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E. H. SMITH.

WRENCH.

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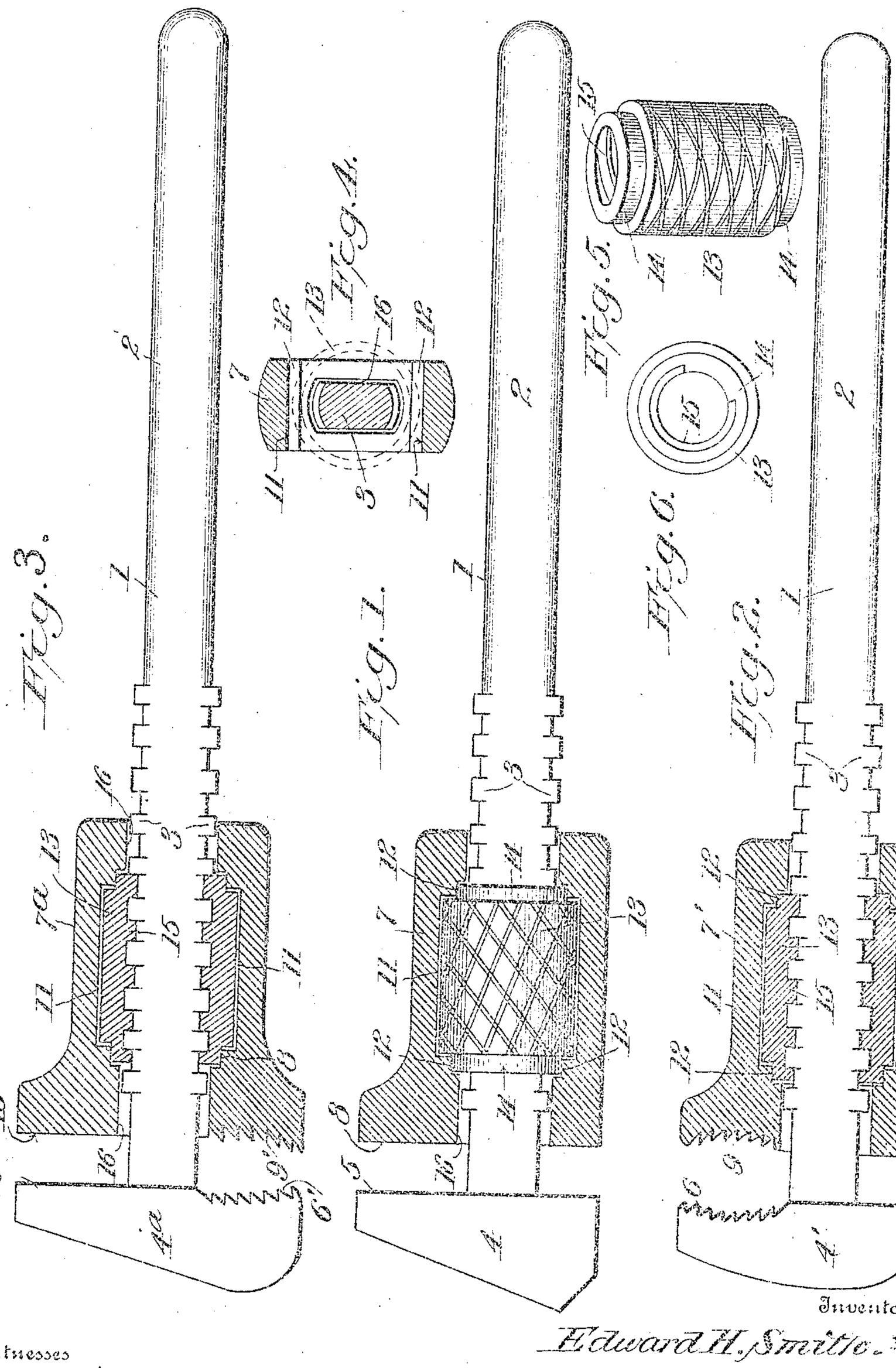

Witnesses

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WRENCH.

No. 884,227. Specification of Letters Patent. Patented April 7, 1908.

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To all whom it may concern:

Be it known that I, EDWARD H. SMITH, a citizen of the United States, residing at Aberdeen, in the county of Chehalis and State of Washington, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in wrenches, and has for its object the improvement of the construction of wrenches, which are provided with a slidable jaw mounted upon a shank, which shank is, preferably, provided with a fixed jaw.

Another object of the invention is the peculiar construction of a sliding jaw of a wrench and the nut, whereby the nut prevents the jaw from engaging or injuring the threads of the shank.

