

No. 681,751.

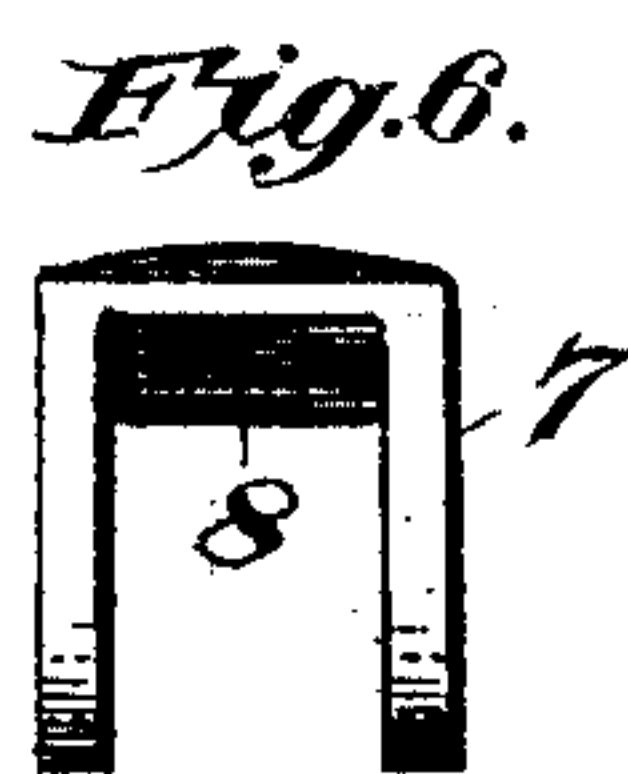
