

WRENCH,

949,083.

Patented Feb. 15, 1910.

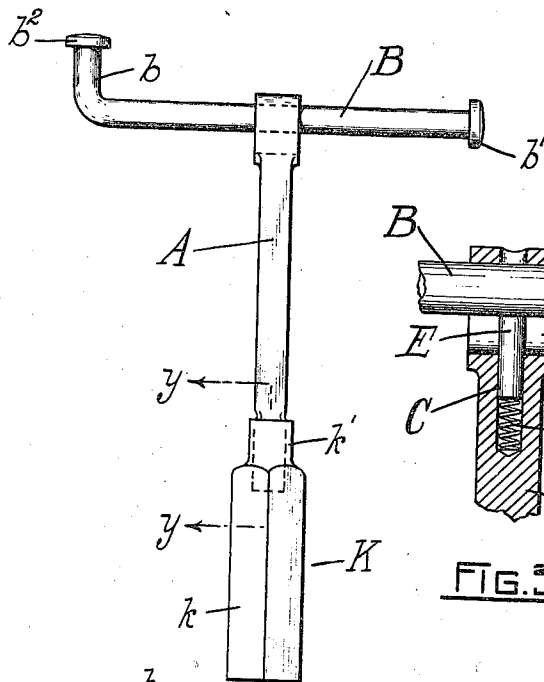


FIG. 1.

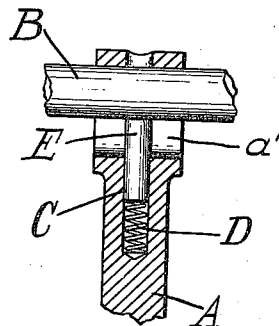


FIG. 3.

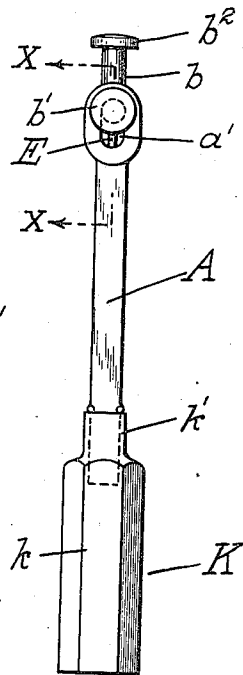


FIG. 2.

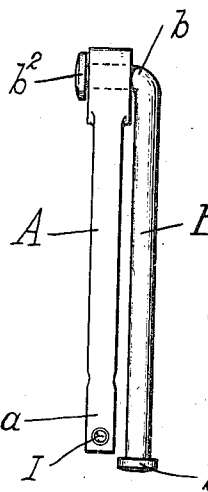


FIG.4.

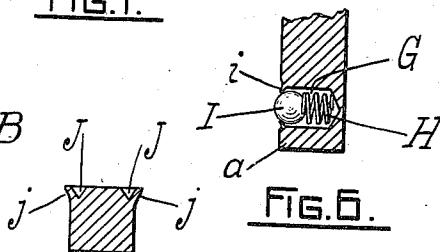


FIG. 6.

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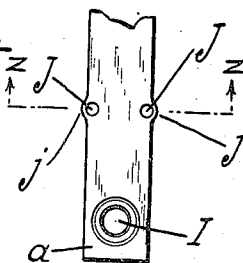


FIG. 7.

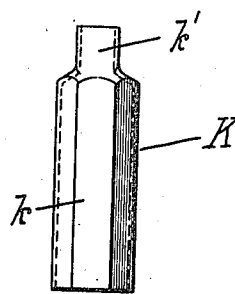


FIG. 5.

WITNESSES.

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WRENCH.

949,083.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed June 14, 1909. Serial No. 501,923.

To all whom it may concern:

Be it known that I, FRANK MOSSBERG, a citizen of the United States, residing at Attleboro, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to wrenches, especially to such as are intended for use where the nut or other article to be turned is remote or difficult of access, as for instance, spark plugs.

The primary objects of the present invention are to render the wrench capable of being folded and arranged compactly when not in use; to impart adjustability to the handle or cross bar; to provide an effective and facile means for engaging the shank and socket; and to attain these objects in a simple and inexpensive device free of ratchet mechanism.

Other novel features will be hereinafter pointed out and claimed.

In the accompanying drawings which form a part of this specification, Figure 1, is a front elevation of my novel wrench, Fig. 2, a side elevation, Fig. 3, a partial section on line *x x* of Fig. 2, Fig. 4, a front elevation of the shank and handle members in folded position, Fig. 5, a side elevation of the socket member detached, Fig. 6, a section on line *y y* of Fig. 1, Fig. 7, an enlarged detail of the lower portion of shank, and Fig. 8, a section of the same on line *z z* of Fig. 7.

Like letters of reference indicate like parts throughout the views.

My device comprises a solid shank A, in this instance of rectangular cross section. The contour of such section, however, is unessential except at the lower end, *a*, where the shank should be polygonal or have plane sides to perform the function of a tenon. The upper portion of the shank is provided with a transverse or horizontal opening *a'*, through which loosely passes a handle or cross bar B provided near one end with a portion *b* bent at right angles to the body of the bar. Upon the ends of the portions B and *b* are heads or shoulders *b'* and *b''* respectively. A vertically disposed cylindrical cavity C in the shank extends to the opening *a'*. A helical spring D in this cavity upwardly presses a slidable pin E, also

in this cavity, into frictional contact with the bar B. The portion, *a*, of the shank is also provided with a recess G containing a spring H outwardly pressing a ball I which projects beyond the plane of the shank face, but which is retained in position by a circular bead *i*. Above spring pressed ball I, the shank has its surface punctured at two points J J near the margins of the shank face and in horizontal alinement with each other, whereby the material of the shank is laterally displaced to form slight projections *j*.

A removable socket K has a polygonal body *k* and a reduced squared or polygonal neck *k'*; the latter is a sliding fit upon the squared portion, *a*, of the shank A, and is practically held in engagement therewith by the ball I. The projections *j* limit the excessive upward movement of the socket relatively to the shank.

The handle B is maintained in any desired horizontal position by the spring pressed pin E, and its bent portion, *b*, facilitates folding the parts as shown in Fig. 4, where the head *b''* abuts against the face of the shank, and prevents accidental disengagement of the parts.

The socket K is readily separable from the shank, and when not in use may be placed side by side with the shank in a minimum of space. It is deemed important that the ball be inserted into the shank and made to operate outwardly from the radius for by this construction where sockets are made to fit this particular shank, one ball serves to hold all the different sockets.

What I claim is,—

In a wrench, a shank having at one end a lateral recess, and a spring pressed ball in said recess, said shank being formed with a circular bead at the outer end of said recess to retain the ball in position, said shank above said recess being punctured adjacent opposite margins of the shank face whereby the metal is laterally displaced to form projections.

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

FRANK MOSSBERG.

Witnesses:

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HORATIO E. BELLOWES.