

(No Model.)

F. SCHRADER.  
ADJUSTABLE SPANNER.

No. 582,238.

Patented May 11, 1897.

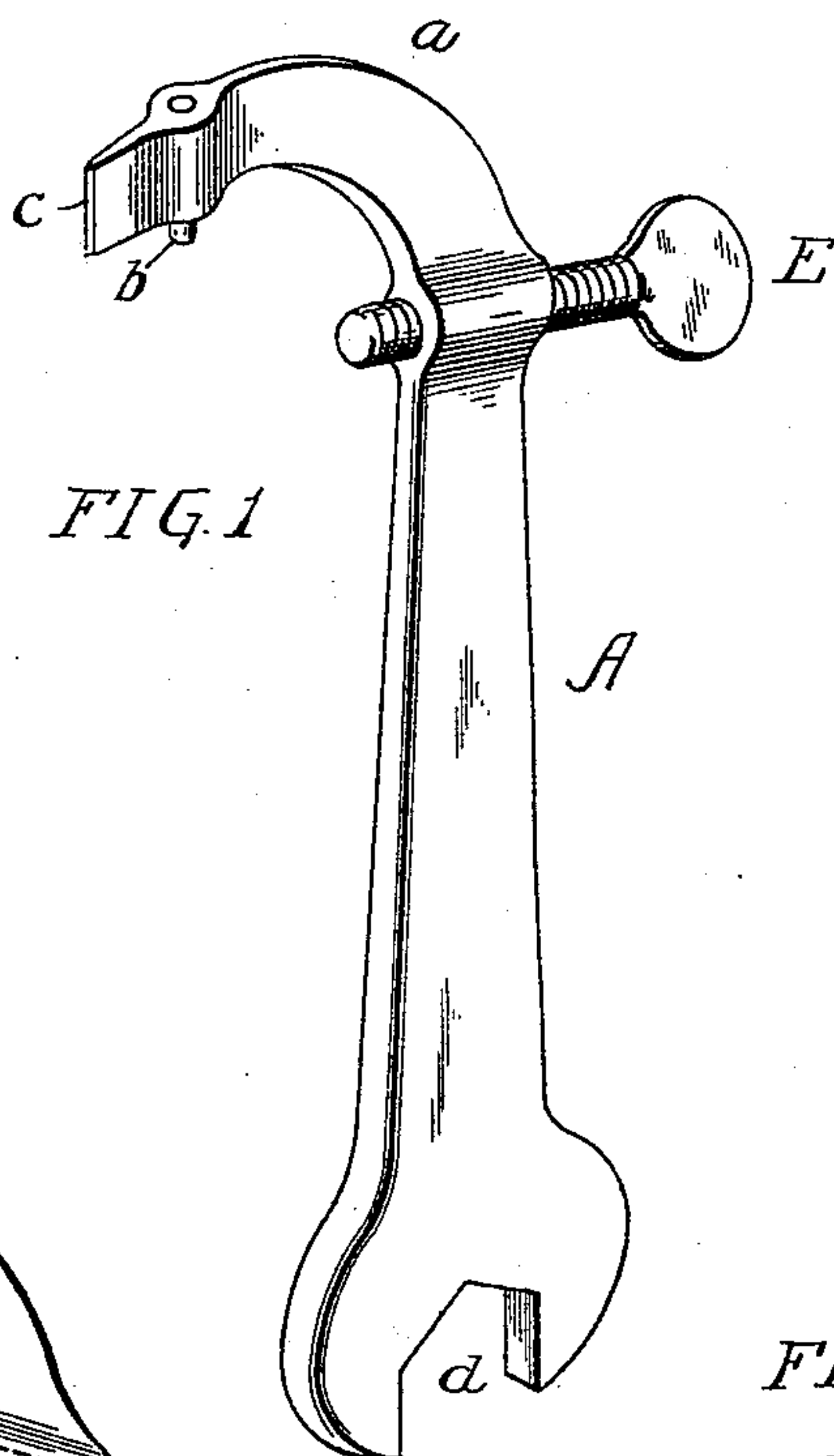