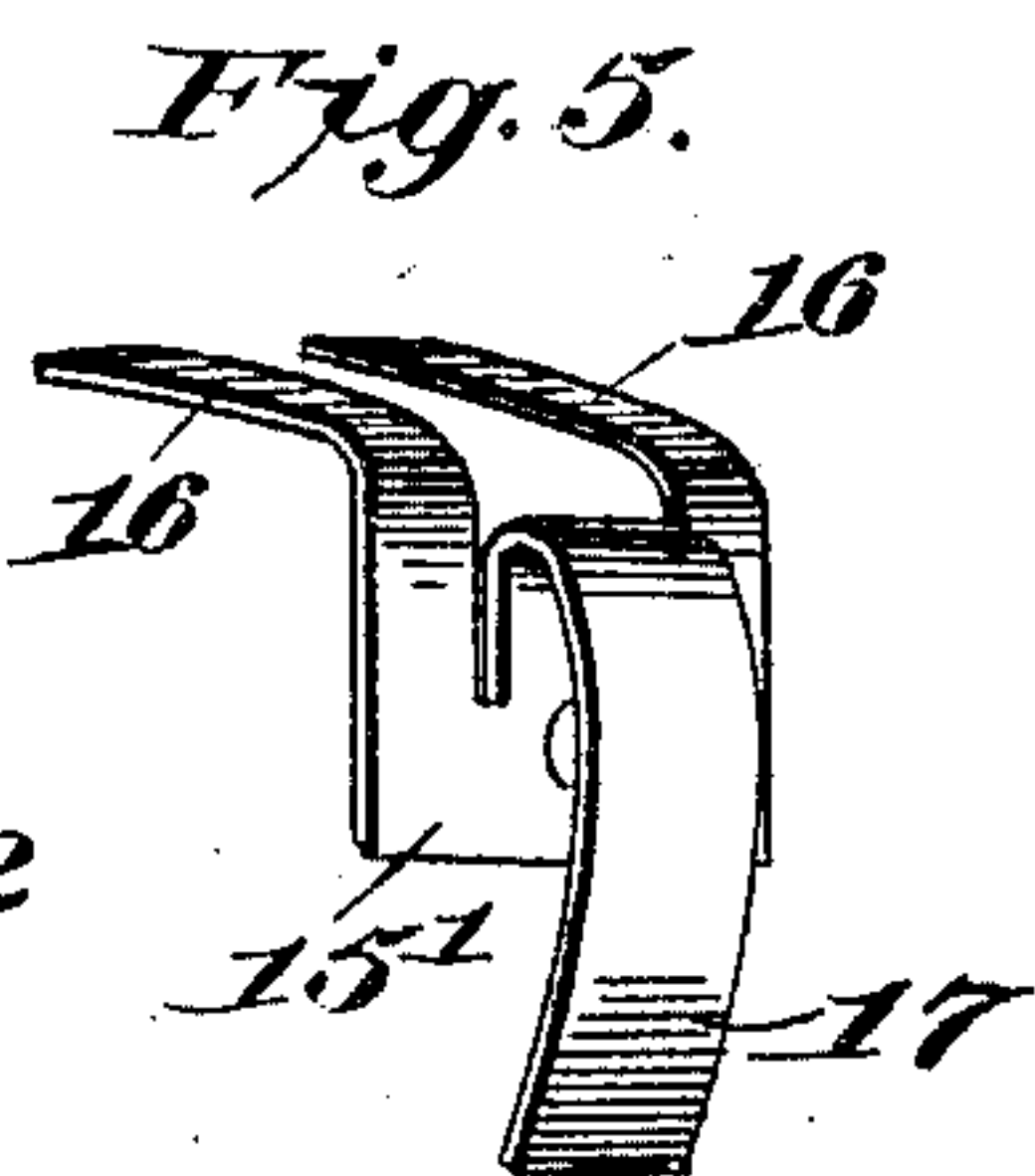
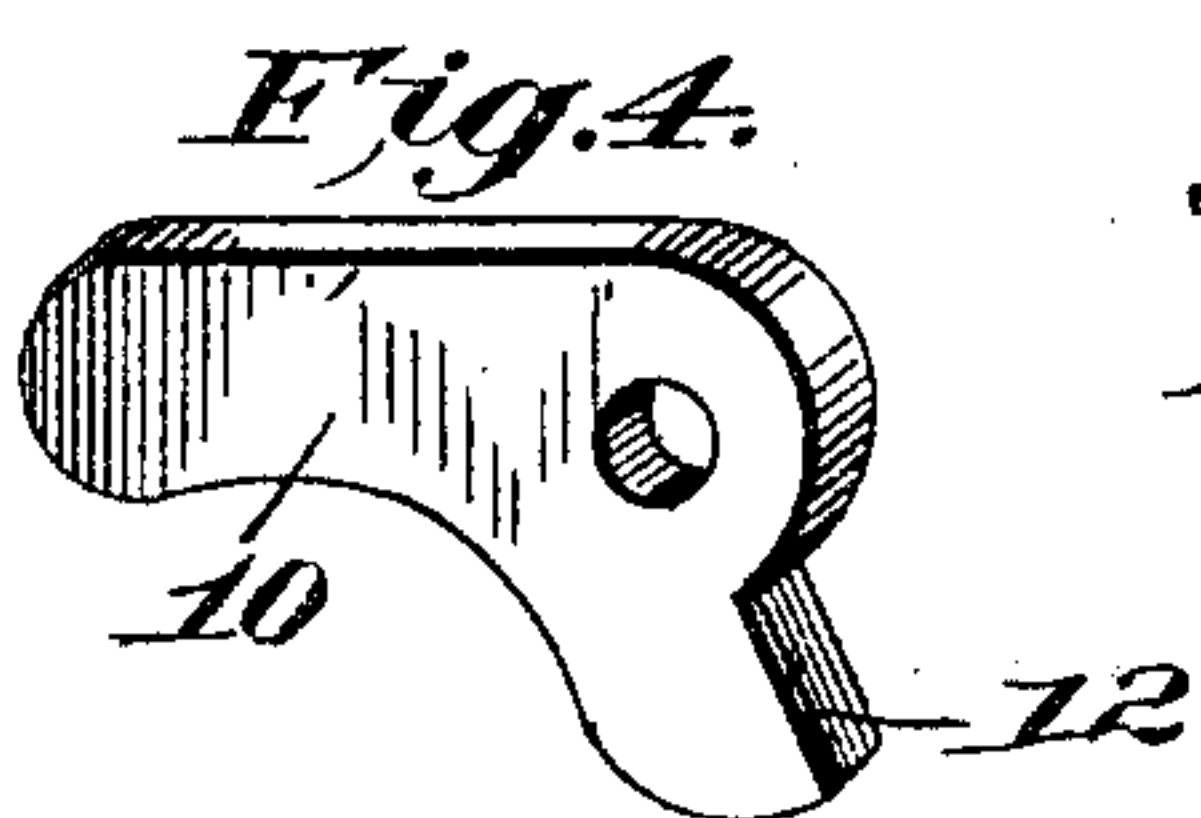
