

**No. 618,245.**

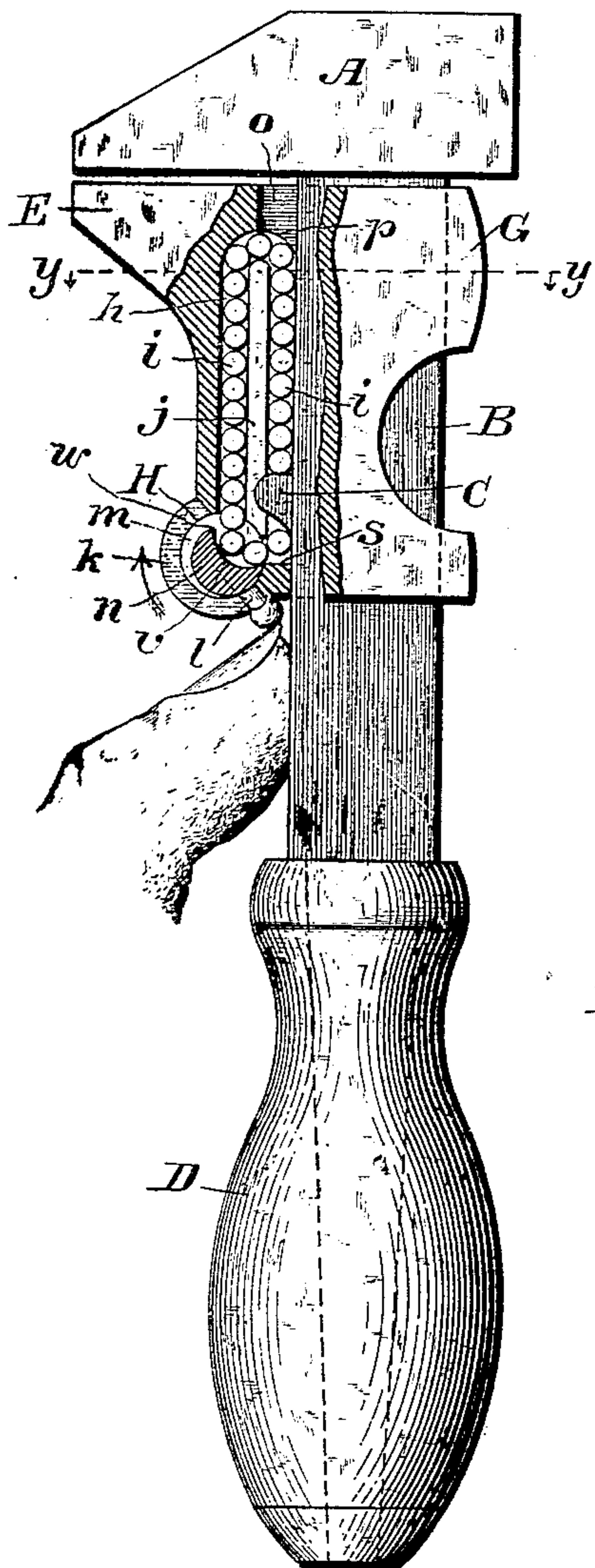
**Patented Jan. 24, 1899.**

**M. D. CONVERSE.