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Patented Feb. 11, 1902.

J. M. CLARK & J. C. CRUME.
WRENCH.

(Application filed July 8, 1901.)

(No Model.)

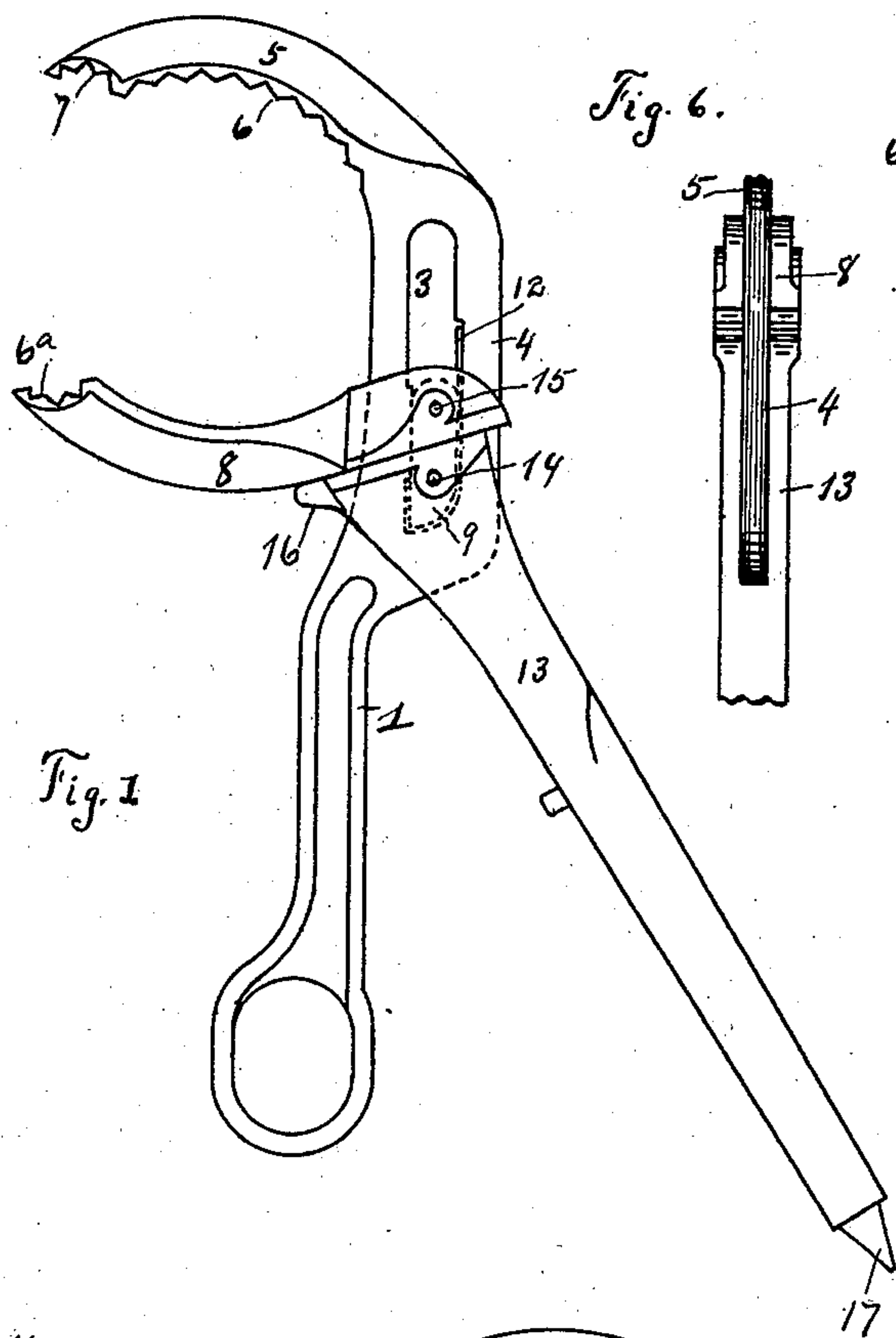


Fig. 6.

