

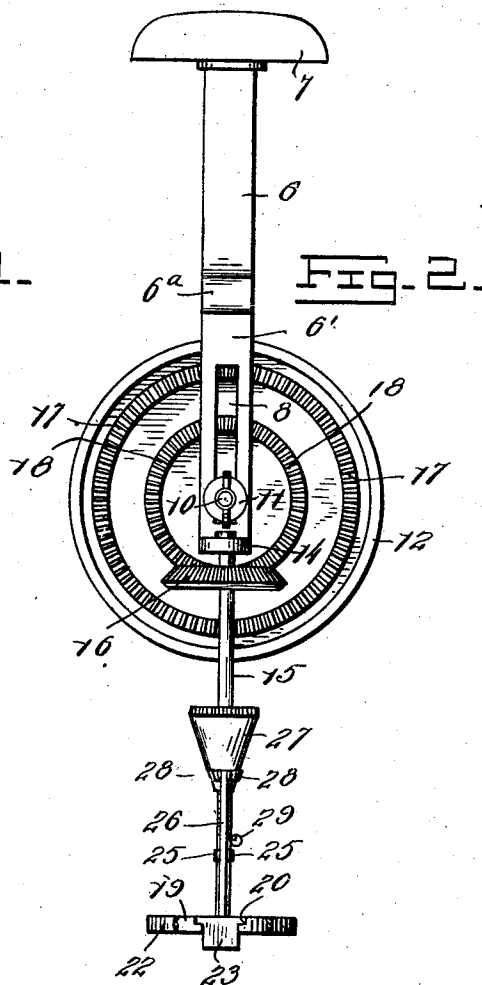
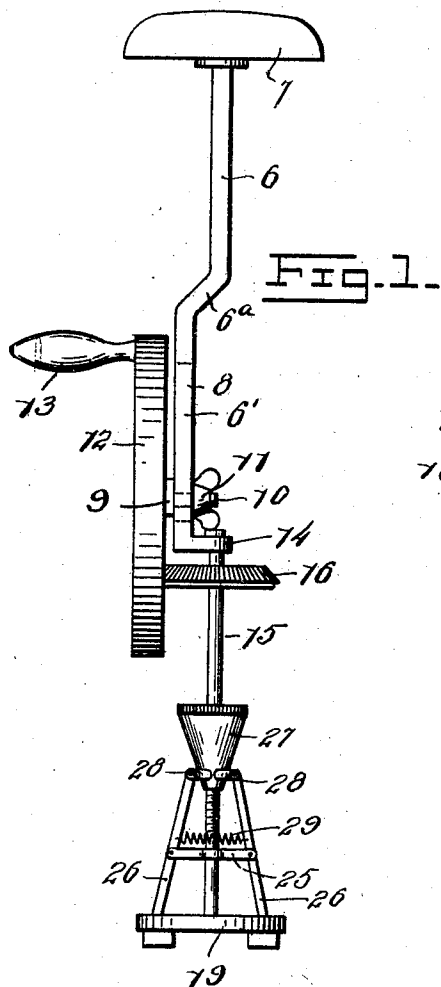
No. 865,736.

PATENTED SEPT. 10, 1907.

G. V. WEST.
WRENCH.

APPLICATION FILED FEB. 23, 1907.

2 SHEETS—SHEET 1.



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No. 865,736.

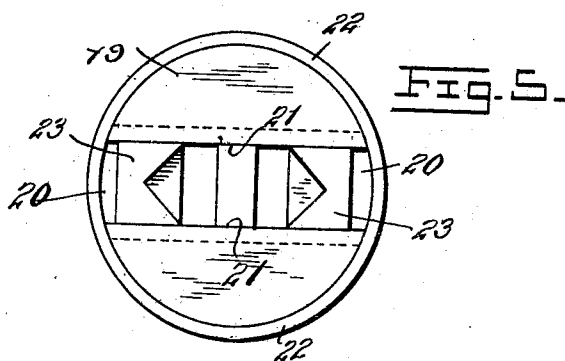
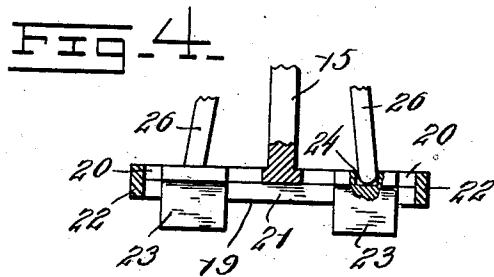
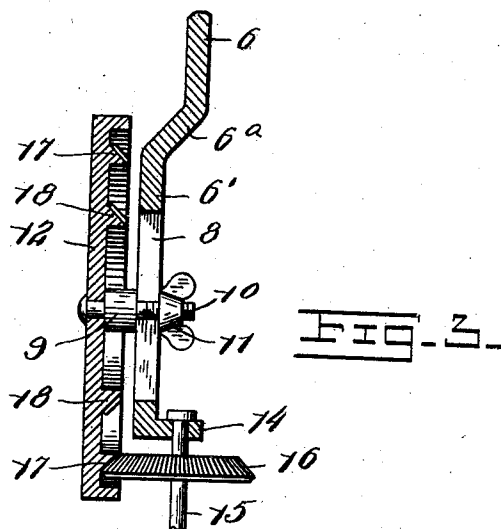
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

GEORGE V. WEST, OF JEWELL, KANSAS.