**  
**MONKEY WRENCH.**

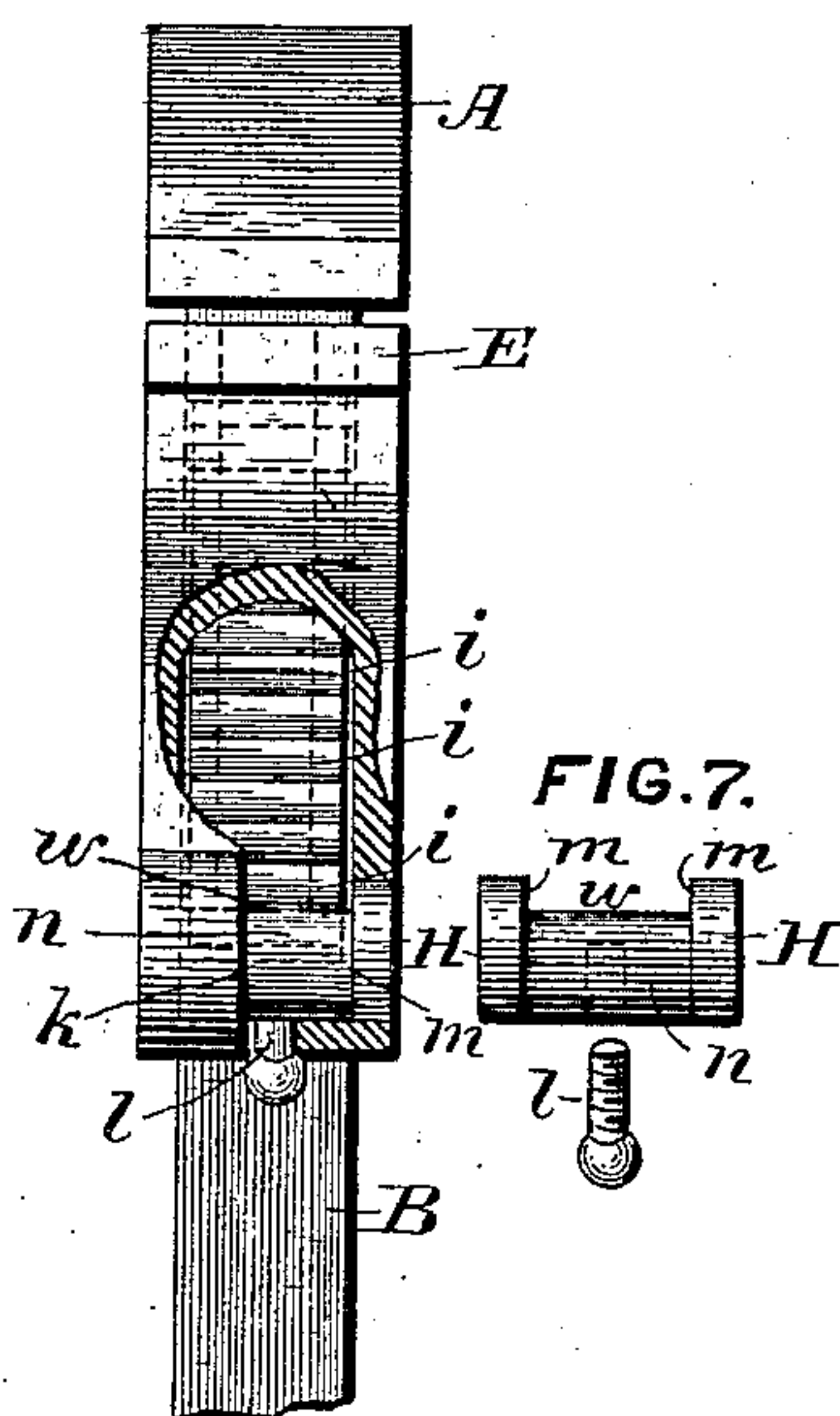
(Application filed May 6, 1897.)

(No Model.)

