No. 841,986. PATENTED JAN. 22, 1907.

E. LACHÈZE.

WRENCH.

APPLICATION FILED SEPT. 7, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

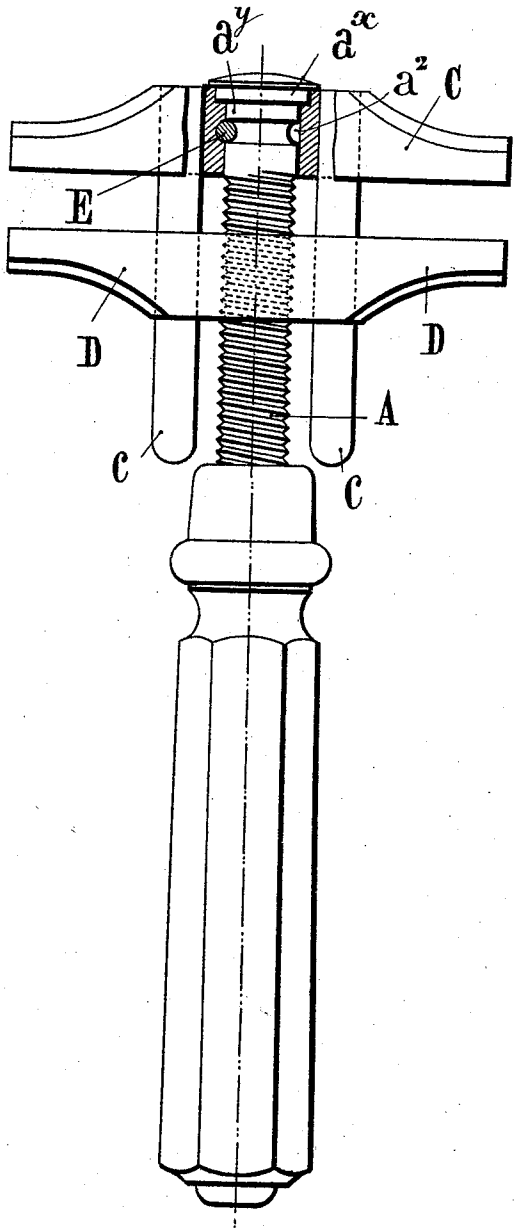
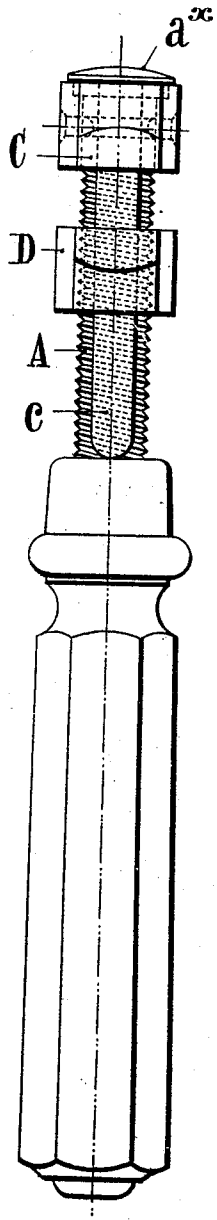


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3

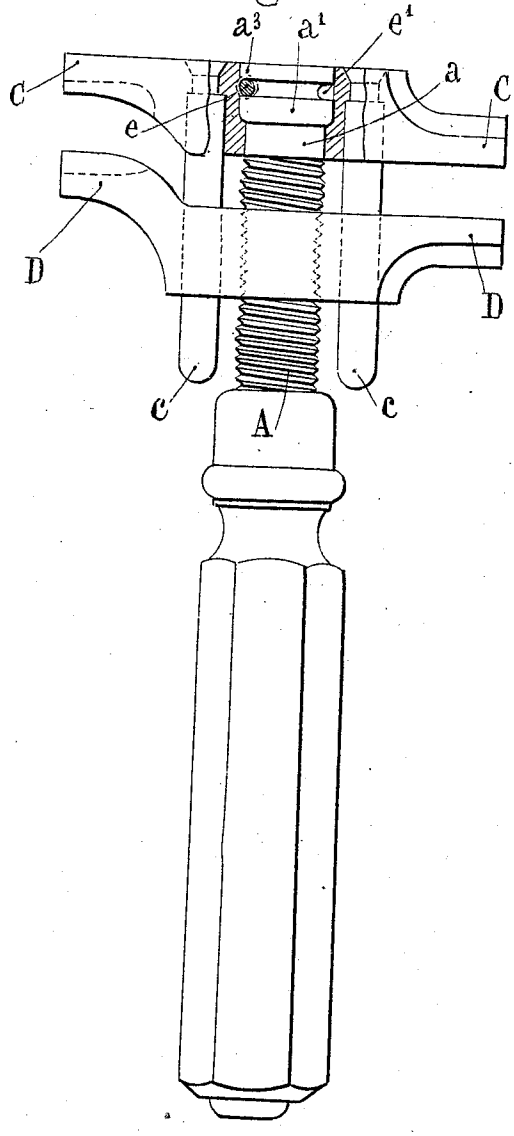
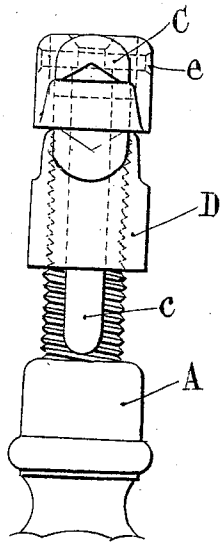


