying drawings, in which:

Figure 1 is an elevation of the device showing it in closed position,

Figure 2 is a similar view showing it in open position,

Figure 3 is a similar view with various parts in section to illustrate the connection and showing the adjustment feature for regulating the size of the jaw opening,

Figure 4 is a detail cross section on the line 4—4 of Figure 1,

Figure 5 is a detail cross section on the line 5—5 of Figure 1,

Figure 6 is an edge elevation.

Referring more particularly to the drawings the numeral 10 designates a relatively stationary handle which terminates at one end in a curved relatively fixed jaw 11 which has its active face curved and formed with teeth 12. The other end of the handle 10 terminates in a reduced threaded extension 13 upon which is screwed a nut 14 for a purpose to be described.

The numeral 15 represents the relatively movable jaw which co-operates with the jaw 11 and which likewise has its inner face preferably curved and toothed as indicated at 16. This jaw member 15 is bifurcated to define arms 17 which straddle the handle member 10 and which are pivoted there-

to as shown at 18 by means of a bolt, rivet, pin or the like.

The relatively movable handle is designated by the numeral 19 and has one end fitting within the bifurcation in the jaw member 15 and pivoted by a pin or rivet 20. On the intermediate portion of this handle 19 is a projection or lug 21 which is adapted to engage against the handle member 10 intermediate the ends thereof whereby to form a stop. The numeral 22 represents a link which has one end forked and straddling the lug 21, pivotal connection being effected by means of a pin or rivet 23. The other end of this link has its face toward the handle 10 concaved as indicated at 24 and pivotally carried by the extremity is a small yoke 25 which embraces the threaded extension 13 for adjustment purposes to be described.

While it is not obviously essential we prefer to employ a spring 26 which is of the leaf type and which is riveted or otherwise secured onto the member 10 as shown at 27, its free end bearing against the relatively movable handle 19 for the purpose of urging it normally in one direction so that when the device is used as pliers it will automatically adjust itself.

The open position of the tool is shown in Figure 2 and it will be observed that in this position the jaws are open and the handle 19 is away from the handle 10. To use the device as pliers, the jaws 11 and 15 are engaged upon the article or objects while the operator holds the handles 10 and 19 within one hand. When the handles are subsequently squeezed together, it is apparent that the jaw 15 will be swung upon its pivot 18 into clamping relation with the jaw 11 so that an effective grip may be had upon whatever is to be turned. The size of the opening of the jaws is regulated by the position of the nut 14 upon the threaded extension 13 as is clearly shown, it being notable that the yoke 25 may be engaged between any two selected threads for maintaining the adjustment. For example when the nut 14 is run out to near the end of the threaded extension and the yoke 25 engages the extension near the nut, the device is capable of engaging articles of larger size than when the reverse is true and the jaws 11 and 15 will not come together even though the handle 19 be pressed to its maximum degree toward the handle

10. For gripping small articles, the yoke
25 must be located nearer the juncture of
the extension 13 with the end of the handle
and the nut 14 must be run up or in on the
5 extension.

When using the device as a wrench, it is
not necessary to move the handle 19, the ad-
justment of the size of the opening between
the jaws being regulated merely by turning
10 the nut 15. In this instance, as the nut bears
against the end of the link 22 the handle 19
and jaw carried thereby will be moved to ef-
fect the adjustment.

From the foregoing description and a
15 study of the drawings it will be apparent
that we have thus provided a simply con-
structed and consequently inexpensive tool
which will be highly efficient for the purpose
specified and which on account of its sim-
20 plicity is not likely to get out of order so
that a long life should be assured.

While we have shown and described the
preferred embodiment of the invention it is
of course to be understood that we reserve
25 the right to make such changes in the form,
construction and arrangement of parts as
will not depart from the spirit of the in-
vention or the scope of the subjoined claims.

Having thus described our invention we
30 claim:

1. A tool of the character described com-
prising a relatively stationary handle termi-
nating at one end in a fixed jaw, a curved
relatively movable jaw co-operating with
35 said fixed jaw and terminating in arms
straddling and pivoted upon said handle
near the first named jaw, a relatively mov-
able handle pivotally connected with the in-
termediate portion of said movable jaw, a
40 link pivotally connected at one end with the
intermediate portion of the relatively mov-
able handle, and an abutment member mov-
able on the first named handle and against
which the other end of said link engages.

2. A tool of the character described com-
prising a relatively stationary handle termi-

nating at one end in a fixed jaw, a curved
relatively movable jaw co-operating with
said fixed jaw and terminating in arms
straddling and pivoted upon said handle 50
near the first named jaw, a relatively mov-
able handle pivotally connected with the
intermediate portion of said movable jaw, a
link pivotally connected at one end with the
intermediate portion of the relatively mov- 55
able handle, and an abutment member mov-
able on the first named handle and against
which the other end of said link engages,
said relatively movable handle being
formed intermediate its ends on its face to- 60
ward the first named handle with a lug en-
gageable therewith whereby to limit the
movement.

3. A tool of the character described com-
prising an elongated relatively stationary 65
handle terminating at one end in a fixed
jaw and having its other end formed with
a reduced threaded extension carrying a
nut, a relatively movable jaw of bifurcated
70 formation straddling and pivoted upon said
relatively stationary handle near the fixed
jaw thereon, an elongated relatively mov-
able handle pivoted within the bifurcation
of the relatively movable jaw at the inter-
75 mediate portion thereof, a leaf spring car-
ried by the relatively stationary handle ex-
tending within the bifurcation of the mov-
able jaw and engaging the pivoted end of
said relatively movable handle, the inter- 80
mediate portion of the relatively movable
handle being formed with a lateral exten-
sion projecting toward the relatively sta-
tionary handle to serve as a stop, a yoke
straddling and pivoted upon said extension
85 and having a heel adapted to engage upon
said nut, and a loop carried by the free end
of the yoke adjacent the heel and embrac-
ingly engaged about said threaded end.

In testimony whereof we affix our signa-
tures.

WILLIAM C. TULL.
ROY J. BRISTOL.