

No. 734,376.

PATENTED JULY 21, 1903.

W. P. THOMPSON.

WRENCH.

APPLICATION FILED MAY 2, 1902.

NO MODEL.

Fig. 1.

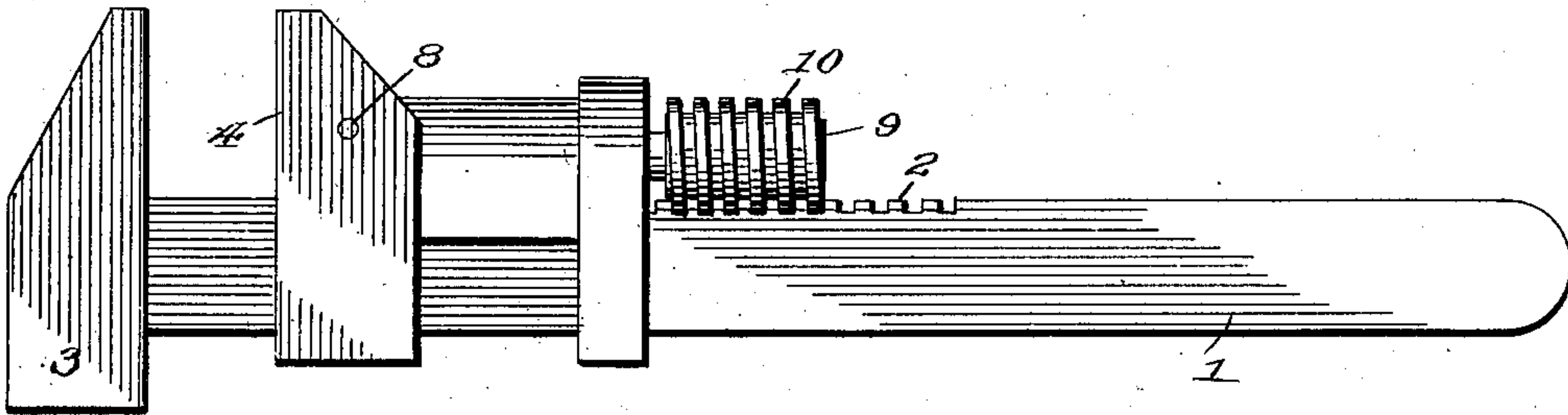


Fig. 2.

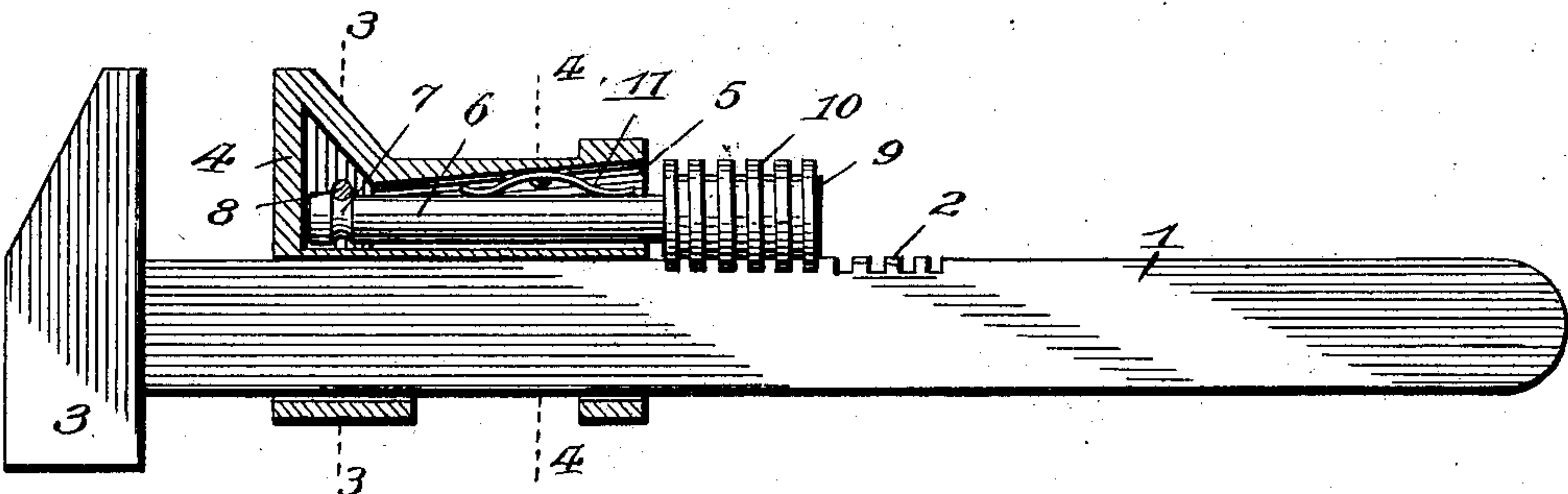


Fig. 3.

