

(No Model.)

T. E. CHATTEN.
WRENCH.

No. 520,411.

Patented May 29, 1894.

Fig. 1.

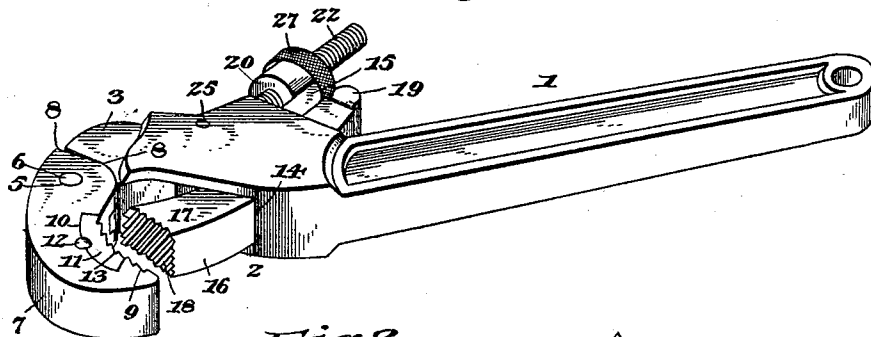


Fig. 2.

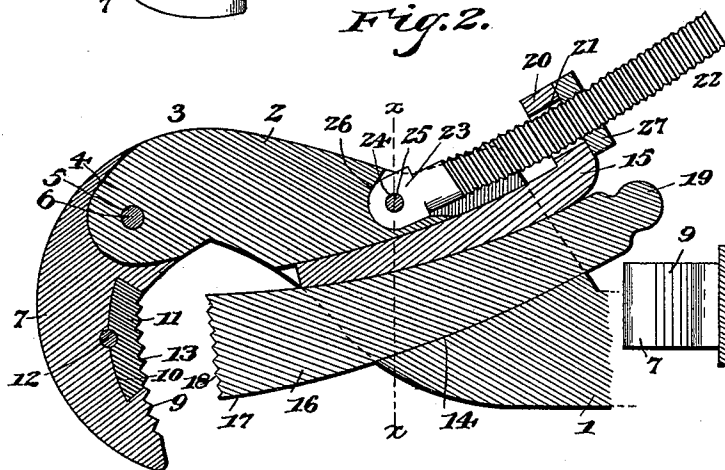


Fig. 5.

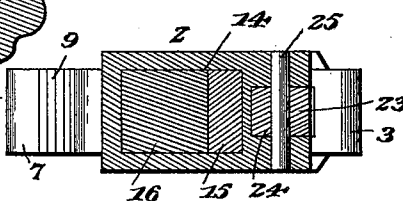


Fig. 6.

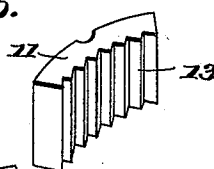


Fig. 3.

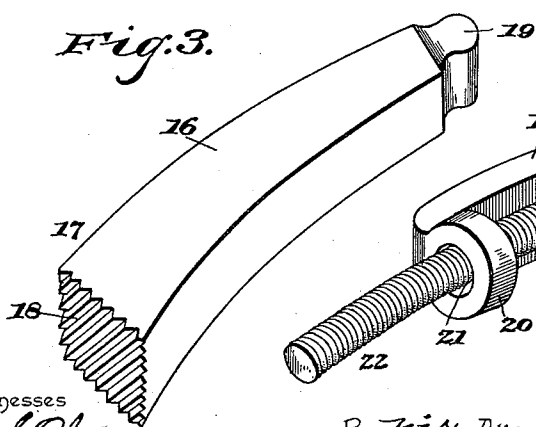
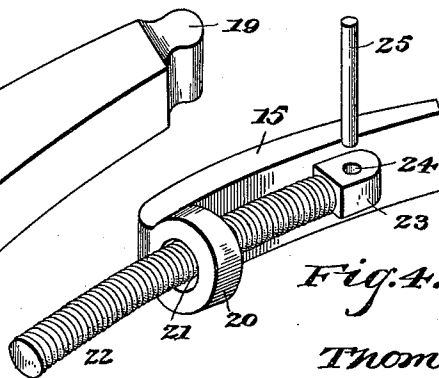


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 520,411, dated May 29, 1894.

Application filed March 7, 1894. Serial No. 502,681. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. CHATTEN, a citizen of the United States, residing at Bethlehem, in the county of Northampton and State of Pennsylvania, have invented a new and useful Wrench, of which the following is a specification.

My invention relates to an improvement in those wrenches which are adapted particularly for handling pipes and tubes; and the principal feature of the invention lies in an improved combination of a sliding jaw and wedge, whereby the said jaw may be more effectually held in any position.

