

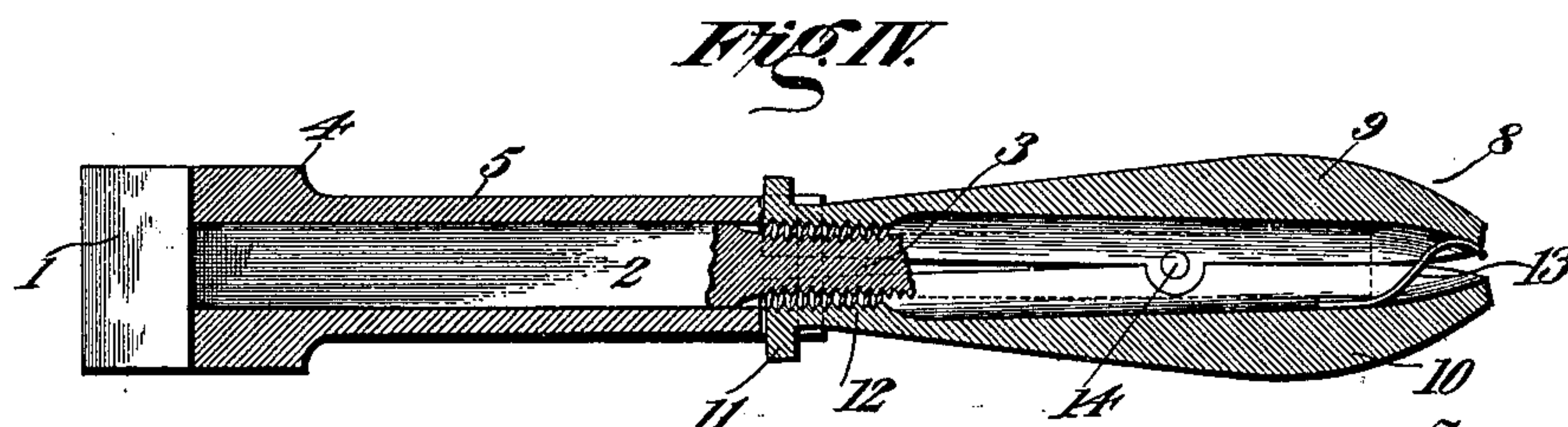
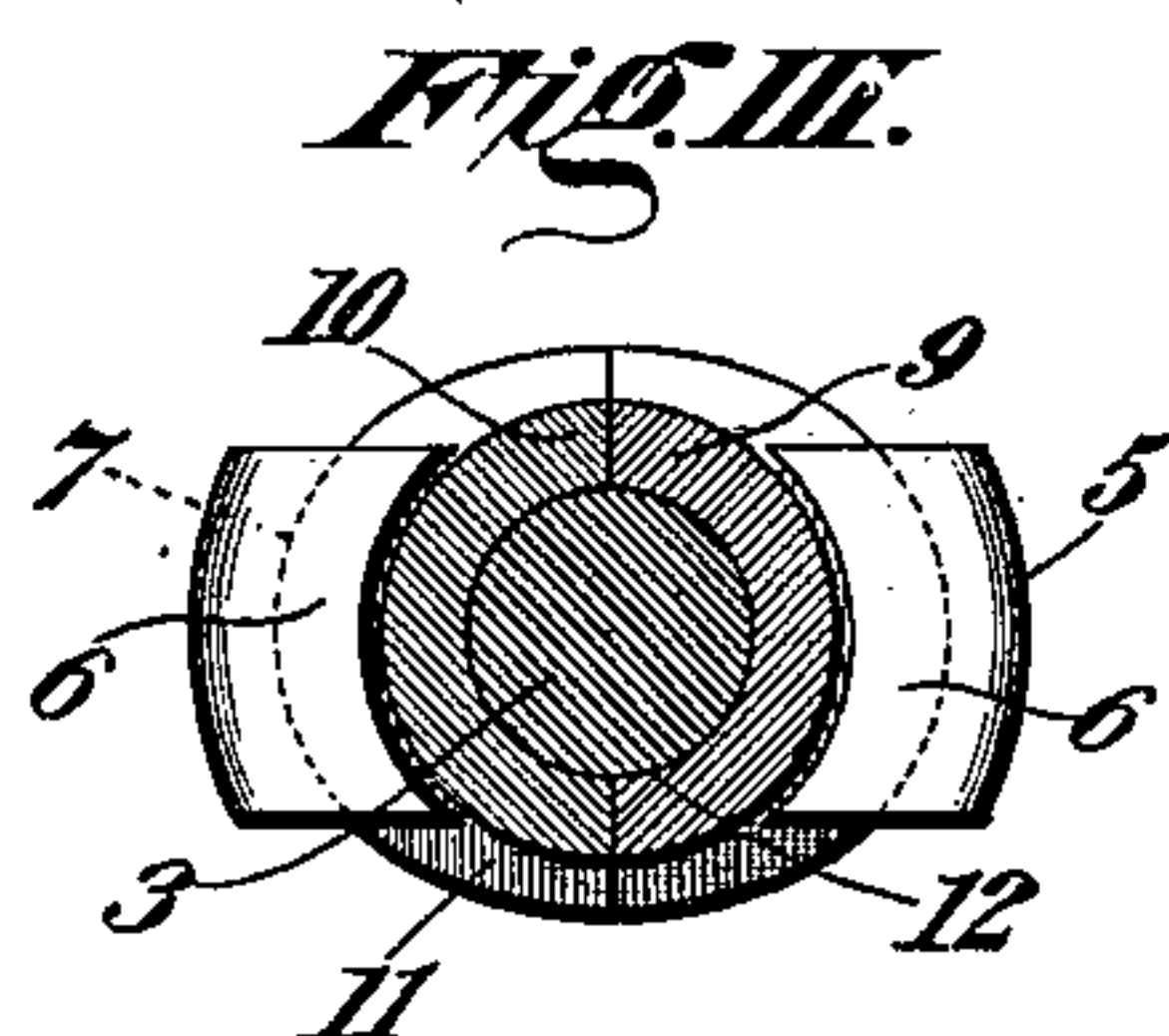