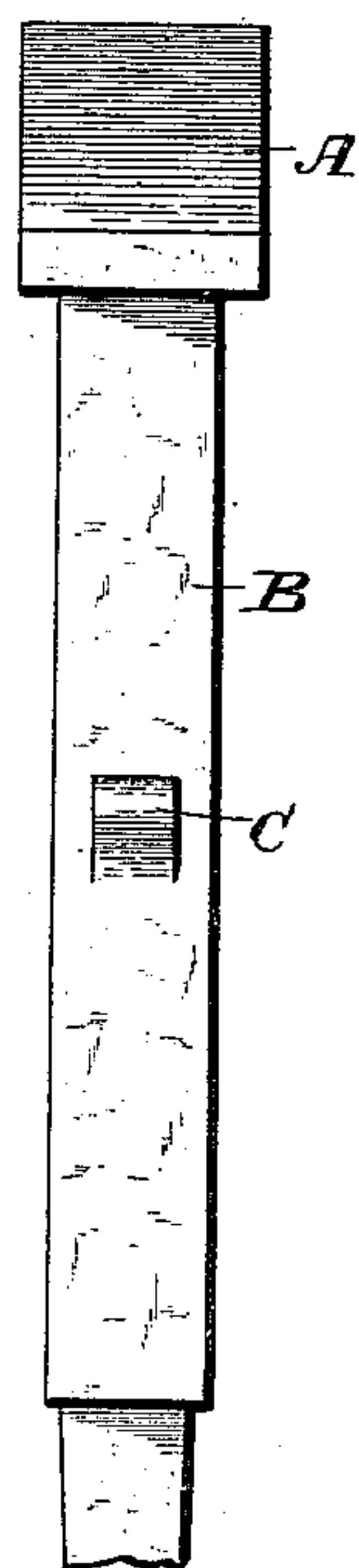
**FIG. 1.**



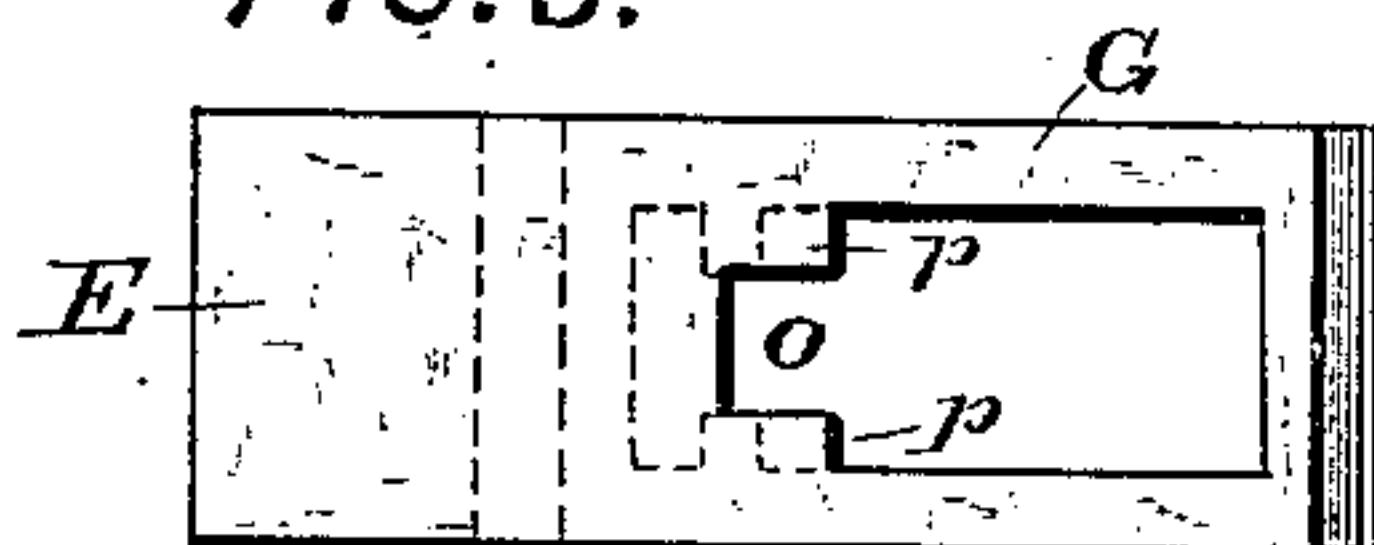
**FIG.2.**



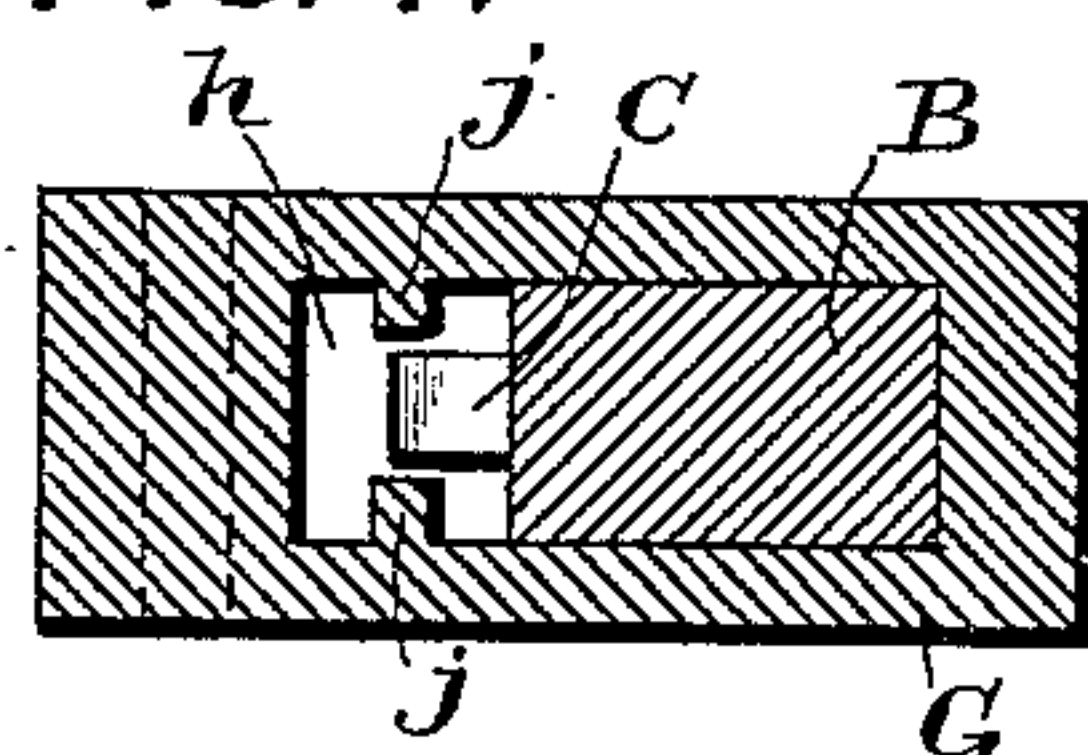
**FIG.5.**



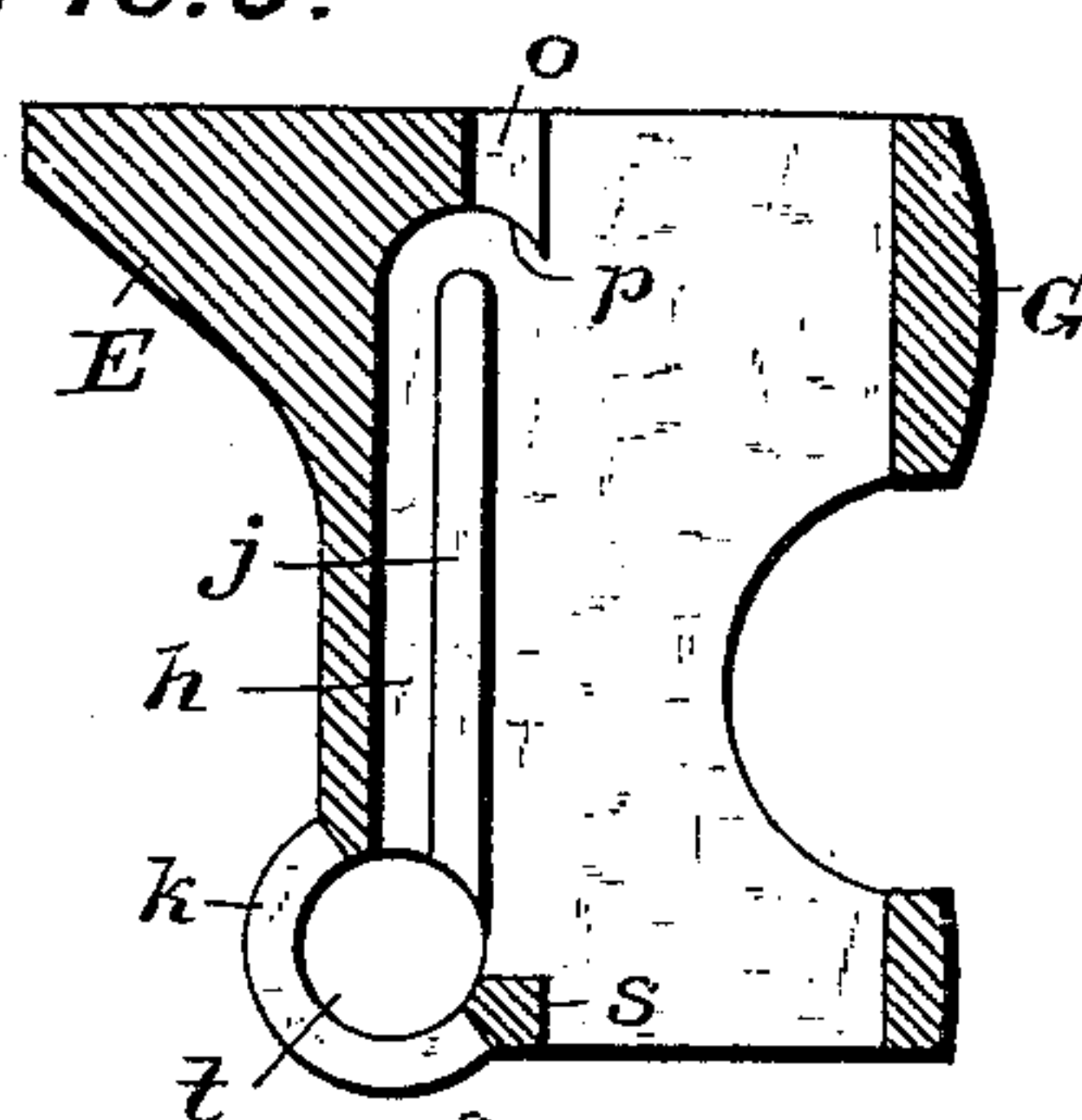
**FIG. 3.**



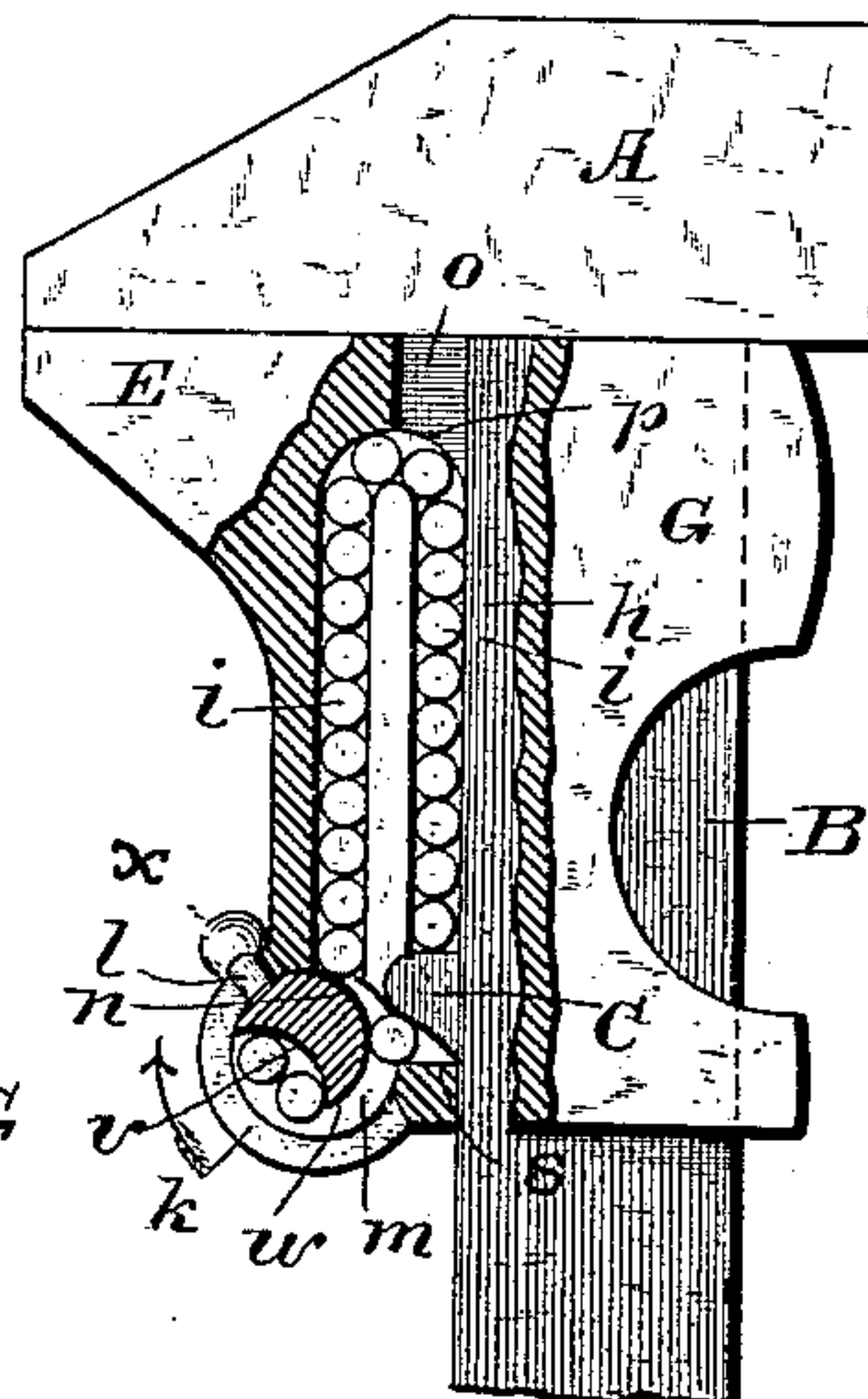
**FIG. 4.**



**FIG. 6.**



**FIG. 8.**



ATTEST.

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INVENTOR.

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# UNITED STATES PATENT OFFICE.

MASCHIL D. CONVERSE, OF NEW YORK, N. Y., ASSIGNOR TO TOWER & LYON, OF SAME PLACE.

## MONKEY-WRENCH.

SPECIFICATION forming part of Letters Patent No. 618,245, dated January 24, 1899.

Application filed May 6, 1897. Serial No. 635,298. (No model.)

*To all whom it may concern:*

Be it known that I, MASCHIL D. CONVERSE, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Monkey-Wrenches, of which the following is a full, clear, and exact description.

My invention relates to monkey-wrenches in which a fixed and a sliding jaw are employed; and the objects of my invention are to provide means for quick adjustment of the jaws and a durable, simple, compact, and positive locking-stop or holding device for securely holding the sliding jaw at any desired position and that may be