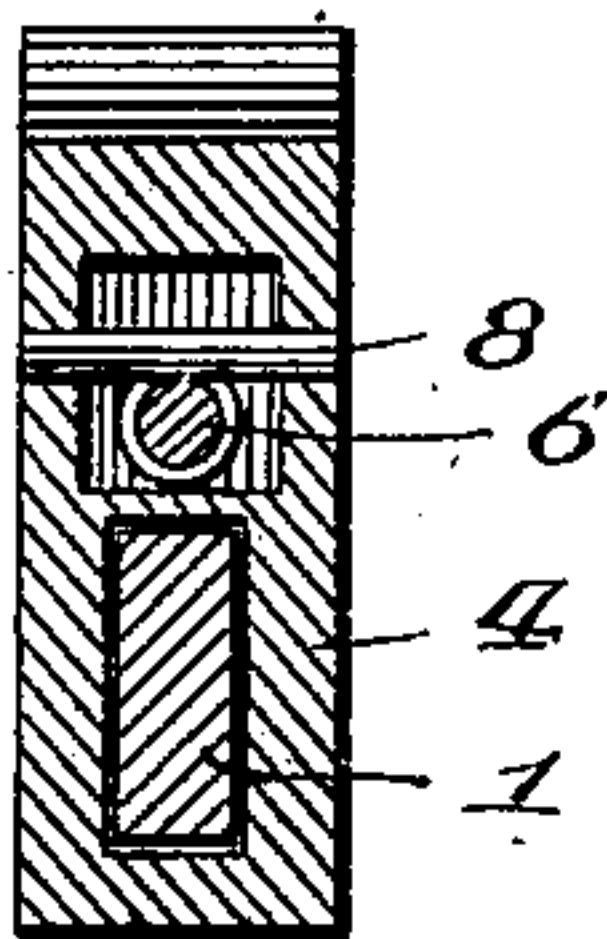
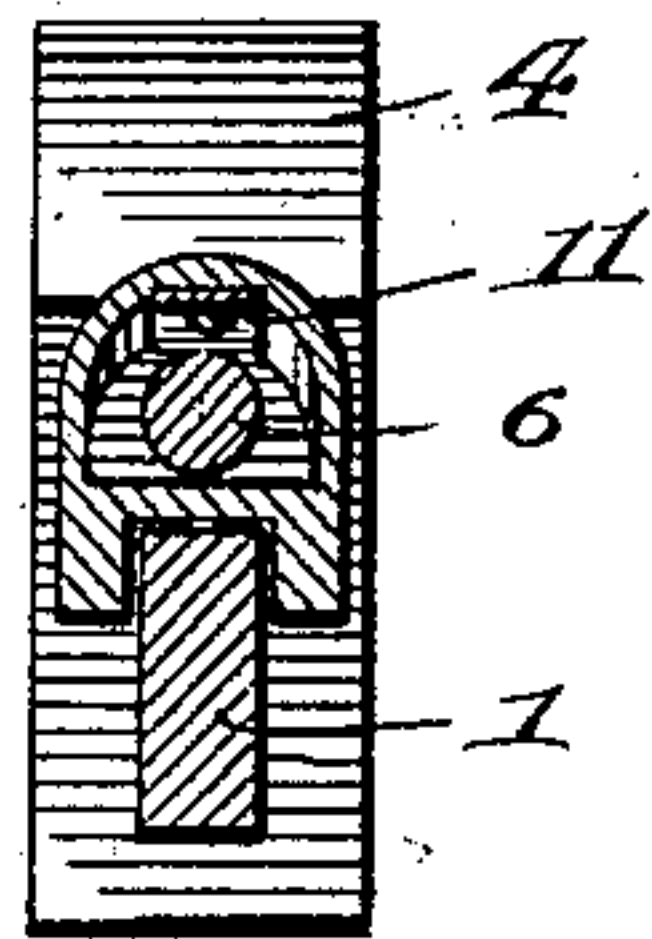


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM P. THOMPSON, OF LUZERNE, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO A. C. HAIGHT AND J. N. HAIGHT, OF LUZERNE, PENNSYLVANIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 734,376, dated July 21, 1903.

Application filed May 2, 1902. Serial No. 105,652. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. THOMPSON, a citizen of the United States, residing at Luzerne, in the county of Luzerne and State of Pennsylvania, have invented new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to new and useful improvements in wrenches; and its object is to provide a wrench having novel means whereby its sliding jaw can by quickly set against the article to be turned or removed therefrom and by means of which it can also be slowly adjusted, so as to be firmly clamped upon the article.

