

(No Model.)

F. SCHRADER.
ADJUSTABLE SPANNER.

No. 582,238.

Patented May 11, 1897.

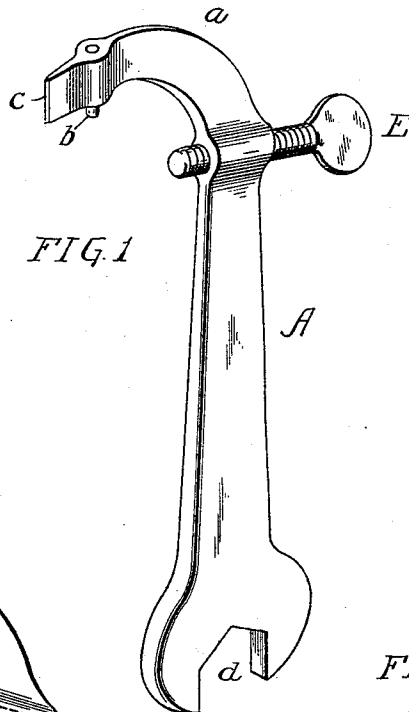


FIG. 1

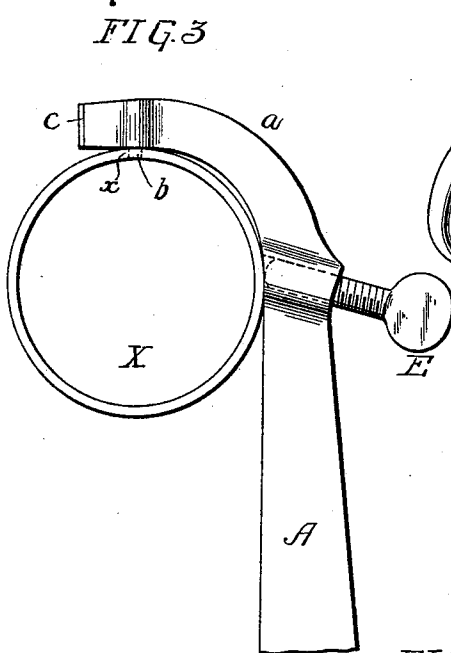


FIG. 3

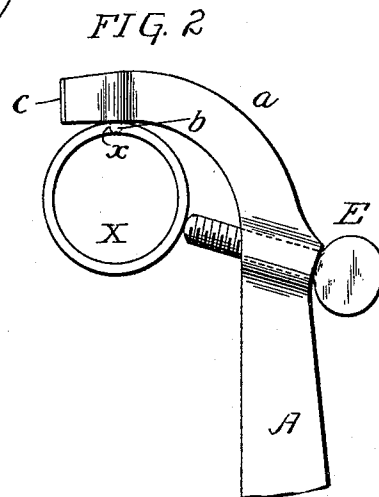


FIG. 2

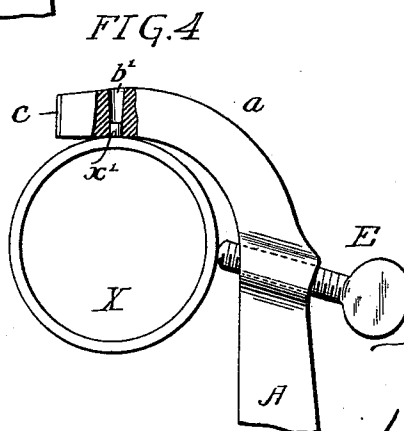


FIG. 4

Witnesses:
J. M. Porter
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Inventor:
F. Schrader.
by his Attorney,
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UNITED STATES PATENT OFFICE.

FREDERICK SCHRADER, OF BRIDGEPORT, CONNECTICUT.

ADJUSTABLE SPANNER.

SPECIFICATION forming part of Letters Patent No. 582,238, dated May 11, 1897.

Application filed February 18, 1897. Serial No. 623,992. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK SCHRADER, a citizen of the United States, and a resident of the city of Bridgeport, State of Connecticut, have invented a certain new and Improved Adjustable Spanner-Wrench, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The object of my invention is to provide a new and improved form of wrench which may be adjusted for use in connection principally with circular lock-nuts of different diameters, thus avoiding the expense and inconvenience of employing a separate wrench for each size of nut.

A further object of the invention consists in so constructing the wrench that it may also be used as a nut-wrench and screw-driver, as more fully set forth hereinafter.

In the accompanying drawings, Figure 1 is a perspective view of a spanner-wrench constructed in accordance with my invention. Fig. 2 is an elevation of the same, illustrating its adjustment for use in connection with a lock-nut of small diameter. Fig. 3 is a similar view illustrating the use of the wrench in connection with a nut of large diameter, and Fig. 4 is a view illustrating a modification in which the nut is provided with a projecting pin and the wrench with an orifice for the reception of said pin.

In spanner-wrenches as ordinarily constructed a separate wrench must be used for each size of nut, the end of the wrench having a pin-and-hole connection with the nut, and thence following the curvature of the nut, so that it may be in close contact with the latter to better effect its turning.

In a wrench constructed in accordance with my invention I provide an adjustable screw or block for contact with the surface of the nut, so that a single wrench may be used for nuts of various diameters.

Referring to the drawings, A represents the main body or handle portion of the wrench, the operating end of which is curved at *a* after the manner of the usual construction of spanner-wrench and arranged to operate with

a nut of the largest diameter. At or near the curved end of the wrench is a pin *b*, which in operation engages an orifice or slot *x* in the nut X, or, as shown in Fig. 4, the nut may be provided with a projecting pin *x'* and the wrench with an opening *b'*. The extreme end of the curved portion *a* is flattened to form a screw-driver *c*, and the opposite end of the main body of the wrench is made in the form of a wrench *d* for use in connection with faceted nuts of the ordinary construction. At about the point where the curved portion *a* merges into the main body A there is formed an enlargement provided with a threaded opening, through which extends a thumb-screw E, as shown.

In operation the pin-and-hole connection with the nut is first made, and then the screw E is turned until its inner end is forced into contact with the periphery of the nut and forms a second contact or bearing point, which makes the wrench just as effective as though its curved surface were in intimate contact with a large portion of the periphery of the nut.

It will be seen that the wrench can be applied to nuts of large or small diameters within a reasonable limit, although by increasing the length of the screw in the construction shown the capacity of the wrench may be increased to any desired extent.

The screw-driver *c* is of a form convenient for many uses, and the handle A being at about a right angle thereto gives it the additional advantage of the leverage to be gained in use.

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

1. A spanner-wrench comprising a main body portion and a curved end constructed to make a pin-and-hole connection with the nut, and a second contact or bearing adjustable toward and from the periphery of the nut.

2. The combination in a spanner-wrench of the main portion, A, having a curved end, *a*, a pin, *b*, on said curved end, and a screw, E, adapted to a threaded orifice in the main portion, A, substantially as specified.

3. The combination of the main portion, A,
having a curved end, *a*, a screw-driver, *c*,
formed at the curved end, a nut-wrench, *d*,
at the opposite end, a pin, *b*, projecting from
5 the curved end, and a screw, *E*, adapted to an
orifice in the main portion, A, substantially
as specified.

In witness whereof I have hereunto set my
hand this 10th day of February, A. D. 1897.

FREDERICK SCHRADER.

Witnesses:

F. H. SPENCER,

W. W. CASWELL.