instantly applied or released; and my invention consists principally in the use of a circuit column of hard metallic rolls or spheres of substantially uniform diameters trained consecutively in a rectangular chamber adapted to maintain them in circuit provided in the sliding jaw parallel and one side thereof opened laterally to the shank of the fixed jaw, with a projection on the shank of the fixed jaw interposed piston-like between the terminals of the circuit of rolls or spheres, whereby said rolls or spheres are caused to circulate in contact-circuit within said chamber when the sliding jaw is moved, and in means for instantly interrupting and locking the circuit of rolls or spheres, whereby movement of the same and of the sliding jaw along the shank is prevented, and in other important novel details, all which will be hereinafter fully described and claimed.

In the drawings, Figure 1, which is partly sectional, is a side elevation of my invention fully assembled, showing construction in part and manner of operation. Fig. 2 is a front view of the same, partly sectional, showing certain details of construction. Fig. 3 is a plan view of the working face of the sliding jaw, further showing details of construction. Fig. 4 is a cross-section on line *y y*, looking down, further showing details of construction. Fig. 5 is a front view of the fixed jaw and shank, showing a certain element of my invention. Fig. 6 is a vertical sectional view of the sliding jaw and slide-mortise and chamber, showing form of construction. Fig. 7 is a full front view of the locking device and

its parts, showing certain details of construction; and Fig. 8 is a side elevation similar to Fig. 1, further showing the operation of my invention, all of which figures will hereinafter be more fully described in detail.

Like letters indicate corresponding parts throughout the several figures.

A is the fixed jaw, having a shank B of rectangular cross-section, the latter having a projection C formed upon its front edge of the shape shown by Figs. 1 and 5 and provided with a handle D.

E is the sliding jaw, having the slide part G mortised to embrace the shank B, as shown, and provided with a chamber *h* of rectangular cross-section partially divided longitudinally by walls *j j* on the lateral sides, so as to form two continuous channels of rectangular form directly opposite each other and connected semicircularly at top and bottom around the respective ends of said dividing walls *j j*.

*o*, in Figs. 1, 3, and 6, is an opening from the upper end of the chamber *h* through the sliding jaw to admit of passage of the projection C when the parts are being assembled, and in order that there may be overhanging shoulders *p p*, Figs. 1, 3, and 6, the projection C is transversely narrower than the shank B, as shown in Figs. 4 and 5. This jaw E is also provided with a transverse hole (seen plainly at *t* in Fig. 6) in the front lower and slightly enlarged end of the slide part, which intersects the chamber *h* and also the walls *j j* at their respective lower ends. In this transverse hole *t* is revolvably fitted a short cylinder H, of hard metal, having its central portion between the full ends *m m* reduced to form an eccentric *n*, as shown in Figs. 1, 2, 7, and 8, said reduced eccentric portion having one side thereof cut away its entire length to form a concave passage-way *v* therein articulating semicircularly with the lower end of the chamber *h* when in the position shown in full lines in Figs. 1 and 2 and provided with a short lever *l*, entered through and to move in a slot *k*, opening into the hole *t*. This device comprises a locking mechanism, the purposes and operation of which will be fully explained hereinafter.