With the above and other objects in view the invention consists in the novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, and in which—

Figure 1 is a side elevation of the wrench. Fig. 2 is a similar view showing the sliding jaw in section. Fig. 3 is a section on line 3 3, Fig. 2; and Fig. 4 is a section on line 4 4, Fig. 2.

Referring to the figures by numerals of reference, 1 is a shank having threads 2 cut in one edge thereof and provided with a stationary jaw or head 3. A jaw 4 is slidably mounted upon the shank, and that portion thereof in rear of the working face is cast with a tapered bore 5. A revoluble spindle 6 extends into the bore 5 and is provided at its forward end with an annular groove 7, which receives a transversely-extending swivel-pin 8, secured within the sliding jaw. The groove 7 is engaged at all times by this pin, and said pin serves as a pivot upon which the spindle 6 is adapted to swing. A head 9 is arranged upon the outer end of the spindle 6 and is provided with a worm 10, which is held normally in engagement with threads 2 by means of a spring 11, secured within the bore 5 and bearing upon the spindle.

When it is desired to adjust the jaw slowly forward or backward, it is merely necessary to revolve the worm 10. By swinging the spindle 6 and worm 10 upward upon its fulcrum 8 the spring 11 is compressed and said

worm disengaged from teeth 2. The jaw can then be quickly adjusted in either direction.

By having the pin 8 arranged above and engaging the grooved extremity of the spindle 6 within the socket-jaw 4 a more convenient and practical mode of assembling the parts results in view of the fact that the said spindle can be pushed inwardly into the jaw 4 from the rear end of the latter and under the pin, and when the worm 10 is forced into engagement with the teeth 2 of the shank 1 the spindle is disposed in horizontal position and will be held against disengagement from the pin 8 and permitted to have free rotation within the jaw 4 by the spring 11 bearing on the upper portion of said spindle. Moreover, the upward inclination of the top wall of the socket-jaw 4 permits the spindle and its worm to be elevated to clear the said worm from the teeth 2 in making extended adjustment without requiring the rotation of the spindle and worm and by locating the pin 8 above the circumferential groove in the end of the spindle. This forward movement of the spindle and the worm within the jaw 4 is freely permitted. In slipping the jaw 4 over the shank 1 it will be observed that the spindle 6 and worm 10 will have to be pushed upwardly in view of the projection of the threads of the worm when in normal position below the base-wall of the socket of the jaw 4.

It will be seen that the device is extremely simple and compact in construction and can be manufactured at a slight cost.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made from time to time without departing from the spirit or sacrificing any of the advantages thereof, and I therefore reserve the right to make all such changes as may fairly fall within the scope of my invention.

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

1. The combination with a fixed jaw, having a threaded shank, of a sliding jaw upon the shank, having a socket therein with a forward vertical extension and a rearwardly-extending bore communicating therewith, the said bore having an outer wall inclining out-

wardly from the said extension, a worm having an elongated spindle extending into the said bore and rotatable in the latter, the forward extremity of the spindle being circumferentially grooved, a pin extending transversely through the extension of the socket and engaging the outer portion of the groove at the forward extremity of the spindle whereby the latter is loosely held for outward and inward swinging movement between the said pin and the inner wall of the socket, and a spring interposed between the outwardly-inclined wall of the bore and the spindle to normally hold the worm in engagement with the threaded shank of the fixed jaw.

2. In a wrench, the combination with a fixed jaw having a straight shank with threads in one edge thereof, of a sliding jaw disposed on said shank and having a longitudinal socket located adjacent to the side edge of the jaw having the teeth therein and provided with an inner horizontally-straight wall and an outer rearwardly and outwardly inclined straight wall, an elongated cylindrical spindle inserted in the said socket and having a

rear terminal worm to engage the teeth of the shank, and a circumferential groove at its front extremity, the spindle being considerably less in diameter than the minimum transverse extent of the socket so that it and the worm thereon can be moved outwardly at an angle of inclination in the said socket to disengage the worm from the teeth of the shank, a pin extending transversely through the sliding jaw and engaging the groove at the front extremity of the spindle, the said front extremity of the spindle being held between the pin and the inner wall of the socket and the distance between said inner wall and socket being slightly greater than the diameter of the portion of the pin having the circumferential groove therein, and a yielding device interposed between the said spindle and the outer inclined wall of the socket.

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

WILLIAM P. THOMPSON.

Witnesses:

BERT BRACE,
A. C. HAIGHT.