

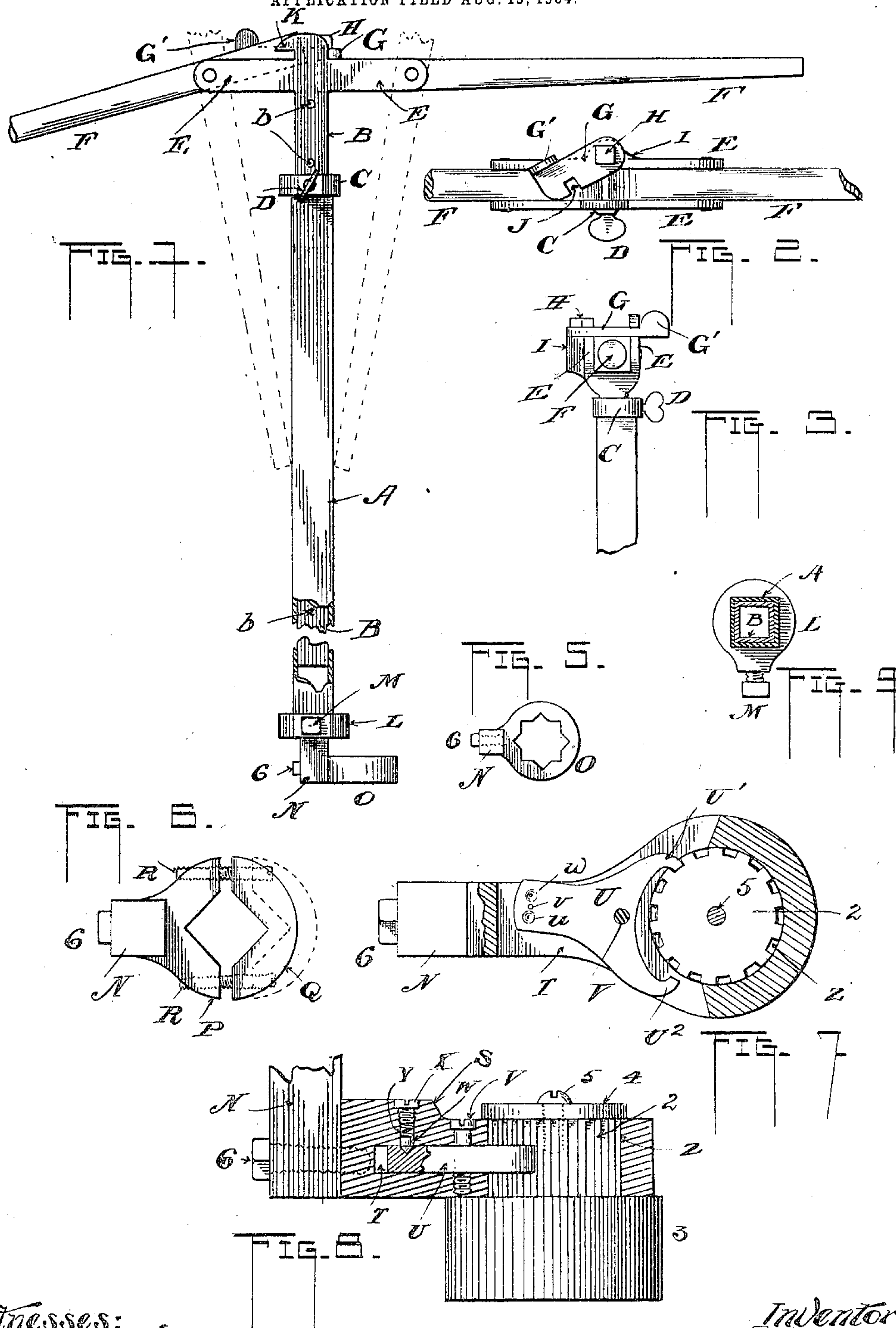
No. 807,637.

PATENTED DEC. 19, 1905.

J. P. PIPKIN.

EXTENSIBLE WRENCH.

APPLICATION FILED AUG. 15, 1904.



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# UNITED STATES PATENT OFFICE.

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## EXTENSIBLE WRENCH.

No. 807,637.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed August 15, 1904. Serial No. 220,774.

*To all whom it may concern:*

Be it known that I, JESSE P. PIPKIN, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have  
5 invented certain new and useful Improvements in Extensible Wrenches; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it apper-  
10 tains to make and use the same.

This invention relates to an extensible wrench.

