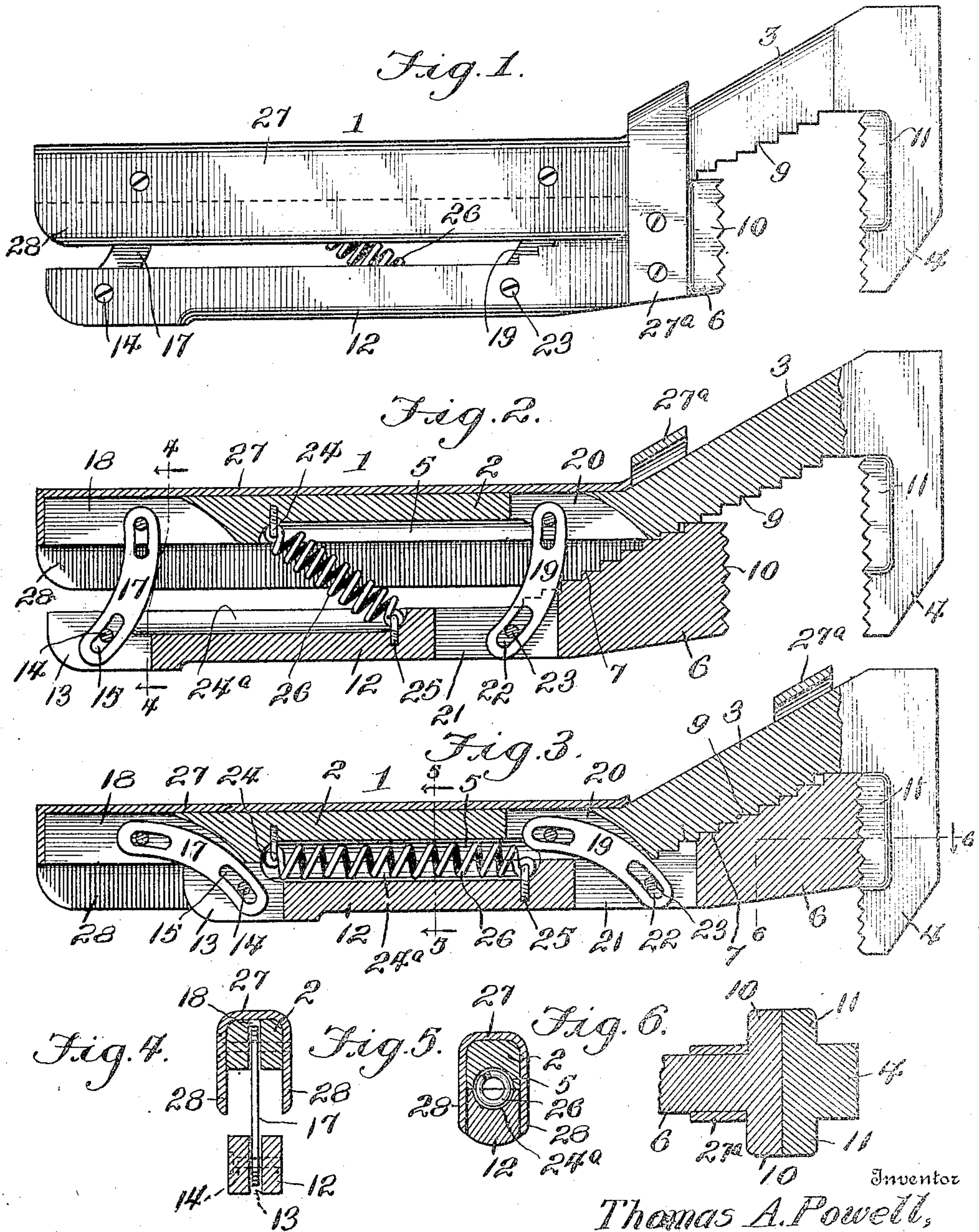


T. A. POWELL.
WRENCH.
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922,330.

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Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS A. POWELL, OF CARNEGIE, PENNSYLVANIA.

WRENCH.

No. 922,330.

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To all whom it may concern:

Be it known that I, THOMAS A. POWELL, a citizen of the United States, residing at Carnegie, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches, and has for an object to provide a wrench whereby the jaws thereof can be quickly adjusted and held in an effective manner.

A further object of the present invention is to provide a quick acting wrench which will be extremely simple in construction composed of but few parts, strong, durable and which will be effective in the manipulation of nuts or which can be used to great advantage as a pipe wrench.