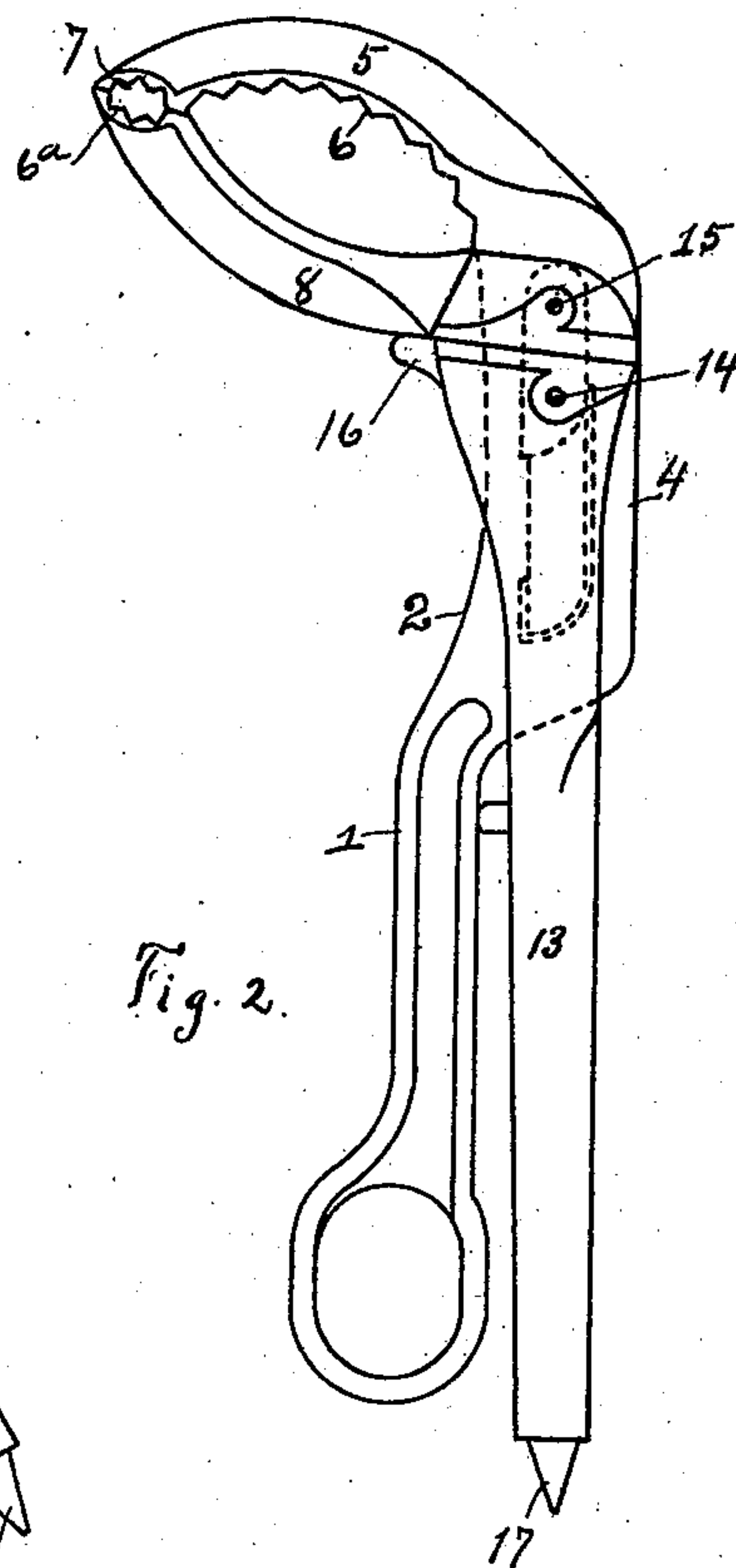
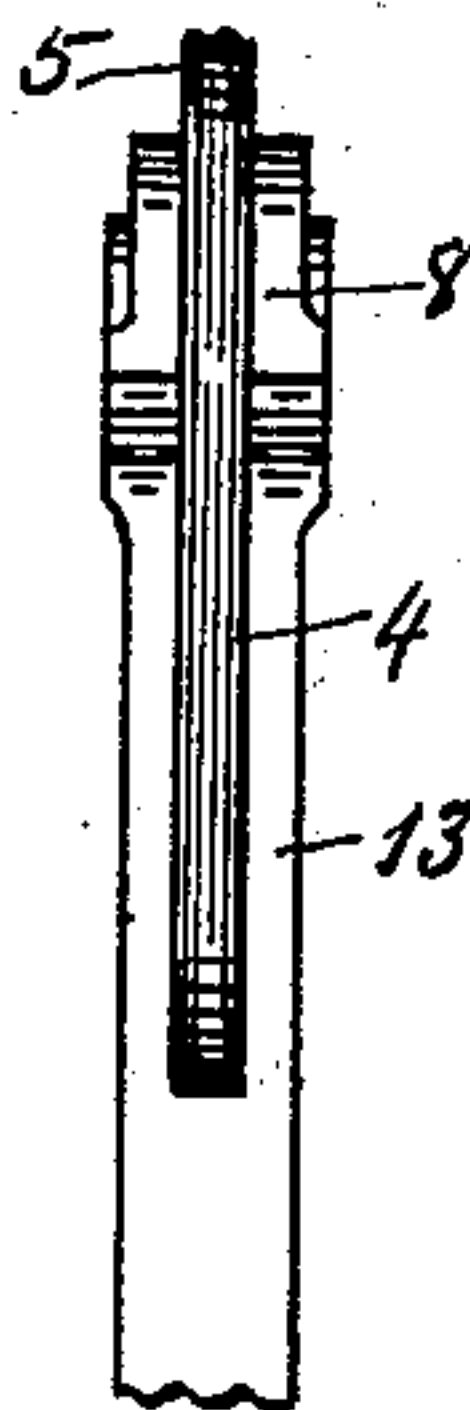