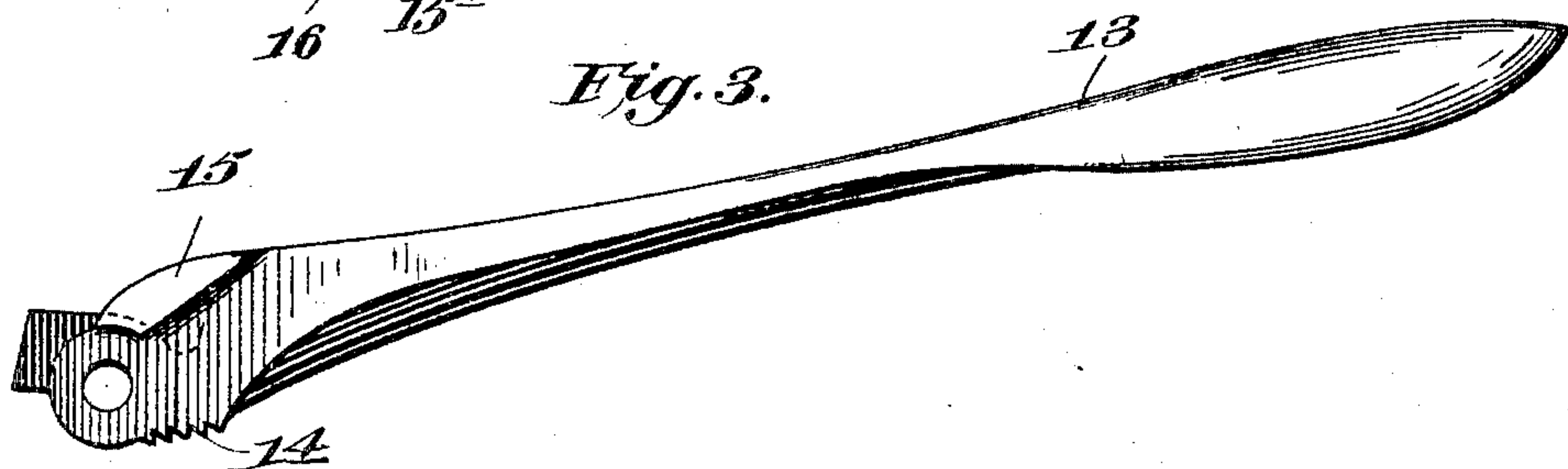
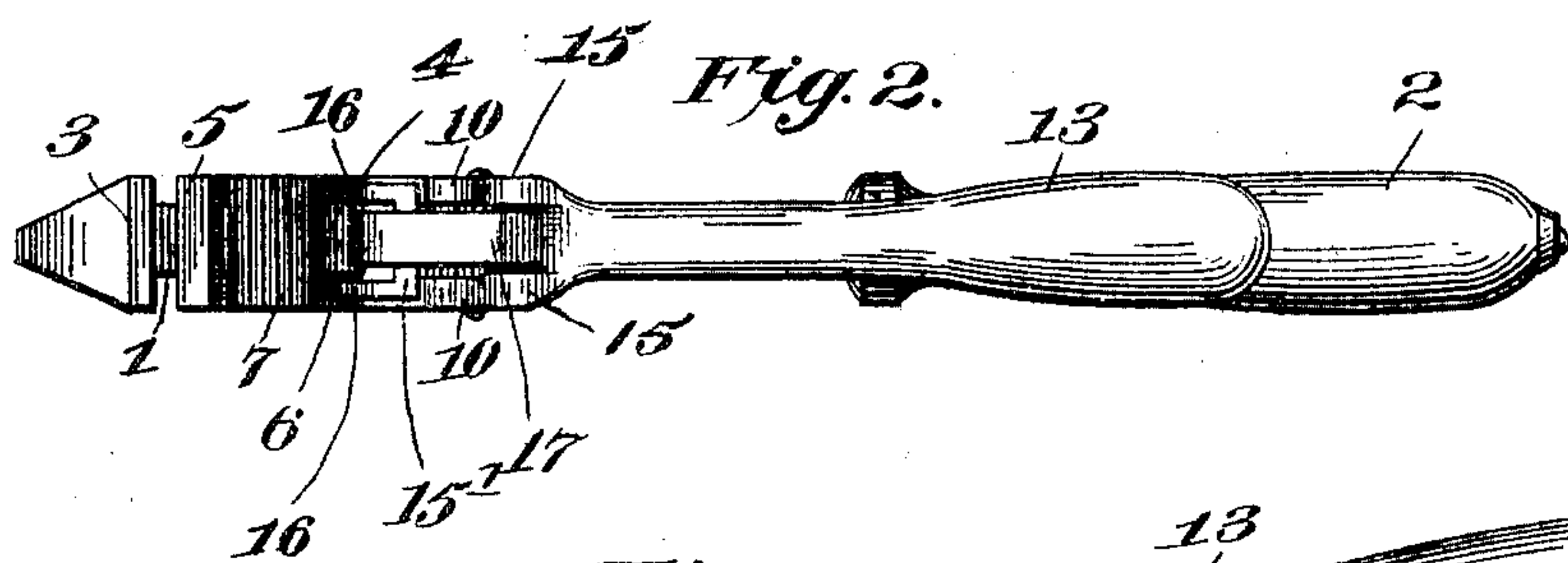