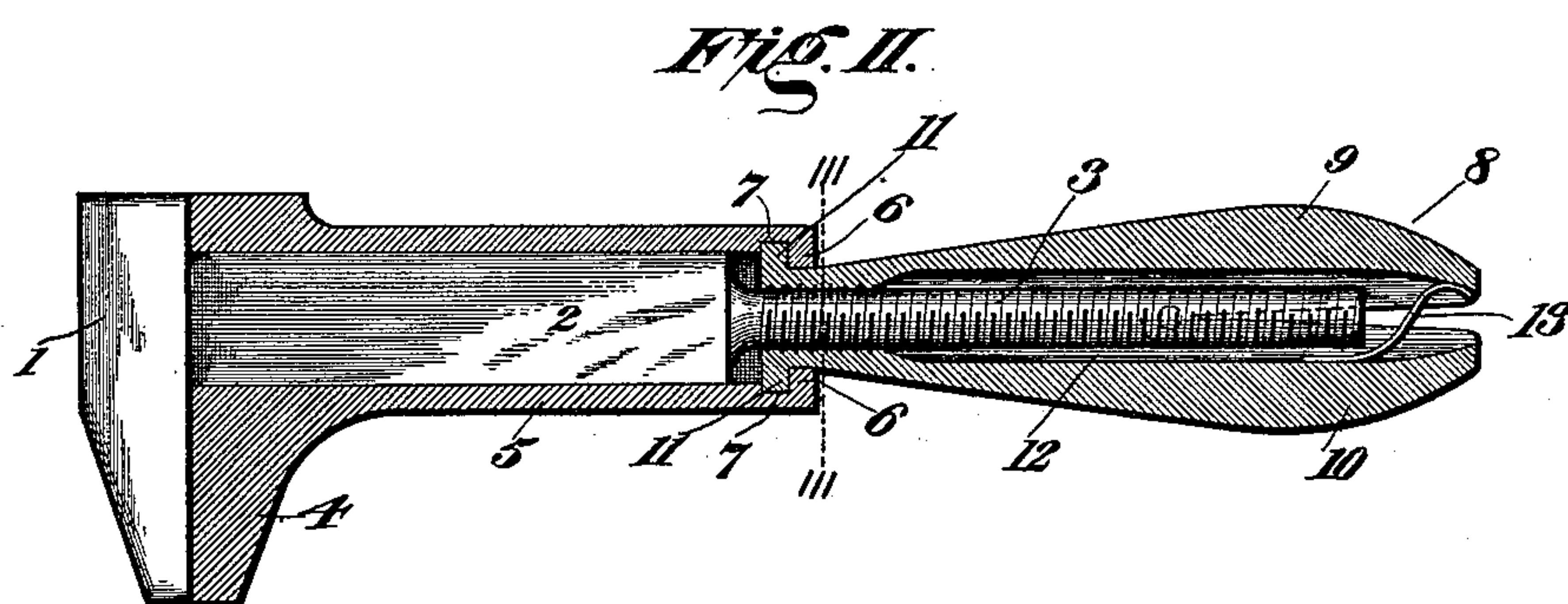
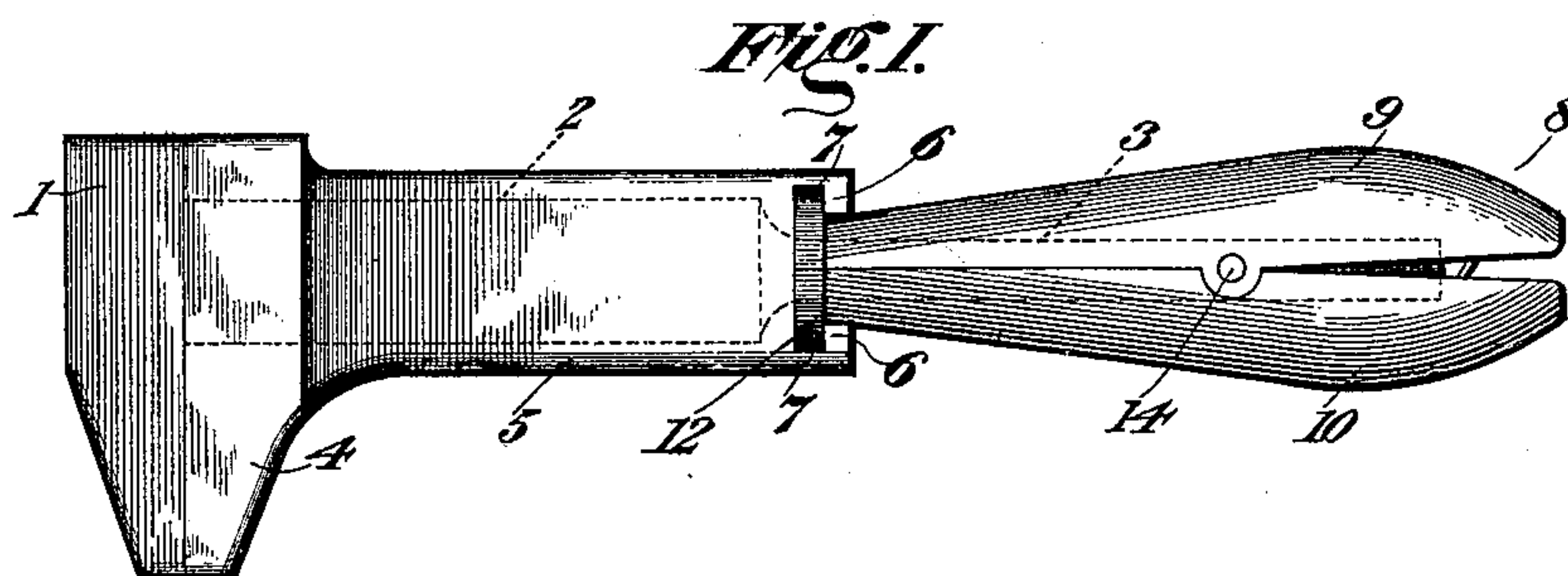
No. 631,148.