Fig. 2.

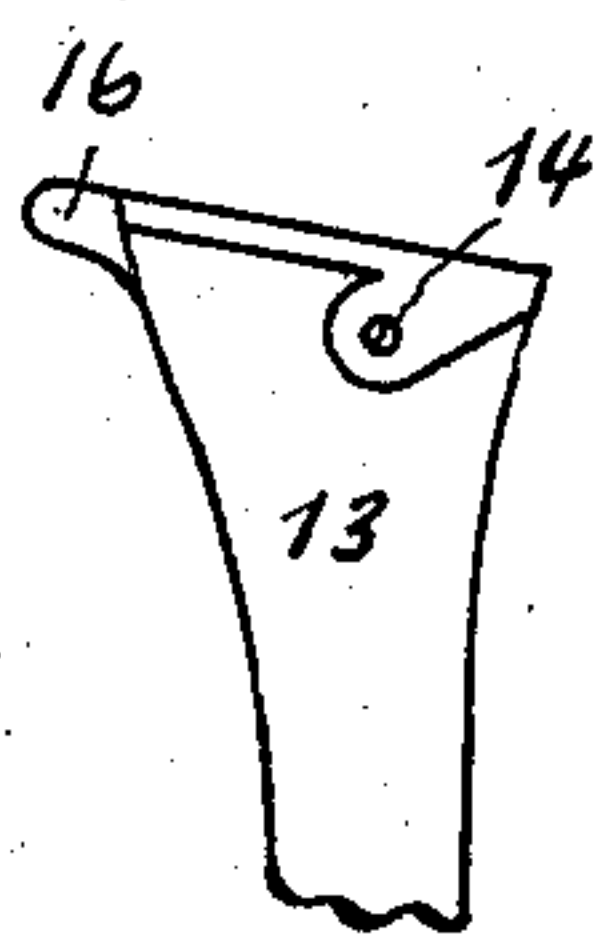


Fig. 3.

