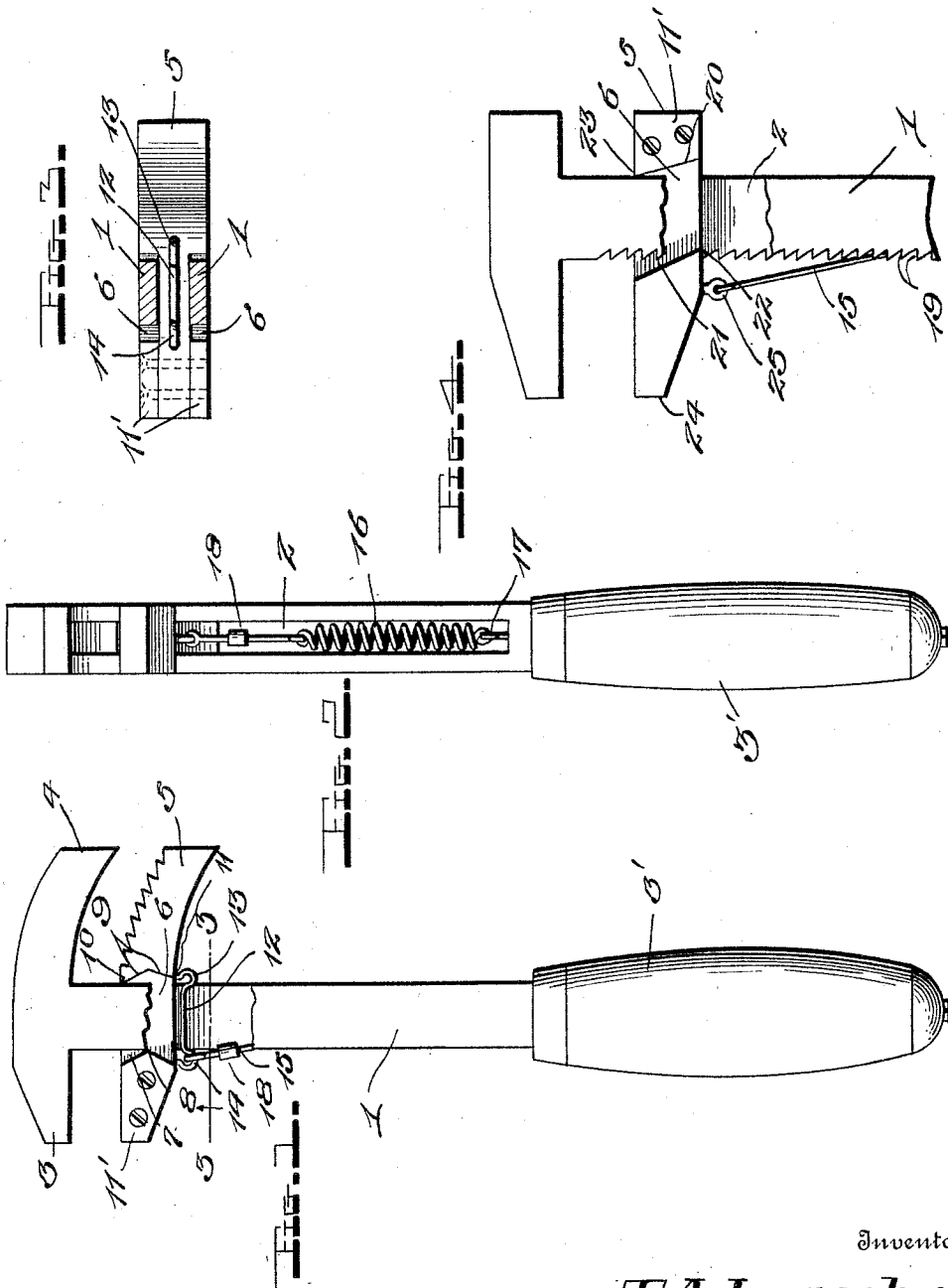


T. A. LAUSCHA.
WRENCH.
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WRENCH.

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To all whom it may concern:

Be it known that I, THEODORE ALONZO LAUSCHA, a citizen of the United States, residing at Chenoa, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in combined pipe and nut-wrenches and relates more particularly to that type of wrench which has a fixed outer jaw and a slidable inner jaw.

The primary object of the invention is to provide a wrench of this nature which may be easily and quickly adjusted and which will be held in the adjusted position by a spring attached to the inner jaw.

Another object of the invention is to provide a wrench which shall be simple in construction and efficient in operation.

The invention also aims to generally improve this class of devices to render them more useful and commercially desirable.

With these and other objects in view as will become more apparent as the description proceeds the invention consists in certain constructions and arrangements of parts as shall be hereinafter fully described, claimed and illustrated in the accompanying drawing, in which:

Figure 1 is a side elevation showing a portion of the shank broken away; Fig. 2 is an edge view; Fig. 3 is a view taken on line 3—3 of Fig. 1; and Fig. 4 is a side elevation of one end of the wrench showing a modified form.