With these and other objects in view, the invention consists of certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings: Figure 1 is a view in side elevation of the wrench, showing the sliding jaw in longitudinal section. Fig. 2 is a view of another embodiment of a wrench, showing the sliding jaw and the nut in longitudinal section. Fig. 3 is another embodiment of the present invention, showing the sliding jaw and the nut in longitudinal section. Fig. 4 is a transverse, sectional view of the sliding jaw and the shank and showing in dotted lines the nut. Fig. 5 is a perspective of the nut. Fig. 6 is an end view of the nut.

Referring to the drawings by numerals, 1 designates the shank, which is provided with a handle-portion 2, and with a threaded portion 3. Integral with the shank 1 is a stationary jaw 4. The jaw 4, in Fig. 1, is provided with a smooth, inner face 5, while in Fig. 2, the jaw 4′ is provided with a pipe-gripping or toothed face 6, whereas in Fig. 3, the jaw 4ª has two engaging faces, to wit: the flat or smooth face 5′ and the pipe-gripping face 6′.

The sliding jaw 7 is provided with a face 8 corresponding to the face 5, whereas the sliding jaw 7′ is provided with a pipe-gripping or toothed or roughened face 9, corresponding to face or gripping-portion 6. In the embodiment depicted in Fig. 3, the sliding jaw 7ª is provided with a smooth face 10 corresponding to the face 5′, and said jaw is also provided with a pipe-gripping face or toothed-surface 9′ corresponding to the surface or face 6′. It will be obvious that the wrench shown in Fig. 3 can be used upon an ordinary square nut, or upon pipes, or objects having a round surface.

In each of the embodiments, the sliding jaw is provided with inner, parallel walls or faces 11 and with straight, transverse shoulders 12 at the ends of the walls 11. The walls 11 and shoulders 12 constitute a central cut-out portion within the sliding jaw, in which the rotatable nut 13 is positioned.

The nut 13 comprises a cylindrical body provided at its ends with reduced, annular extensions 14; the annular extensions 14 bearing snug against the inner, parallel faces of the shoulders 12 for preventing the sliding jaw from rattling or having any sidewise movement towards the threads on the threaded portion 3 of the shank 1, thereby preventing the sliding jaw from injuring or wearing the threads, which is of very great importance, owing to the extension of the life of the wrench and the holding of the jaw and the nut in a firm, operative, position. It will be obvious that the cylindrical nut is internally screw-threaded, as at 15, and is provided with a roughened or a serrated, outer surface upon the body, Figs. 1 and 5.

The sliding shank is provided at both ends with elongated or substantially oblong apertures 16, through which projects the shank; said shank fits comparatively snug within the apertures 16. While the sliding jaw may be adjusted freely upon the threaded portion of the shank, still it is supported at its straight, transverse shoulders 12, upon the annular reduced extensions 14 of the comparatively large cylindrical nut. It is important that the nut be provided with the reduced, annular portions or reduced cylindrical extensions 14 at its ends, so that both ends of the sliding jaw may be supported away from the shank at all times. Furthermore, the peculiarly-constructed, straight shoulders are important, inasmuch as they engage the reduced portion of the nut, and at the same time permit the disassembling of the nut

from the sliding jaw, upon the shank being removed, by merely moving said nut sidewise or laterally out of the jaw.

What I claim is:

1. A wrench, comprising a shank, a stationary jaw fixed securely to one end of said shank, said shank provided near one end with a threaded portion contiguous to said jaw, a sliding jaw positioned upon said shank contiguous to said threaded portion, said sliding jaw provided with a central cut-out portion formed by straight, parallel, inner walls, said cut-out portion provided at each end with a pair of straight, transverse, shoulders, a cylindrical nut positioned within the cut-out portion of said sliding jaw and surrounding the threaded portion of said shank, said nut provided at its ends with means engaging all of the shoulders and entirely supporting said sliding jaw away from the threaded portion of the shank.

2. A wrench, comprising a threaded shank, a jaw engaging said shank at one end, a sliding-jaw mounted upon the threaded portion of said shank, a rotatable nut positioned within said sliding jaw and engaging said threaded portion of the shank, said nut provided with reduced, annular extensions at its ends, said annular extensions slidably engaging and supporting the sliding jaw away from the threaded portion of the shank.

3. A wrench, comprising a threaded shank, a jaw fixed to one end of said shank, a sliding-jaw mounted upon the threaded portion of said shank, said sliding-jaw provided with a cut-out portion, said cut-out portion provided with a pair of transverse shoulders at each end, the shoulders in each pair having their inner faces formed straight and in parallel position, and a nut rotatably mounted within said sliding-jaw and provided at both ends with means engaging all the shoulders of the sliding-jaw for entirely supporting said jaw upon said shank.

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

EDWARD H. SMITH.

Witnesses:

FRANK. NUGENT,

WM. J. BEHR.