

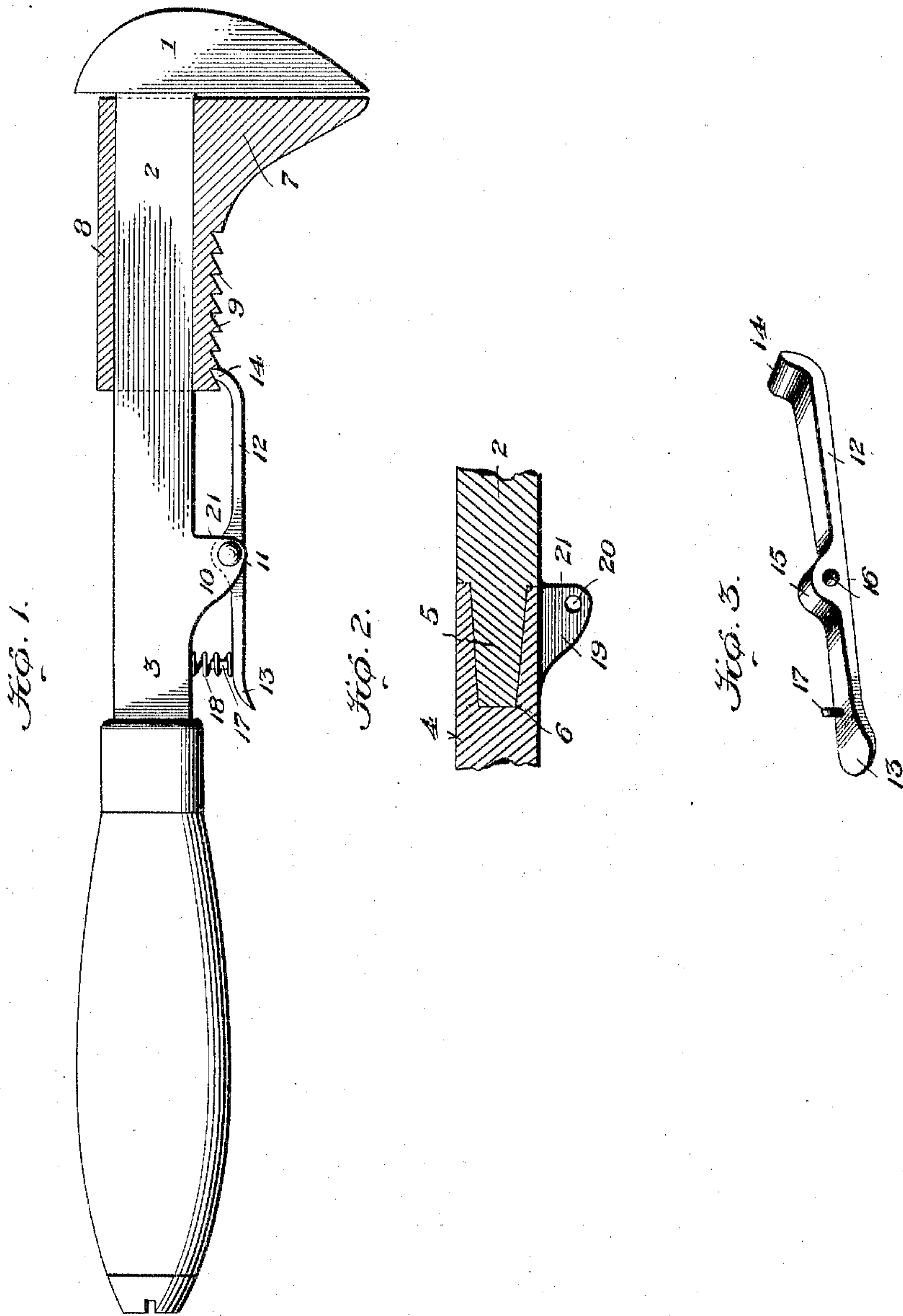
No. 777,573.

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R. VROOMAN.
WRENCH.

APPLICATION FILED MAR. 10, 1904.

NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT VROOMAN, OF FOSTORIA, OHIO.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 777,573, dated December 13, 1904.

Application filed March 10, 1904. Serial No. 197,497. (No model.)

To all whom it may concern:

Be it known that I, ROBERT VROOMAN, a citizen of the United States of America, and a resident of Fostoria, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to certain new and useful improvements in wrenches of that class in which is provided a spring-actuated pawl for engagement with teeth or serrations on the body of the movable jaw.