Similar parts are referred to in the description and designated in the drawing by like reference characters.

Referring to the drawing by numerals, 1 designates the wrench stock which is slotted as shown at 2 and provided at one end with a handle 3' and at the other end with a cross-head forming the stationary jaws 3 and 4. The former has a straight under edge and forms part of the nut-wrench, while the latter is curved and forms part of the pipe-wrench.

Mounted upon the stock 1 and sliding within the slot 2 is the movable jaw 5 which is shaped to conform to the jaws 3 and 4. The sides of the jaw 5 are transversely slotted as at 6 forming channels or passages for the reception of the stock. The walls 7 at

one end of the notches slant inwardly forming the pivot edges 8 which bear against one face of the stock, while the walls 9 at the other end of the notches slant outwardly forming the bearing edges 10 and 11 which engage the opposite side of the stock. The slots 6 are slightly wider than the stock 1 which allows the jaw 5 a rocking motion about the pivot edge 8. The jaw 5 is formed with removable plates 11' to facilitate the assembling of the wrench.

A wire loop 12 having eyes 13 and 14 near its extremities is secured at its ends to the outer face of the jaw 5 and extends longitudinally thereof and passes through the slot 2. A rod 15 is loosely secured at one end to the loop 12 and at the other end to the spiral spring 16, said spring being fastened by the eye-bolt 17 to the inner end of the slot 2. A weight 18 is secured on rod 15 near its outer end.

In the modification shown in Fig. 4 the shank 1 is serrated on one edge as shown at 19 to prevent any liability of the jaw 5 slipping inwardly when in use. The sides 20 and 21 of the notches 6 are straight and parallel to each other but form angles with the stock 1. The sides 20 slant inwardly and form bearing edges 22 which engage the serrations 19. The sides 20 slant outwardly forming the bearing edges 23 which engage the smooth edge of the shank. The rod 15 is secured to the outer face of the jaw 5 between its end 24 and the bearing edge 22, by the eye-bolt 25.

My device is operated as follows: To close the jaws of the wrench the inner jaw 5 is pushed toward the outer jaws 3 and 4 against the tension of the spring 16. In order to slide the jaw it must be held perpendicular to the shank 1 so that neither of the bearing edges 10 and 11 will have a chance to co-act with the pivot edges 8 to bind upon said shank. When the tool is to be used as a nut-wrench the rod 15 is fastened in eye 14 so that the spring 16 will throw the bearing edges 10 into engagement with the shank 1 ready for action. The greater the downward pressure on the jaw 5 the tighter it will bind on the shank so there is no danger of the jaw slipping. To change the adjustment so that the tool may be used as a pipe-wrench it is only necessary to have rod 15 engage eye 13 of loop 12 so that the bearing edges 11 will contact with the stock 1. This adjustment can be

readily made by releasing the tension of spring 16 and holding the outer ends of the pipe-jaws downward when the weight 18 will carry the rod 15 downward into engagement with eye 13. I consider the above method of adjusting the wrench for use either as a nut-wrench or as a pipe-wrench a very important part of my invention in that it serves the three purposes of holding the jaw 5 in any desired position on the shank 1, of assisting in opening the jaws when desired and of preventing lost motion due to the inner jaw adjusting itself upon the shank 1.

From the foregoing description in connection with the accompanying drawing it will be seen that I have provided a simple and easily operated wrench which may be used either as a pipe-wrench or as a nut-wrench.

Having thus described the invention what is claimed is:—

1. A wrench comprising a slotted stock having a transverse jaw at one end, a second jaw slidably mounted on the stock and extending through the slot therein, said jaw having transverse notches in its side walls for the reception of the stock, and a contractile spring connected at one end to the inner face of the sliding jaw at a point without the said slot, the other end of the spring being connected to the inner wall of the slot.

2. A wrench comprising a longitudinally slotted stock, having a crosspiece at one end,

an adjustable jaw mounted upon the stock and extending through the slot therein, said jaw having transverse notches in its side walls for the reception of the stock, a wire loop secured at its ends to the outer face of the sliding jaw and passing through the slot in stock, and a spiral spring secured at one end to the loop and at the other end to the inner end of the said slot.

3. A wrench comprising a stock having a longitudinal slot therein, a stationary cross-head at one end of the stock, a sliding jaw mounted upon the stock and passing through the slot therein, said jaw having transverse notches in its side faces, the walls at one end of said notches slanting inwardly forming at their meeting point a pivot edge, and the walls at the other end of the notches slanting outwardly forming at their outer ends bearing edges, a wire loop passing through the slot in the stock and secured at its ends to the outer face of the sliding jaw, said loop having eyes formed at its extremities, a rod loosely secured at one end to the loop, a spiral spring secured to the other end of the rod and to the inner end of the slot in the stock and a weight positioned upon said rod near its outer end.

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

THEODORE ALONZO LAUSCHA.

Witnesses:

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