Fig. 4.



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No. 841,986. Specification of Letters Patent. Patented Jan. 22, 1907.

Application filed September 7, 1905. Serial No. 277,419.

To all whom it may concern:

Be it known that I, EMILE LACHÈZE, a citizen of the Republic of France, and a resident of Dijon, in said Republic, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches, and more particularly to wrenches which embody a shank on which is adjustable a jaw which coöperates with a second jaw rotatable about said shank, but fixed against axial movement therealong.

One object of the invention is to provide improved means for mounting the fixed jaw just mentioned whereby the mounting does not interfere with the use of the wrench in places which are accessible with difficulty.

A further object of the invention is to provide a construction in which the turning strain exerted on the wrench in tightening and loosening nuts is not received directly by the means for securing the fixed jaw against axial movement on the shank, whereby such securing means is relieved from strain.

With these ends in view the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings, in which corresponding parts are denoted by the same reference characters throughout, Figure 1 is a front elevation of a wrench constructed in accordance with the invention. Fig. 2 is a side elevation of Fig. 1. Fig. 3 is a front elevation of another form of wrench constructed in accordance with the invention, and Fig. 4 is a side elevation of Fig. 3.

Referring to the drawings, and more particularly to Figs. 1 and 2, A denotes the shank of the improved wrench, which is provided with screw-threads up to within a short distance of its outer end a^y. Said end is smooth and of cylindrical form and provided with a peripheral groove a^2 of U-shaped cross-section. Mounted on and rotatable about said smooth end of the shank is a jaw C, extending laterally to either side of the shank. Said jaw is freely rotatable about the end a^y, but is prevented from moving axially therealong by means of a pin E, which passes transversely through said jaw and into the groove a^2.

The extreme outer end of the shank A is provided with a cylindrical enlargement a^x, which forms a continuation of the smooth end portion a^y and fits within the cylindrical bore of the jaw C, which is counterbored for this purpose.

D denotes the movable jaw of the wrench, which is similar in form to the jaw C, but provided with a threaded bore engaging the threads of the shank A. In order to maintain the jaws C and D in alinement with each other when the shank is turned, so as to open or close said jaws, guide-pins *c* are fixedly secured within the upper fixed jaw and extend downwardly through openings in the lower jaw, the latter thus having a slidable engagement with said pins.

In using the wrench the jaws are adjusted to the nut by turning the shank in the proper direction, as will be understood. It is an important feature of the invention that the cylindrical enlargement a^x receives the turning strain when the wrench is used to loosen or tighten a nut, and thereby relieves the securing-pin E from such strain, to which it would otherwise be subjected. In case said pin received the turning strain directly it would be extremely liable to breakage; but in the construction described this is avoided, and said pin merely acts to restrain the fixed jaw from moving along the shank in longitudinal direction.

Figs. 3 and 4 show a slightly-modified manner of mounting the fixed jaw. The head *a* of the shank is left smooth at its lower portion and provided above said portion with a smooth cylindrical enlargement. In this form the pin-receiving groove e' is disposed intermediately of the enlargement and divides the latter into two flanges a' a^3, as shown in Fig. 3. The pin *e* engages the groove e' in the manner hereinbefore described. In this case the cylindrical enlargement a' a^3 relieves the securing-pin from strain in the same manner as the enlargement a^x in the form first described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A wrench comprising a threaded shank having a smooth head provided with a peripheral groove, a movable jaw threaded on said shank, a fixed jaw rotatable about said head, a pin passing through said fixed jaw and entering said groove to prevent the dis-

placement of said jaw longitudinally of the shank, and a smooth cylindrical enlargement formed on said head within said fixed jaw and serving to receive the turning strain between the jaw and shank when the wrench is turned in use and to relieve said pin from such strain.

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

EMILE LACHÈZE.

Witnesses:
J. N. MENTENT,
PETER HIRTZ.