Other objects and advantages will be apparent as the nature of the invention is better understood and it will be apparent that changes within the scope of the claims may be resorted to without departing from the spirit of the invention.

In the drawings, forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a side view of the wrench, Fig. 2 is a longitudinal sectional view, the jaws of the wrench being open, Fig. 3 is a similar view, the jaws being closed. Fig. 4 is a sectional view on the line 4—4 of Fig. 2, Fig. 5 is a section on the line 5—5 of Fig. 3. Fig. 6 is a detail section taken on the line 6—6 of Fig. 3.

Referring now more particularly to the drawings, there is shown a wrench 1 comprising a handle 2 having an angularly disposed portion 3 at one end upon which is formed a fixed jaw 4, the jaw being disposed at an angle to the portion 3 as shown. The handle is provided with a longitudinally disposed grooved portion 5. A sliding jaw 6 is provided, which has an angularly disposed inner face upon which is formed a series of transversely disposed ratchet teeth 7 adapted to engage correspondingly shaped teeth 9 upon the inner face of the portion 3 of the handle. The jaw 6 is provided with a serrated nut engaging head 10, and the jaw 4 is provided with a similar head 11. The jaw 6 is provided with a stem 12 disposed in parallel relation to the handle 2. The stem 12 is forked at one end as shown at 13, and between the arms of the fork is shown a pin 14 disposed in an elongated slot 15 formed in a

link 17 of arcuate form. The link 17 has one end pivotally mounted in a recess 18 formed in the handle 2.

A link 19 is provided, which has one end pivotally mounted in a slot 20 formed in the handle 2 and the other end of this link is disposed in a slot 21 formed in the jaw 6, and is provided with an elongated slot 22 for receiving a transversely disposed pin 23. The handle 2 is provided with an eye member 24, and the stem 12 is provided with an eye member 25 the eye member 24 is disposed at one end of the groove 5 and the member 25 is disposed in a groove 24^a in the stem 12, the said eye members receiving the ends of a helical spring 26 adapted to hold the teeth 7 and 9 engaged with each other when the jaws are in their adjusted position. The jaw 6 is provided with a yoke 27^a slidably engaged with the portion 3 of the handle and adapted to guide the stem and the jaw 6 in their movement as is obvious. The handle 2 is provided with a longitudinally extending metallic guard 27 which is preferably of U-form and is thus provided with parallel spaced walls 28 which receive therebetween when the wrench is closed the stem 12 as will be seen upon reference to Fig. 4 of the drawings. When the wrench is in this position, it is obvious that the spring lies entirely in the grooves 5 and 24^a and that all parts of the wrench lie in a compact manner. The guard is such that the provision thereof also serves as a stop to limit the movement of the yoke 27^a, as it will be seen that the yoke engages portions of said guard when the former is in a position shown in Figs. 1 and 2 of the drawing.

It will be seen that a simple and inexpensive wrench is provided which may be manufactured at a relatively low figure and which will be extremely effective in use. The device is such that the jaws can be quickly adjusted without the manipulation of various operative parts sometimes used heretofore.

Having thus described the invention, what is claimed as new, is:—

1. A wrench of the class described comprising a handle having a plurality of ratchet teeth, a fixed jaw upon the handle, a sliding jaw upon the handle provided with ratchet teeth adapted to engage the teeth upon the handle, pivotally mounted links connecting the handle with the sliding jaw, and a spring connecting the sliding jaw

with the handle for holding the teeth of the sliding jaw engaged with the teeth upon the handle.

2. A wrench of the class described comprising a handle, a stem pivotally mounted upon the handle adapted for movement in a parallel plane toward or away from the same, a fixed jaw carried by the handle, said handle having a plurality of ratchet teeth, a jaw carried by the stem provided with ratchet teeth adapted to engage the teeth upon the handle, and spring means connecting the stem with said handle.

3. A wrench of the class described comprising a handle having an offset portion provided with a plurality of teeth, a jaw carried by the handle and disposed at one end of the offset portion, a guard carried by the handle provided with parallel spaced

walls adapted to receive therebetween the stem when the latter is moved inwardly, a jaw carried by the stem provided with ratchet teeth to engage the teeth upon the offset portion of the handle, links pivotally connected at their ends to the handle and to the stem so that the latter can move in a parallel plane with respect to the former, and spring means connecting the stem with the handle for yieldingly holding the teeth upon the stem engaged with the teeth upon the offset portion of said handle.

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

THOMAS A. POWELL.

Witnesses:

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R. B. CLOCK.