In the accompanying drawings:—Figure 1 represents a perspective view of my complete invention; Fig. 2 a longitudinal section thereof; Fig. 3 a detail perspective of the sliding jaw; Fig. 4 a similar view of the wedge and the means for operating it; Fig. 5 a cross section on line $x-x$ of Fig. 2; Fig. 6 a detail perspective of the removable face for the stationary jaw.

The reference numeral 1 indicates the handle of the wrench, which handle may be of any preferred construction, and 2 the main or body portion. The main portion of the wrench has the arm or extension 3 formed integral therewith and provided with the semi-circular stud 4 having an opening 5 therein. Mounted on the stud 4 and secured in place by the pin 6, is the approximately stationary jaw 7, which is arranged to have a limited oscillatory movement on the stud 4. This is attained by the arrangement of pin 6, which passes through the opening 5, and by the shoulders 8, which are adapted to engage each other when the limit of the oscillations of jaw 7 have been reached. Formed on the inner engaging face of the jaw 7 are the serrations 9, which extend from the point of the jaw slightly inwardly and terminate in the dovetail recess 10, in which is arranged the correspondingly shaped block 11. This block is held in place by the headed pin or rivet 12, and has its engaging face formed with serrations 13, which match the serrations 9 of the jaw 7 and operate as a continuation thereof. The rivet 12 may be readily removed, and by so doing the block 11 may be withdrawn, thus permitting its replacement when worn out or otherwise injured.

The body 2 of the wrench is formed with the rectangular and diagonal passage 14 therein, which extends from the upper left hand side of the body downwardly and forwardly, to a point just opposite the block 11, and is curved slightly so as to conform to the shape of the sliding jaw. In this passage, 14, the wedge 15 and sliding jaw 16 are each arranged. The jaw 16 is formed with a substantially square end 17 provided with diagonal corrugations or serrations 18, and from this end the jaw tapers in vertical thickness, until the rear end is reached, where it is formed with the knob 19. By means of knob 19 the jaw may be manipulated, as will be hereinafter described. The horizontal thickness of this jaw is uniform throughout its length, so that all lateral play within the passage 14 is prevented. The wedge 15 is of a width equal to that of the jaw 16 and passage 14 and is of such a thickness that when arranged on top of the jaw 16 with its point toward the head of the jaw, the passage 14 will be completely filled and the two parts firmly wedged in place. Formed integral with the rear or thickened end of the wedge 15 is the upwardly extending stud 20, which is formed with an opening 21, and this, in turn, embraces the bolt 22. The bolt 22 is screw threaded throughout its length and provided at its forward end with the head 23, in which is formed the opening 24. Through this opening the horizontal pin 25 passes, and by this means the bolt is pivoted so as to be capable of swinging in a vertical line, and its head 23 is arranged in the passage 26, which extends longitudinally in the body 2, and communicates at its lower edge with the passage 14, while its rear end and top side are left open to admit the movement of the bolt 22.

27 indicates a milled nut which operates on the bolt 22 and which engages the stud 20 of the wedge 15, and by which the jaw 16 is held in place. To use my improved wrench, the nut 27 is moved to the rear end of the bolt 22 and the wedge 15 allowed to follow. The jaw 16 is now free to move longitudinally in its passage 14, so as to adjust itself to the size of the pipe manipulated. When this has been accomplished the wedge 15 is advanced upon the jaw as far as possible so as to bind it in

place, and the nut 27 screwed up against lug 20 so as to bind the wedge in its turn. Thus the jaw 16 is immovably secured in place, when the wrench may be used with great facility for the purpose for which it is designed. All of this is, however, understood. Owing to the removable character of the block 11 it is possible to cheaply repair the wrench when the serrations on this part are worn out or broken. This is effected by removing the rivet 12 as explained. It will be understood that the bolt 22 is pivoted in order that it may have the movement which the varying thickness of the wedge 15 and jaw 16 requires it to have, for as they move toward and from the pivot of the bolt, they necessarily require it to swing out or in, according to the position which they assume. It will also be seen that the jaw 16 may be replaced when its head is worn out, thus making the repair of the wrench easy and inexpensive.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

In a pipe wrench, the combination of a body portion having a passage therein, a stationary jaw connected to the body and located opposite the passage therein, a sliding jaw arranged in the passage and movable toward and from the stationary jaw, a wedge located in the passage and alongside the movable jaw and operating to hold the same in place, a threaded bolt hinged to the body and capable of swinging toward and from the wedge and connected thereto, and a nut operating on the bolt, whereby the sliding jaw is held in place, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS E. CHATTEN.

Witnesses:

CONRAD HUETHER,
JOSEPH E. GROSS.