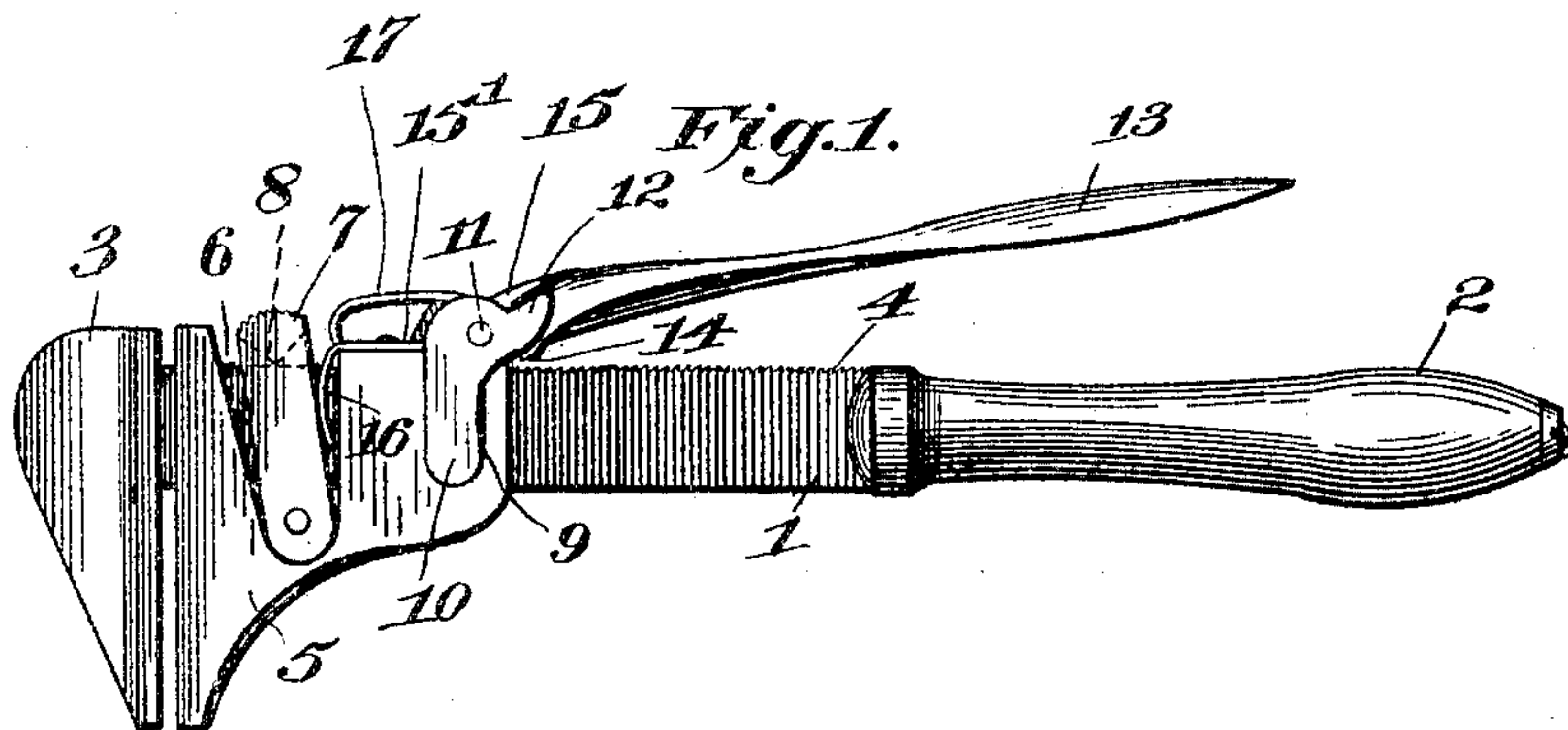
Patented Sept. 3, 1901.