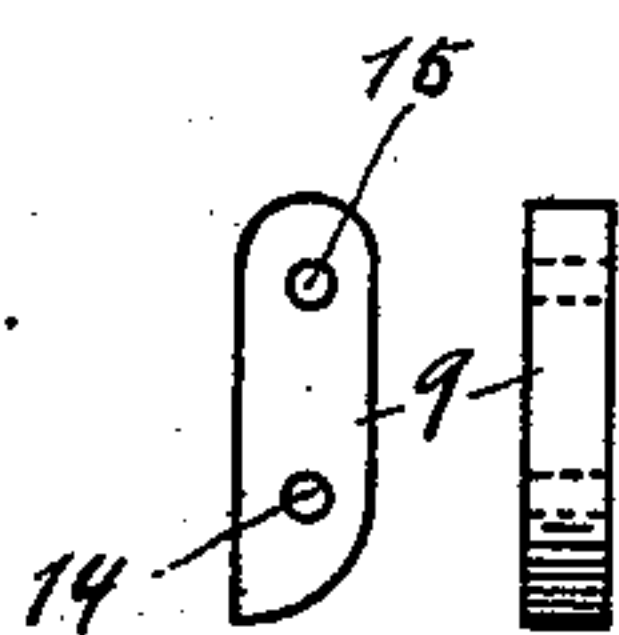


Fig. 7.