WRENCH.

No. 865,736.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed February 23, 1907. Serial No. 358,898.

To all whom it may concern:

Be it known that I, GEORGE V. WEST, a citizen of the United States, residing at Jewell city, in the county of Jewell and State of Kansas, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to tools and more particularly to wrenches, and has for its object to provide a wrench particularly adapted for use in operating upon long or finely threaded bolts and the like, and which will be arranged for adjustment to suit different conditions.

Other objects and advantages will be apparent from the following specification, and it will be understood that I do not desire to be limited to the exact construction shown and described, as various modifications will of course occur to one skilled in the art.

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 an elevational view of the wrench. Fig. 2 is a view taken at right angles to Fig. 1, showing the geared face of the drive wheel. Fig. 3 is a detail sectional view showing the slotted portion of the shank and the mounting of the drive wheel therein. Fig. 4 is an enlarged detail sectional view of the head, showing the arrangement of the jaws. Fig. 5 is a bottom plan view of the head.

Referring now to the drawings, the present wrench comprises a shank 6, having a transverse handle 7 at its upper end, and having a laterally offset lower portion 6' provided with a vertical longitudinal slot 8. At the side of the portion 6' opposite to that beyond which the offset extends, the offset being indicated at 6", there is a block 9, having a threaded stem 10 which is slidably engaged in the slot 8. This stem has a nut 11 engaged with its detached end for operation to hold the block against movement longitudinally of the shank.

Pivoted upon the outer face of the block 9, there is a drive wheel 12, from the outer face of which there extends an operating handle 13, by which the wheel may be revolved.

A finger 14 extends laterally from the lower end of the shank 6 beneath the offset 6", and thus away from the wheel 12, and in the outer end of this finger there is journaled the upper end of a revoluble shaft 15, having a spur gear 16 fixed thereupon adjacent to its upper end. The drive wheel 12 has formed upon its inner face, a pair of concentric circular series of gear teeth 17 and 18 respectively, which are of such pitch that either may be engaged with the teeth of the gear for rotation thereof when the wheel is revolved, and it will be understood from the foregoing that the mounting of the

drive wheel is such that it may be moved to allow of such interchangeable engagement, the nut 11 holding it in its different positions.

The shaft 15 has securely mounted at its lower end, a head 19, provided with a diametrical slot 20 at each side of its center, at which point the shaft is fastened thereto, and a groove 21, formed in the under face of the head, connects the inner ends of the slots. A strengthening band 22 is engaged around the periphery of the head. The slots are T-shaped in cross section, and engaged in each slot there is a jaw 23, these jaws having triangular notches in their mutually adjacent faces which form a socket, as will be easily understood, the jaws being slidable toward and away from each other to vary the size of the socket. Each jaw has a recess 24 in its upper surface for a purpose which will be presently described.

Secured transversely upon the shaft above the head 19, there are a pair of parallel plates 25 extending oppositely beyond the shaft to form pairs of ears, as shown. Between each pair of ears there is pivoted a lever 26, each of which has its lower end engaged in the recess 24 of the corresponding jaw 23. The shaft 15 is threaded, as shown, and engaged therewith there is an inverted conical member 27. This member is engaged between yokes 28 carried by the upper ends of the levers 26, and it will be understood that when the member is screwed downwardly, the levers are operated to move the jaws 23 toward each other, the levers having a spring 29 engaged therebetween for movement thereof to move the jaws away from each other when the member is screwed upwardly.

It is believed that the manner of using the invention will be obvious from the foregoing and need not be described.

It will of course be understood that a bit may be inserted between the jaws, and the tool used as a brace-and-bit.

What is claimed is:

1. A wrench comprising a shank, a shaft revolubly connected with the shank, means for revolving the shaft, a head carried by the shaft jaws slidably mounted in the head, levers pivoted to the shaft and engaging the jaws, and a member adjustably mounted upon the shaft and engaging the levers for movement of the latter upon their pivots when the member is moved.

2. In a wrench, the combination with a revoluble shaft, of a head carried by the shaft, jaws slidably mounted in the head, each of said jaws having a recess in its upper face, plates secured to the shaft above the head, a lever pivoted between the ears at each side of the shaft, said levers having their lower ends engaged in the recesses of the jaws, and a conical member adjustably mounted upon the shaft and engaged between the upper ends of said levers.

3. In a wrench, the combination with a shank having a longitudinal slot therein, of a laterally extending finger carried by the lower end of the shank, a shaft revolubly mounted at its upper end in the finger, a gear carried by the shaft adjacent to its upper end, a grip at the lower end of the shaft, a block having a stem slidably mounted in the slot, a nut engaged with the stem for operation to hold the stem at different points of its movement in the slot, and a gear having a plurality of series of gear teeth

revolubly mounted upon the block for bodily movement therewith to register its series of teeth with the gear interchangeably. 10

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

GEORGE V. WEST.

Witnesses:

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