A. H. F. STRAUB.

WRENCH.

(Application filed May 29, 1901.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 681,751, dated September 3, 1901.

Application filed May 29, 1901. Serial No. 62,368. (No model.)

To all whom it may concern:

Be it known that I, ALFRED H. F. STRAUB, a citizen of the United States, residing at Lacenter, in the county of Clarke and State of Washington, have invented certain new and useful Improvements in Wrenches; and I 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 ap-
10 pertains to make and use the same.

This invention relates to improvements in wrenches.

The object of the invention is to provide a wrench which is simple of construction, inexpensive of production, efficient in use, and quick-acting, and one in which the sliding jaw is adapted to be operated by the hand grasping the wrench-handle, thereby doing away with the necessity of employing both hands
20 to hold and adjust the wrench.

With this and other objects in view, which will appear as the nature of the invention is better understood, the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly set forth in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of a wrench constructed in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation of the operating-lever. Fig. 4 is a perspective view of one of the eccentric levers. Fig. 5 is a similar view of the spring plate and fingers, and Fig. 6 is an end elevation of the dog.

Referring now more particularly to the drawings, the numeral 1 represents the shank or stock of the wrench, provided at one end with a handle 2 and at its other end with a fixed jaw 3 and having its upper edge or surface formed with a continuous series of ratchet-teeth 4.

5 represents the sliding jaw of the wrench, which is fitted on the shank 1 and is formed with a slot 6, in which is mounted a pivoted dog 7, which straddles the shank and is provided with a point or detent 8 to cooperate with the ratchet-teeth 4 to hold the said sliding jaw 5 in adjusted position. In the sides of the sliding jaw 5, in rear of the slot 6, are formed grooves or recesses 9, in which are