*i i i* are short rolls of hard metal and of



equal diameters and length trained consecutively and maintained in circuit by and within the chamber *h*, one end of the circuit being in contact with the upper side of the projection C on the shank B and the other end thereof in contact with the under side of the same and constructed to have slight freedom of movement laterally and longitudinally within the confines of the chamber *h*.

10 The operation of my invention is as follows: When it is desired to adjust the jaws A E to a nut, the operator may push the sliding jaw E up or down instantly by putting the lever *l* into the position shown by full lines in Fig. 1, since in this position the rolls *i i i* in circuit  
15 are free to circulate in a contact row by way of the passage-way *v* in the eccentric *n* of the cylinder H around the chamber *h* as the same are pushed by the projection C, acting as a  
20 sort of piston. When the jaws have been brought up against the nut, the operator with his thumb or fingers turns the lever *l* around in the direction of the arrow to the position shown at *x* in Fig. 8, which causes the con-  
25 cavity *v* to cut out two of the rolls *i* from the circuit and carry them around therewith, while the point *w* of the eccentric enters underneath the roll immediately next above, and the latter, being pushed upward by the ec-  
30 centric *n*, moves the entire circuit of rolls carrying the projection C, shank B, and jaw A slightly downward, tightening the latter upon the nut. This action is illustrated by Fig. 8, where the jaws A E are closed, whereas  
35 in Fig. 2 they are seen to be slightly open. The jaws A and E are now rigidly locked in position relative to each other. To release the sliding jaw, the lever *l* is simply returned to the position shown in Fig. 1.

40 Spheres of hard metal may be used instead of rolls by slight changes in minor details of construction, but without departing from the spirit of my invention.

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

1. In a wrench, in combination, rolls of approximately uniform dimensions, trained consecutively within a chamber, adapted to maintain them in circuit, provided in the sliding  
50 jaw and opened laterally to the shank of the fixed jaw, a projection on said shank extending into said chamber through the opened side thereof and interposed between the ter-

minals of said circuit to act piston-like, and an eccentric locking-cylinder, provided with a concave passage-way in one side thereof, revolubly fitted transversely of said chamber and adapted to interrupt said circuit, and provided with a lever for rotating the same, the whole constructed and to operate substantially as and for the purposes shown and described.

2. In a wrench, in combination, rolls of approximately uniform dimensions, trained consecutively within a chamber, adapted to maintain them in circuit, provided in the sliding jaw and opened laterally to the shank of the fixed jaw, a projection on said shank extending into said chamber through the opened side thereof and interposed between the terminals of said circuit to act piston-like, and a locking-cylinder, provided with a concave passage-way in one side thereof, revolubly fitted transversely of said chamber and adapted to interrupt said circuit, and provided with a lever for rotating the same, constructed and to operate substantially as and for the purposes shown and described.

3. In a wrench, in combination, rolls of approximately uniform dimensions, trained consecutively within a chamber, adapted to maintain them in circuit, provided in the sliding jaw and opened laterally to the shank of the fixed jaw, a projection on said shank extending into said chamber through the opened side thereof and interposed between the terminals of said circuit to act piston-like, and a locking-cylinder, provided with a passage-way therein, revolubly fitted transversely of said chamber and adapted to interrupt said circuit, and provided with a lever for rotating the same, constructed and to operate substantially as and for the purposes shown and described.

4. In a wrench, in combination, rolls of approximately uniform dimensions, arranged to operate in circuit within a chamber in the sliding jaw, a projection on the shank of the fixed jaw interposed between the terminals of said circuit to act piston-like, and locking mechanism for interrupting the movement of said circuit, substantially as and for the purposes shown and described.

MASCHIL D. CONVERSE.

Witnesses:

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EDW. T. KAISER.