(No Model.)

J. P. FORSBERG.

WRENCH.

No. 592,285. Patented Oct. 26, 1897.

Fig. 1.

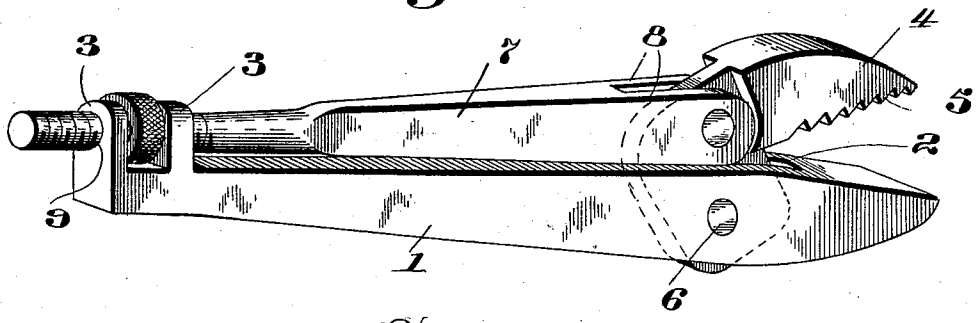


Fig. 2.

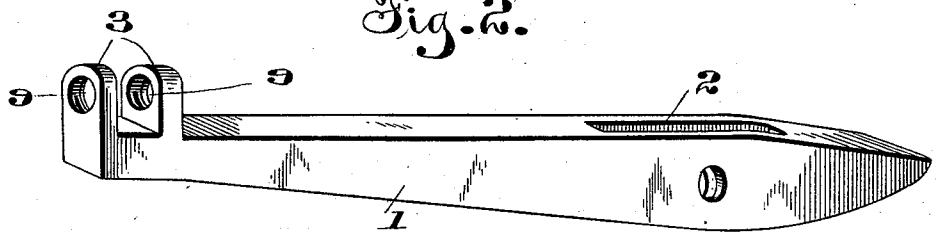


Fig. 3.

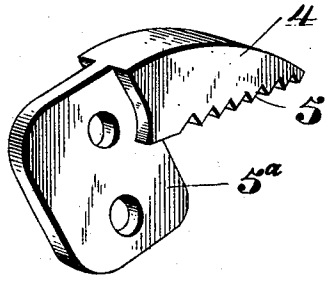
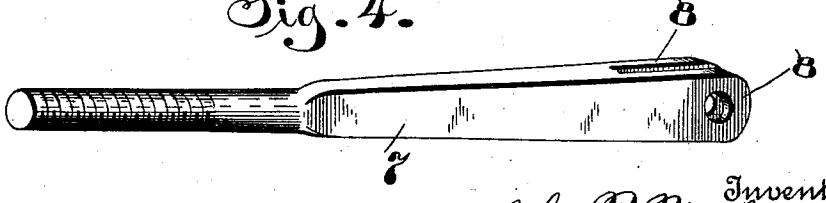


Fig. 4.



Witnesses
Marcus L. Byng.
Milton Frasburger

Inventor
John P. Forsberg
by John Wedderburn
his Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN P. FORSBERG, OF THIEF RIVER FALLS, MINNESOTA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 592,285, dated October 26, 1897.

Application filed April 20, 1897. Serial No. 632,908. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. FORSBERG, a citizen of the United States, residing at Thief River Falls, in the State of Minnesota, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide a simple and effective nut-wrench which is adapted to be used upon nuts of any size or shape and in any out-of-the-way position.

The invention consists of a bar constituting a stationary jaw and part of the handle, having a slot extending therethrough at a point adjacent to its forward end and parallel laterally-extending lugs at its extreme rear end, a movable jaw having teeth upon one edge thereof and formed with a laterally-extending arm which fits within said slot and is pivoted to the stationary jaw, a bar constituting the operating-lever for the movable jaw and a part of the handle of the wrench formed with bifurcated forward ends, within which the movable jaw fits and is pivoted, and a nut having a central threaded opening therethrough, within which the threaded rear end of said operating-lever fits, said nut fitting between the lugs at the rear end of the stationary jaw.

In the drawings forming part of this specification, Figure 1 represents a perspective view of my improved wrench, parts being shown in dotted lines to more clearly bring out the construction. Fig. 2 is a detail view of the bar constituting the stationary jaw and a part of the handle. Fig. 3 is a similar view of the movable jaw, and Fig. 4 is a similar view of the operating-lever for the movable jaw.

Like reference-numerals indicate like parts in the different views.

My improved wrench is made up of a bar 1, constituting a stationary jaw and a part of the handle, said bar being provided with a laterally-extending slot or opening 2 at a point near its forward end and with two parallel laterally-extending lugs 3 3 at its extreme rear end. The movable jaw 4 is provided with teeth 5 upon its inner engaging surface and has a laterally-projecting arm or extension 5 thereon which is slightly narrower than the main part of said jaw. Said extension 5^a fits within the slot or opening 2 and is pivoted to the bar 1, as shown at 6. The bar 7 constitutes the operating-rod for the movable jaw 4 and a part of the handle of the wrench. It is formed with bifurcated forward ends 8, between which the narrow portion of the movable jaw 4 fits and is pivoted. The rear end of said rod is screw-threaded and is adapted to extend through openings 9 9 in the lugs 3 3. Fitting between said lugs is a nut 10, having a milled outer surface and a central screw-threaded opening, within which the rear end of the bar 7 fits.

In using my wrench it is merely necessary, in order to separate the movable jaw from the stationary jaw, to turn the nut 10 in one direction or the other, according to the way in which the screw-threads are formed, which action will retract the bar 7, drawing with it the movable jaw 4. A reverse operation from that just described will close the jaws of the wrench and cause the same to grip upon the nut or other object to be turned thereby.

By reason of the fact that the operating-rod 7 of the movable jaw extends to the extreme rear end of the bar 1 the same is adapted to serve as a part of the handle of the wrench. The two parts 1 and 6, when grasped, therefore, to operate the wrench to turn a nut, will be held positively and certainly against slipping or any movement whatever relative one to the other.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

A wrench comprising a bar constituting a stationary jaw and a part of the handle, provided with a laterally-extending slot or opening therein and having a pair of laterally-extending parallel lugs at its extreme rear end which are formed with alined openings, a movable jaw having a contracted laterally-projecting arm or extension thereon which fits within said slot and is pivoted to the bar in which said slot is formed, an operating rod or bar for said movable jaw having bifurcated forward ends between which the contracted portion of said movable jaw fits and to which said movable jaw is pivoted, and having a screw-threaded rear end which projects

through the alined openings in said lugs, and a nut fitting between said lugs formed with a central threaded aperture within which the rear end of said operating-bar fits, the said operating rod or bar serving as a part of the handle of said wrench, substantially as and for the purpose described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN P. FORSBERG.

Witnesses:
J. W. SWANSTROM,
L. J. BARNES.