The object of the invention is to provide  
15 a wrench that will be extensible and adjustable for certain lines of work where a person cannot reach with an ordinary wrench. It is well known that in engine-work, as well as many other kinds, the nuts or bolt-heads are located in almost inaccessible places where  
20 a common wrench cannot reach, much less turn, the nut or bolt-head, and it is the purpose of my present invention to provide a tool that will reach and turn any kind or size of nut or bolt-head with ease and certainty.

25 In the accompanying drawings, Figure 1 is a side elevation of my new wrench. Fig. 2 is a top view thereof. Fig. 3 is a view of the head of the wrench when given a quarter-turn from the position shown in Fig. 1. Fig. 4 is a  
30 cross-section of the stem of the wrench. Fig. 5 is a plan view of an adjustable fitting for the wrench. Fig. 6 is a plan or top view of an expansible fitting for the wrench. Fig. 7 is a sectional top view of a ratchet device used  
35 with the wrench. Fig. 8 is a side elevation of the same in section.

The body of the wrench consists of a square tubular member, within which is snugly fitted  
40 a second square member B, which may be solid in cross-section or hollow, as shown in Fig. 4. At the top of A is a fixed collar C, provided with a thumb-screw D, said screw passing through C to bear against B, there being a series of depressions *b* throughout the  
45 length of B to receive the end of said screw, as will be understood. Though I have shown these said depressions, they may be eliminated, if desired, since the screw may be easily tightened to produce sufficient friction  
50 to prevent the member B from slipping within A. The slidable member B is provided at the top with a head which is formed by securing to or forming with the said member B two side portions E, which are parallel with one

another and lie at right angles to the member  
55 B, as shown. Between the extremities of these portions E are pivoted the arms F, which when the wrench is in condition of transportation or packing away in the tool-chest are folded down to the position shown in broken  
60 lines, but when in position for work are raised to a horizontal position and there locked. The locking means comprises a pivotal lever G, secured by a bolt H to an enlargement I of  
65 one of the portions E described. Said lever is notched at J and designed to pass beneath an overhanging hook K, formed with one of said portions E, as shown. The pivot of the lever  
70 G is opposite the adjacent end of the arms F, and when said lever is pushed beneath the hook K the arms are firmly locked. A thumb-piece G' for the lever permits the latter being readily shifted at will.

On the lower end of the tube A is secured  
75 a collar L, similar to the collar C above, and a set-screw M therein serves to hold the stem N of a wrench O within said tube A. The wrench O is shown in Fig. 5 being provided  
80 with an opening that will accommodate a square or a "hex" nut. In Fig. 6 is illustrated an expansible wrench comprising two sections P and Q, held in adjustable relation to one another by means of two screws  
85 R R. It will be seen that an opening for a nut will accommodate several sizes of nuts by the simple turning of the screws. In  
90 Figs. 7 and 8 a ratchet arrangement is shown whereby the nuts may be turned on or off their bolts by a back-and-forth movement when it is impossible to take a complete turn  
95 of the wrench. A member S is provided having the stem N, as hereinbefore described, and having also a slot laterally therethrough for receiving a dog U. The latter member is provided with two pawl ends U' U<sup>2</sup> and is piv-  
100 oted at V on the screw bearing that reference-letter. The rear free end of the dog has three depressions *u v w*, with which engage separately a spring-held pointed plunger W, Fig. 8, beneath a screw X, the spring being indicated by Y. The outer end of the member S  
105 is bored out at right angles to the plane of the dog U, as indicated by Z, to receive the toothed stem 2 of a socket-wrench 3. The teeth of said stem are adapted for receiving the pawl ends of the dog, so that the wrench 3 may be turned thereby. A washer 4 covers the stem and rests upon the member S, which by a set-



screw 5 holds the members 2 3 in place. As illustrated in Fig. 7, the dog is positioned so that a movement of the member S will tighten a nut, the plunger W resting in the depression *u*. If it is desired to reverse the motion, the dog is shifted to the opposite position to place the opposite pawl end in engagement with the stem 2, and when so placed the said plunger W will rest in the depression *w*.  
 10 When desired to release the stem 2 entirely, by moving the dog to the position where the plunger will rest in the depression *v* the object is accomplished. The depressions are sufficiently large and the spring is sufficiently  
 15 yielding to permit the dog to play enough to allow its end in engagement with the teeth of the stem 2 to pass in and out in the ratchet movement, as will be understood.

In the several figures I show a bolt 6 passing through the stem N and into the members O and S. This is for the purpose of making the parts interchangeable, so that the members S or O or P Q may be employed at will by a mere removal of the said bolt 6, leaving  
 25 the stem N within the tube A. By means of the thumb-screw D the body of the wrench may be elongated to any extent, so that the user may reach down into close places and accomplish his work. As a matter of fact, I do  
 30 not wish to confine myself to the particular construction shown as to any of the parts of my wrench, since many changes may be made that will come within the scope of my invention.