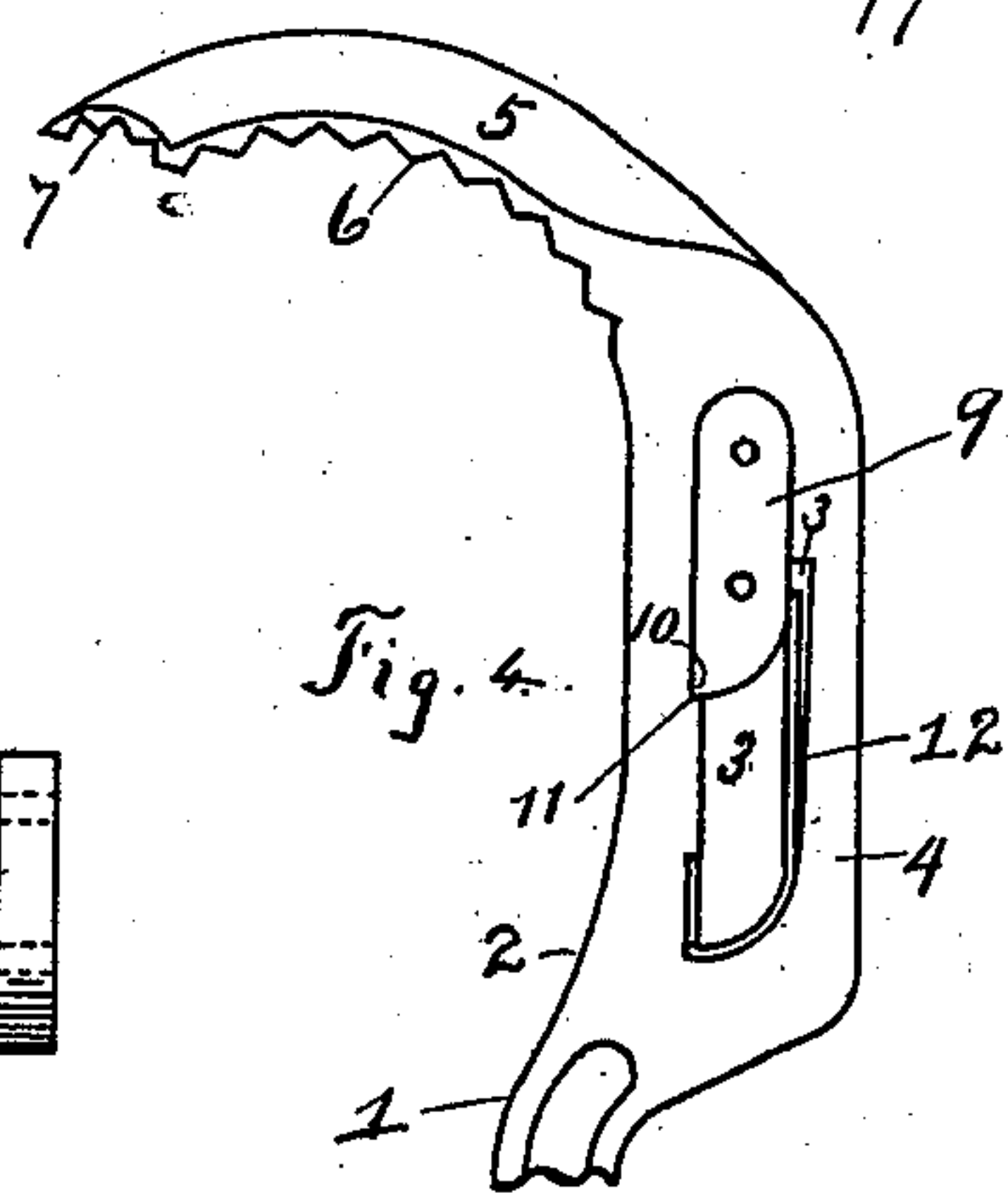


Fig. 4.