FIG. 1

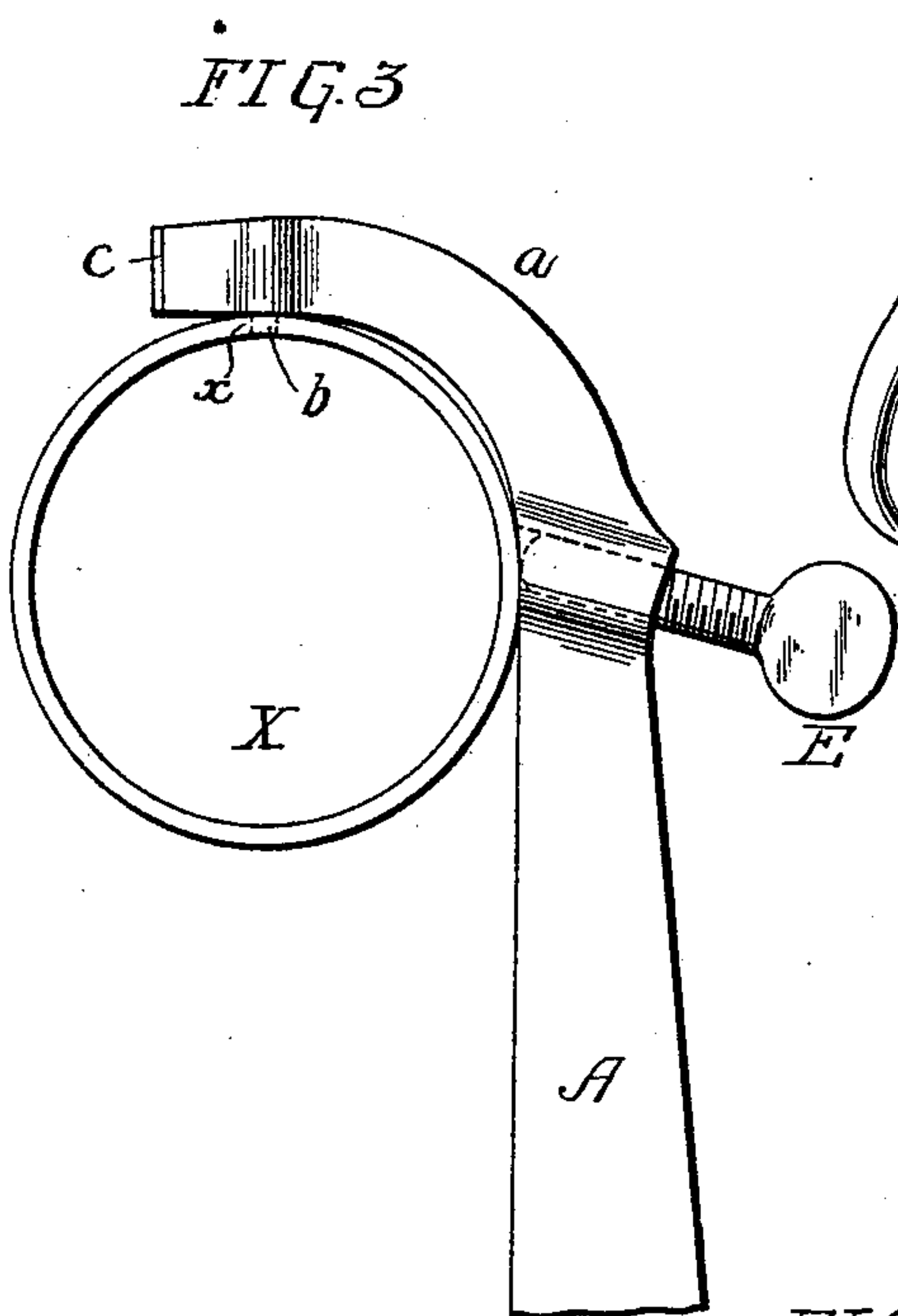


FIG. 3

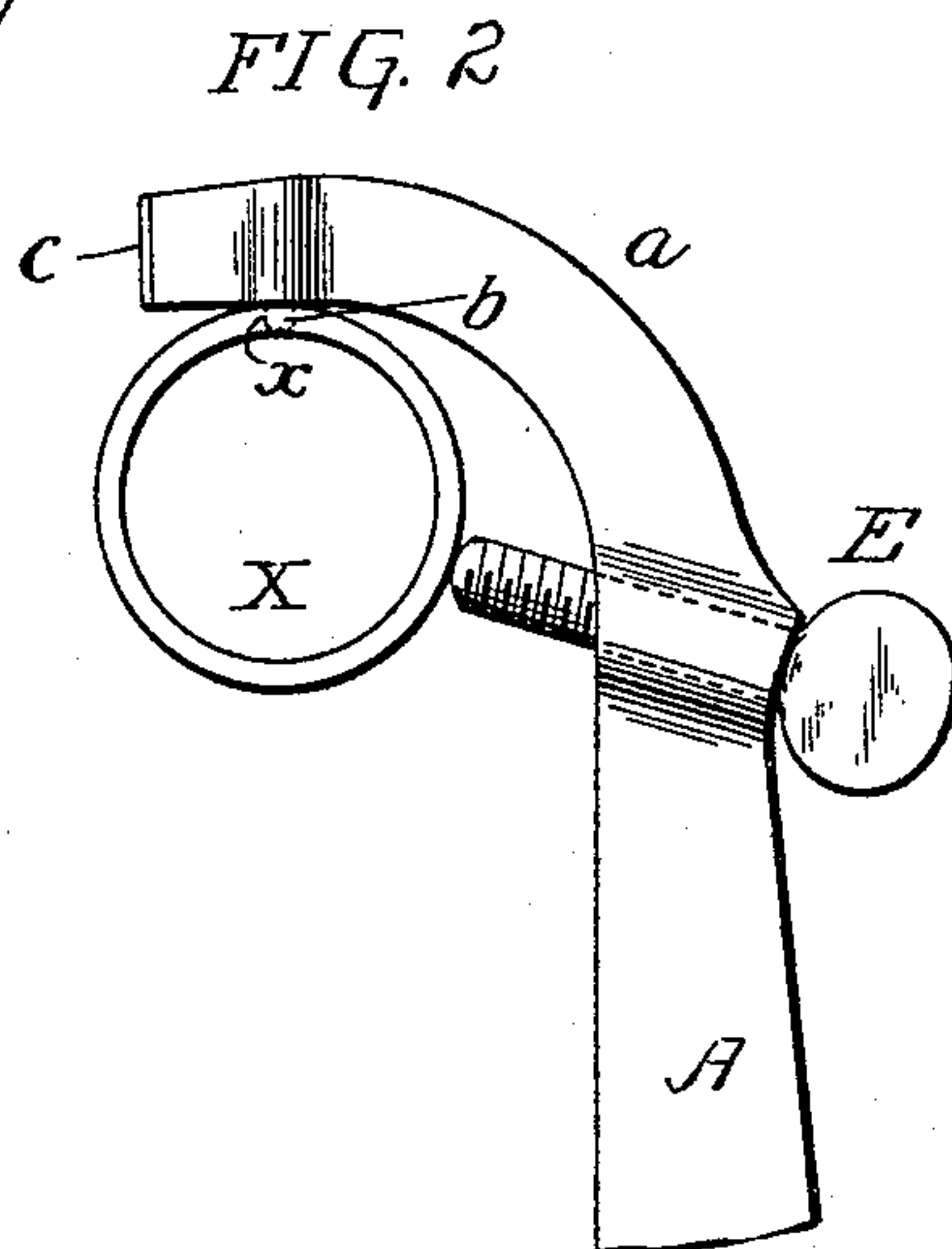