The present invention has for its object, among others, to provide an improved and simplified construction of this character in which the lug on the handle portion shall serve as a stop to limit the movement of the movable jaw, as well as a support for the pivot of the pawl. The handle may be in one piece with the fixed jaw, or it may be separable from the shank of said jaw, as may be deemed most expedient, the latter being employed where it is desired to make a separable construction for convenience in carrying in a hand-bag or the like or for shipping purposes, economizing space.

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

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

Figure 1 is a side elevation of my improved wrench with a portion (the movable jaw) in section. Fig. 2 is a detail in longitudinal section, showing one way of making the handle portion in sections. Fig. 3 is a perspective view of the pawl removed.

Like numerals of reference indicate like parts in the several views where they appear.

Referring now to the details of the drawings, 1 designates the fixed jaw carried at one end of the shank 2, which shank may be integral with the handle portion 3, as shown in Fig. 1, or it may be separable therefrom, as shown in Fig. 2, and detachably connected with the handle portion 4 in any suitable

way—as, for instance, by forming the end of the shank 2 with a tapered extension 5, fitted in a correspondingly-shaped socket 6 in the adjacent end of the handle portion 4, although this is but one of the ways that the separable connection may be made. Screw-threading or other means may be substituted, if desired.

7 is the movable jaw. It is provided with a hollow shank 8, which receives the shank 2 of the fixed jaw, as seen in Fig. 1, and this hollow shank is provided with serrations or teeth 9 upon its under side, as seen clearly in Fig. 1.

The handle portion 3 when formed integral with the shank of the fixed jaw is formed with a lateral lug 10, in which is supported the pivot 11 of the pawl 12, which is formed with a thumb-piece 13 at one end and the other end bent at substantially a right angle to its length to form the pawl-tooth 14, which is tapered or beveled as shown and adapted to engage the teeth 9 of the shank of the movable jaw, as shown in Fig. 1. The pawl is provided between its ends with an enlargement 15, having a transverse hole 16 to receive the pivot 11, which enlargement is received in a bifurcation of the lug 10, as will be readily understood from Figs. 1 and 2.

The pawl near its thumb end is provided with a pin 17, as seen clearly in Fig. 1, around which is placed a coiled spring 18, as seen in Fig. 1, the other end bearing against the under side of the handle and serving to normally keep the tooth of the pawl in engagement with the teeth 9. Pressure on the thumb-piece compresses the spring and removes the pawl-tooth from its engagement with the teeth 9 of the movable jaw.

When the handle portion and the shank of the fixed jaw are formed separately, the former is formed with a lug 19, having a hole 20 for the reception of the pivot of the pawl, as will be clearly understood from Fig. 2.

The lug 10, as well as the lug 19, has a substantially square front wall 21, which serves as a stop to limit the movement of the movable jaw, as will be readily understood.

The mode of operation will be readily understood from the foregoing description when

taken in connection with the annexed drawings, and a further detailed description thereof does not seem necessary.

It is deemed important that the movable jaw
5 have a hollow shank with elongated bearing
on the shank of the fixed jaw and that the
elongated bearing have the teeth formed there-
on with the teeth extending to the base of the
jaw, the end of the said hollow shank being
10 adapted to have a firm contact with the square
shoulder of the lug to limit the movement of
the movable jaw, as by this means the strain is
all borne by the shank of the fixed jaw and
the movable jaw is better and more firmly held
15 with its acting face parallel with the acting
face of the fixed jaw.

What is claimed as new is—

As an improved article of manufacture, the
wrench herein shown and described, compris-
20 ing a fixed jaw, its shank with handle portion,
a removable jaw having integral hollow shank
extended beyond the jaw to give an elongated

bearing on the shank of the fixed jaw and re-
ceiving the shank of the fixed jaw, said hol-
low shank being formed with teeth upon its 25
under side and extending to the base of the
jaw thereof, said hollow shank being loosely
slidable on the shank of the fixed jaw, a lug
on the handle portion having a square shoul-
der in position to be engaged by the end of 30
the hollow shank of the movable jaw, a toothed
pawl pivoted on said lug, and adapted to en-
gage directly the teeth of the extended por-
tion of the hollow shank, and a spring dis-
posed between the handle portion and the 35
thumb-piece of the pawl, all arranged and
adapted to operate substantially as herein
specified.

Signed by me at Fostoria, Ohio, this 24th
day of February, 1904.

ROBERT VROOMAN.

Witnesses:

J. T. YANT,

R. L. UNDERWOOD.