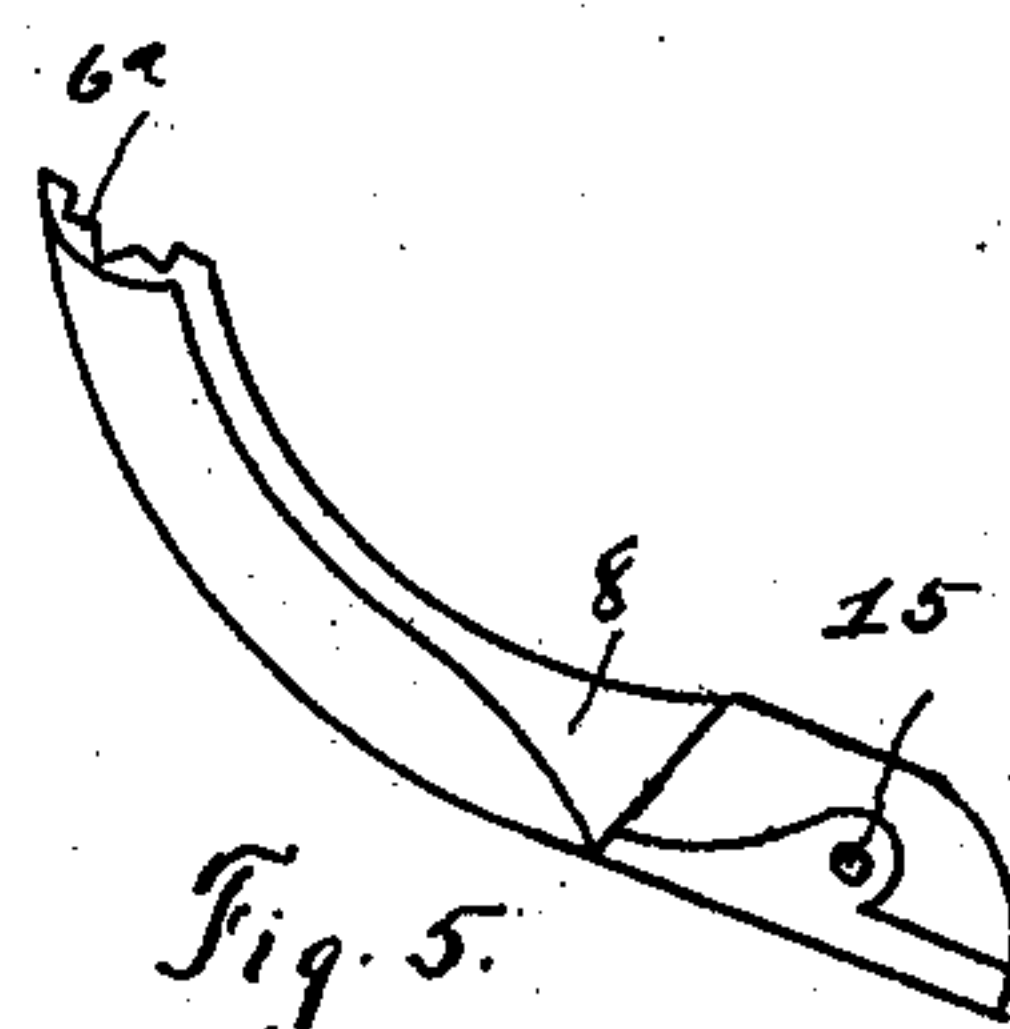


Fig. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 692,828, dated February 11, 1902.

Application filed July 8, 1901. Serial No. 67,426. (No model.)

To all whom it may concern:

Be it known that we, JOHN M. CLARK and JOHN C. CRUME, citizens of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Wrenches; and we do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

15 This invention relates to new and useful improvements in adjustable wrenches for turning the caps of Mason fruit-jars, the caps of maple-syrup jars or cans, pipes, bolts, nuts, gas-burners, &c.

20 The object of the invention is to produce a wrench which is easily and quickly adjustable to the size of the article to be grasped.

Another object of the invention is to provide a wrench with increased usefulness 25 which is adapted to household uses, as well as shops and other places.

The essential features of the invention consist in a construction which is readily adjustable without turning thumb-screws or other 30 devices and which enables the application of a maximum amount of leverage to the movable jaw, which will be hereinafter more fully described, and pointed out in the claims.

35 In a detail description of the invention similar reference characters indicate corresponding parts.

Preceding the detail description reference is made to the accompanying drawings, of which—

40 Figure 1 is a side elevation of our improved wrench, showing it adjusted to its maximum limit. Fig. 2 is a similar view of the wrench, showing it adjusted to its minimum limit. Fig. 3 is a detail of the upper portion of the 45 fulcrum lever or member. Fig. 4 is a detail view of the stationary jaw and upper portion of the stationary lever or member. Fig. 5 is a detail view of the adjustable jaw; Fig. 6, a rear edge view of the upper portion of the 50 wrench; Fig. 7, edge and side elevation of the fulcrum-block.

1 designates the stationary member or lever, which is curved, as at 2, to provide an adjusting-slot 3, longitudinally arranged in the body portion 4.

5 designates the stationary gripping-jaw, 55 which is integral with the stationary member and which has a series of teeth or serrations 6 on its inner surface. The extreme end of said jaw is provided with serrations 7, which 60 cooperate with similar serrations 6^a on the movable jaw 8 to grip smaller articles—such, for example, as gas-jets or thimbles. The longitudinal slot 3 in the stationary member receives a fulcrum-block 9, the lower end of 65 which terminates in a shoulder 10, which is adapted when said block is in the upper position in said slot to engage with a shoulder 11 on the inner surface of said slot 3.

12 designates a leaf-spring, which is secured 70 within said slot at its lower end, the upper portion of said spring pressing against the fulcrum-block 9 to maintain it in position.

13 designates the adjustable lever or member, which is bifurcated at its upper end to 75 straddle the stationary lever or member 1. This movable member is fulcrumed at 14 to the fulcrum-block 9, the said fulcrum 14 being the lower pivotal connection with said 80 block.