FIG. 2

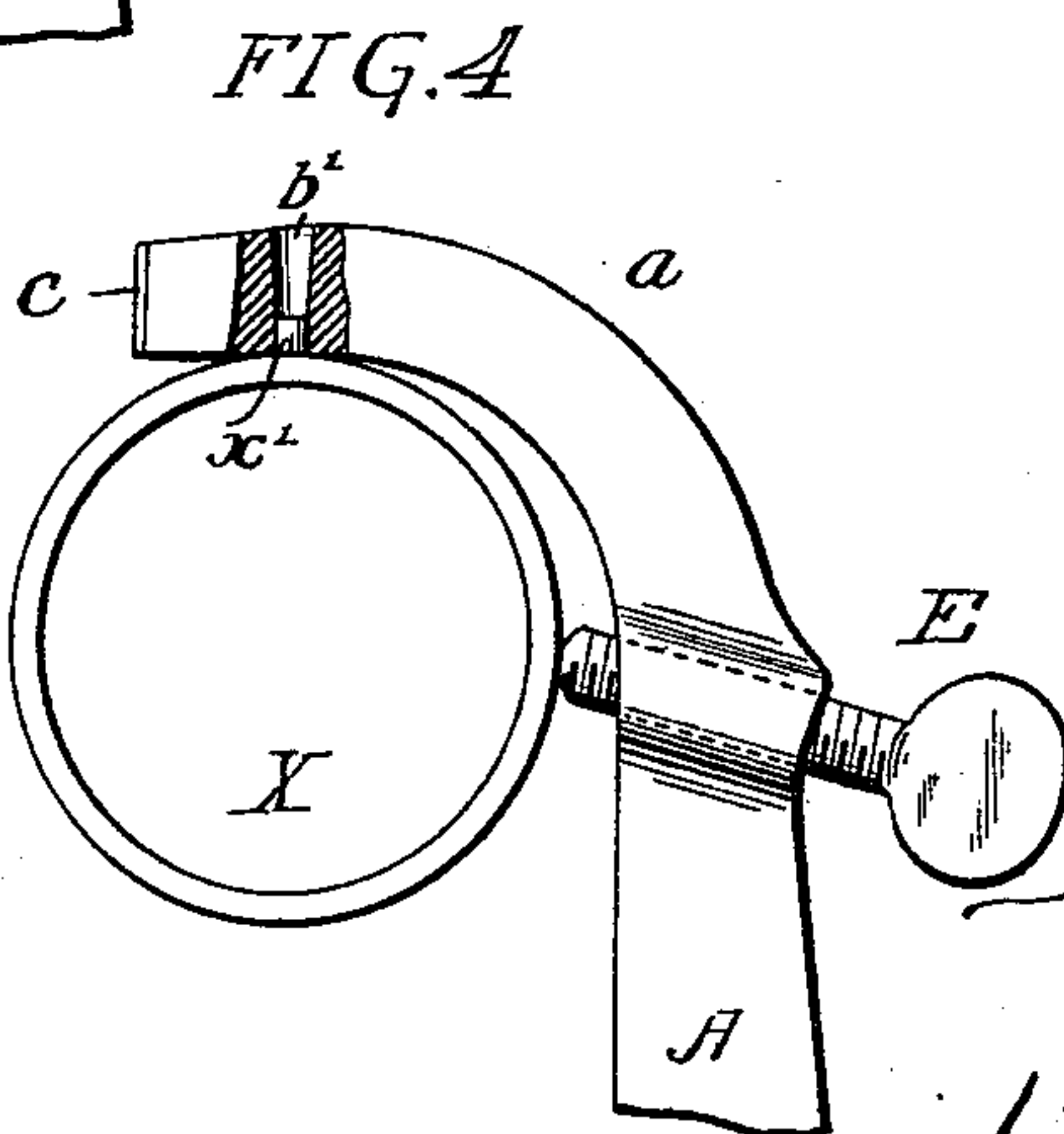


FIG. 4

Witnesses:  
*J. M. Porter*  
*J. Henderson*

Inventor:  
*F. Schrader*  
by his Attorney,  
*James Pettit*

# 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.