slidably fitted two eccentric levers 10, pivoted on a pin or bolt 11 and formed with angularly-projecting lugs or contact-pieces 12. 55
An operating-lever 13 is pivoted at its forward end on the pin 11 between the said two eccentric levers 10 and is formed upon the under side of its said forward end with teeth 14 to engage the ratchet-teeth 4. On the upper surface of the operating-lever are also provided shoulders 15, which when said lever is depressed to operate the sliding jaw come in contact with the said angular lugs 12 on the eccentric levers 10 and move the same to slide the jaw 5 in the manner hereinafter described. To the upper surface of the sliding jaw 5 and at a point between the slot 6 and groove 9 is rigidly secured a plate 15', formed of spring metal and having two forwardly-projecting resilient fingers 16 and a single central rearwardly-projecting finger 17. The said fingers 16 and 17 are formed by slitting the plate 15' longitudinally upon opposite sides of the center and bending downward the sides thereof to form the fingers 16 and rearward the central portion thereof to form the finger 17. The fingers 16 extend forwardly and downwardly and enter the slot 6 on opposite sides of the shank 1 of the wrench and bear against the side arms of the dog 7 to hold said dog normally tilted forward with its teeth 8 in engagement with the rack-teeth 4. The teeth 4 incline forwardly, and when the tooth 8 is in engagement therewith rearward motion of the sliding jaw 5 is prevented, while said jaw is free to move forward as the tooth during such motion of the jaw slides over the rack-teeth 4. The upper surface of the dog 7 is milled to form a thumb-piece, whereby the dog may be moved to a vertical position against the tension of the spring-fingers 16 to withdraw the tooth 8 from engagement with the ratchet-teeth 4 and adapt the jaw 5 to be moved backward on the shank 1. The spring-finger 17 projects rearwardly and bears upon the forward end of the operating-lever 13, between the shoulders 15 thereon, and tends to throw the rear or free end of said lever outward. 100

The operation is as follows: When it is desired to slide the jaw 5 toward the jaw 3, the handle 2 of the wrench and the lever 13 are grasped within the hand of the operator and

said lever 13 depressed, so as to bring the teeth 14 thereon into engagement with the ratchet-teeth 4. This action of the lever also brings the shoulder 15 into engagement with the angular lugs 12 on the eccentric levers 10, which under the downward motion of the lever 13 are locked to said lever to operate therewith. By this means when the teeth 14 engage the ratchet-teeth 4 the fulcrum-point of the lever 13 is shifted from the pivot 11 to the center of the toothed surface 14, whereby as said lever 13 continues to be depressed the eccentric levers 10 will be caused to slide upward in the grooves or recesses 9 and at the same time to force the sliding jaw 5 forward, and this operation is repeated until said jaw is adjusted to the desired extent. As the jaw 5 moves forwardly the tooth or point 8 of the dog 7 rides over the ratchet-teeth 4 and by engaging said teeth prevents any backward movement of the sliding jaw when the lever 13 is released. When it is desired to move the jaw 5 backward, the thumb or finger is engaged with the upper milled surface of the dog 7 and the latter pressed backward, whereupon the tooth 8 is disengaged from the teeth 4, leaving the jaw 5 free to be slid toward the handle 2.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of the invention will be readily understood, and it will be seen that the invention provides a wrench which is simple, cheap, and durable in construction, quick-acting and efficient in operation, and so constructed that the sliding jaw may be adjusted toward the fixed jaw by the hand which grasps the handle 2 to operate the wrench, thereby obviating the necessity of employing both hands for this purpose.

Changes in the form, proportion, and minor details of construction may be made within

the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

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

1. In a wrench, the combination of a shank or stock having a ratchet-toothed surface, a handle and a fixed jaw, a sliding jaw on said shank, a pivoted dog or pawl carried by the sliding jaw to prevent rearward movement thereof, pivoted eccentric levers having a sliding engagement with the sliding jaw and provided with projecting lugs, an operating-lever also pivoted to the jaw and provided with shoulders to engage said lugs, and a toothed surface to engage the ratchet-toothed surface of the shank, and means for holding the dog in locking position and projecting said lever.

2. In a wrench, the combination of a shank or stock having a ratchet-toothed surface, a handle and a fixed jaw, a sliding jaw on said shank, a pivoted dog or pawl carried by the sliding jaw to prevent rearward movement thereof, pivoted eccentric levers having a sliding engagement with the sliding jaw and provided with projecting lugs, an operating-lever also pivoted to the jaw and provided with shoulders to engage said lugs and a toothed surface to engage the ratchet-toothed surface of the shank, and a spring member having spring-fingers acting simultaneously on the dog to hold the latter in locking position and on the lever to normally project said lever, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALFRED H. F. STRAUB.

Witnesses:

H. E. MCKENNEY,
FRED MCKENNEY.