35 The ratchet device in Figs. 7 and 8 may be replaced by other forms of wrench or even other kinds of tools, if desired.

Having described my invention, I claim—

40 1. In a wrench of the character described, an extensible stem or body, collapsible handles at right angles thereto situated at one end, means for locking the handles in immovable rigid relation only when raised and a device at the other end for receiving and turning a nut.

45 2. In a wrench of the character described, an extensible stem or body, means for adjusting said extensible stem and securing the same against movement, collapsible handles at one end of the stem at right angles thereto, means  
 50 for locking the handles in immovable rigid relation only when raised and a device at the opposite end of the stem for receiving and turning a nut.

3. In a wrench of the character described, an  
 55 extensible stem or body, arms at one end of the stem and adapted to collapse for the purposes set forth, means for locking the handles in immovable rigid relation only when raised and detachable means at the opposite end of  
 60 the stem for turning a nut or bolt.

4. In a wrench of the character described, the stem or body of the wrench, the same being extensible for the purposes described, collapsible handles at one end for turning the  
 65 wrench, means for locking the handles in im-

movable rigid relation only when raised and detachable means at the opposite end of the stem for turning a nut or bolt.

5. In a wrench of the character described, the stem or body comprising telescopic mem- 70  
 bers adjustable within each other, means for adjustably securing them together, foldable arms at one end of the stem for the purposes set forth, means for locking the arms at right  
 75 angles to the stem in an operative position, and detachable means at the opposite end of the stem for turning a nut.

6. In a wrench of the character described, a stem or body for the wrench, the same composed of telescopic portions, means for secur- 80  
 ing them in fixed relation when adjusted to the desired length, handles at one end of the stem at right angles thereto for turning the wrench the same being collapsible when not  
 85 in use, means for locking the handles in immovable rigid relation only when raised for work and a detachable device at the lower end of the stem for turning a nut.

7. In a wrench of the character described, a stem or body for the wrench, the same composed of a plurality of parts adjustable for 90  
 length, collapsible pivoted handles at one end for turning the wrench, a latch for locking the handles immovably in line with one another, only when raised and a ratchet device 95  
 at the opposite end of the stem for turning a nut by a ratchet movement in either direction for the purposes set forth.

8. In a wrench of the character described, a stem or body for the wrench composed of tele- 100  
 scopic sections, means for adjustably securing them together, a pair of collapsible arms at one end of the stem for turning the wrench, means for securing the arms in fixed position  
 105 at right angles to the stem, means at the lower end of the stem for securing a nut-turning device therein, and a detachable nut-turning device for said stem arranged substantially as set forth.

9. A wrench comprising a stem of telescopic 110  
 members, means for adjustably securing said members together, arms pivoted to the end of one of the members, a pivoted member for securing said arms at right angles to the member on which they are pivoted, said means 115  
 when swung on its pivot permitting the handles to collapse and lie close to the member supporting them and a nut-turning member at the opposite end from the handles for the purposes set forth. 120

10. A wrench comprising a stem of telescopic members, means for adjustably securing them together, two arms pivoted to one end of one of the members and adapted to occupy a position at right angles to the mem- 125  
 bers carrying them, the pivots of the arms being removed from the adjacent ends thereof, a latch member mounted on the carrying member to swing horizontally above the adjacent ends of the arms, means under which 130



the latch is thrust when locking the arms against movement, the arms arranged to collapse substantially as described, and a nut-turning member at the opposite end of the  
5 telescopic members.

11. In a wrench of the character described, the combination of the tubular telescopic members A, B, transverse extensions E on the top of the latter, arms F pivoted between the arms  
10 E, the latch G pivoted at the top of the said member B, the overhanging member K beneath which the latch is adapted to pass for locking the arm immovably in a horizontal position, means for adjusting the said mem-  
15 bers A and B in fixed relation to one another, and a nut-turning member for removable attachment to the free end of the member A.

12. The combination of the slotted member S and its carrying-stem N, a horizontally-piv-

oted dog U within the slot, the same having 20  
a pawl end thereon at each side of its pivot forward thereof, a spring-plunger W in the member S, the same having a downward pressure due to the spring, there being depres- 25  
sions in the dog rearward of the pivot for receiving the plunger as described, a ratchet member 2 within the member S and adapted to turn therein by means of the dog, the dog being adjustable for reversing the direction  
of movement imparted to the said member 2, 30  
and a nut-turning member 3 carried by the ratchet member substantially as set forth.

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

JESSE P. PIPKIN.

Witnesses:

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