8 is the movable or adjustable jaw, as before stated. This jaw is pivoted at 15 to the upper end of the fulcrum-block. The pivotal end of said jaw is bifurcated to straddle the 85 stationary lever 2 and effect its pivotal connection with the block in a manner similar to the connection of the movable lever 13 with said block. The said jaw 8 has a bearing at all times on the upper end of the movable lever 13, the said movable lever having 90 a forward extension 16, which enables a substantial leverage to be applied to the movable jaw 8 in gripping an article. The adjustments are obtained through the movable lever 13. When the wrench is adjusted to 95 its position shown in Fig. 2, the fulcrum-block 9 has its bearing on the shoulder 11, the spring 12 maintaining it in such position, as before stated.

To adjust the wrench to the position shown 100 in Fig. 1, the movable lever or member 13 is moved outwardly to its limit and is then drawn

downwardly. This operation has the effect, first, of moving the block 9 off the shoulder 11 against the pressure of spring 10, and the downward movement of said lever 13 carries the block to the lower limit of the slot 3, in which position said block provides the lower fulcrum for both the lever 13 and the movable jaw 8. In adjusting the wrench from the position shown in Fig. 1 to its smallest position, as shown in Fig. 2, the movable lever 13 is simply pushed upwardly. This operation likewise moves the fulcrum-block 9 upwardly, and the pressure of spring 12 locks said block in its position shown in Fig. 4. The movable jaw 8 has its forward end provided with serrations or teeth 6^a, which, as before stated, cooperate with a similar portion of the stationary jaw in gripping smaller articles. To further advance the usefulness of our improved wrench, we provide the lower extremity of the adjustable lever 13 with a screw-driver 17.

Having described our invention, we claim—
 1. In a wrench, the combination with a stationary member, having a longitudinal slot in the median portion thereof, a fulcrum-block mounted in said slot, an adjustable member pivoted to said fulcrum-block, an adjustable jaw pivoted to said fulcrum-block adjacent to the pivoted end of the adjustable member, said jaw having its bearing on said adjacent end of the adjustable member, and means for maintaining said fulcrum-block in its adjusted position, substantially as specified.

2. In a wrench, the combination of a stationary member having an integral gripping-jaw, and a longitudinal slot, a fulcrum-block inclosed within said slot, a spring normally locking said fulcrum-block in its upper position, an adjustable member, the upper portion of which incloses the stationary member and is pivoted to the lower portion of said fulcrum-block, an adjustable jaw inclosing the sides of the stationary member above the adjustable member, said jaw having a pivotal connection with the fulcrum-block adjacent to

the pivot of the adjustable member, substantially as specified.

3. In a wrench, the combination of a stationary member having an integral gripping-jaw, and a longitudinal slot, an adjustable block inclosed within said slot, means for maintaining said fulcrum-block in an upper position within said slot, an adjustable member having a pivotal connection with said fulcrum-block, an adjustable gripping-jaw also having a pivotal connection with said fulcrum-block, the said jaw having a bearing on the upper end of the adjustable member, substantially as specified.

4. In a wrench, the combination with a stationary member having an integral gripping-jaw, and a slot, a shoulder in one side of said slot, and a spring in the opposite side thereof, a fulcrum-block inclosed within said slot and supported in its upper position on said shoulder by the tension of said spring, an adjustable member, and an adjustable jaw having pivotal connections with said fulcrum-block, the said adjustable jaw having a working bearing upon the upper end of the adjustable member, substantially as specified.

5. The combination of a stationary handle or member having an integral jaw and a longitudinal slot therein, a fulcrum-block mounted within said slot, a spring controlling the upper position of said block, an adjustable handle or member having a pivotal connection with said block, and an adjustable jaw also having a pivotal connection with said block, said adjustable jaw having a bearing on the upper end of the adjustable handle, and the said adjustable handle providing means for moving the block to different positions in adjusting the jaws.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN M. CLARK.
 JOHN C. CRUME.

Witnesses:

R. J. McCARTY,
 J. A. WORTMAN.