Patented Aug. 15, 1899.

J. BEEBY.
WRENCH.

(Application filed July 11, 1898.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES BEEBY, OF CHICAGO, ILLINOIS.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 631,148, dated August 15, 1899.

Application filed July 11, 1898. Serial No. 685,705. (No model.)

To all whom it may concern:

Be it known that I, JAMES BEEBY, of Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Wrenches, of which the following is a complete specification, reference being had to the accompanying drawings.

My present invention relates to improvements in wrenches, and has for its object the production of a simple, durable, and efficient tool of this character comprising a fixed-jaw shank and movable jaw, as usual, and in addition a handle so constructed and operatively connected with the fixed and movable jaws that it may be operated by a slight increase of the gripping action to permit the movable jaw to be moved freely to adjust its position and to be securely locked against casual displacement, the device being so arranged that when this adjustment has been accomplished inferior or subordinate adjustments may be effected by the rotation of the handle.

To the accomplishment of these and other objects my invention consists in providing the shank of the fixed jaw with a threaded section designed to be engaged by a handle composed of pivoted members engaging the movable jaw in a manner to accomplish fine adjustments of the latter when the handle is rotated and is caused by reason of the threaded connection to travel toward one end or the other of the threaded extension of the shank. The connection between the handle members and the movable jaw is such that when the handle is turned to the proper position and is gripped firmly the threaded portion of the handle members will be disengaged from the threaded portion of the shank extension, and the movable jaw and handle may be freely moved to accomplish coarse adjustment of said jaw. A spring or other expanding means is provided between the rear ends of the handle members to cause the threaded connection to be established normally for the purpose of securing the movable jaw in its coarse adjustments by simply releasing the grip or pressure on the handle, the secondary or fine adjustments being then accomplished by rotating the handle and causing it to travel along the threaded extension in the manner above indicated.

Referring to the drawings, Figure 1 is a side elevation of my wrench. Fig. 2 is a central longitudinal section, some of the parts being shown in elevation. Fig. 3 is a sectional view on a somewhat enlarged scale, taken on the line 3 3 of Fig 2; and Fig. 4 is a side elevation at right angles to Fig. 1 and showing the handle compressed for the purpose of causing the disengagement of the handle-sections from the threaded extension.

Referring to the numerals on the drawings, 1 indicates the fixed head of my wrench, which may be of any suitable or ordinary construction, provided with a shank 2, terminating in a screw-threaded shank extension 3.

The numeral 4 indicates a movable jaw provided with the hollow shank 5, through which the shank 2 of the fixed jaw is designed to extend. The two shanks are preferably rectangular in cross-section, although it will be obvious that any desirable configuration can be adopted, and what may be called the "front" and "rear" walls of the hollow shank 5 are extended somewhat and are provided with inturned flanges 6, directly behind which are located oppositely-disposed recesses 7.

The numeral 8 indicates the handle, composed of two pivoted members 9 and 10, provided upon their forward extremities with outwardly-extending flanges 11, which are designed to enter the recesses 7 and to abut against the rear faces of the flanges 6. The handle members are provided with correlative semicircular recesses extending longitudinally in their inner faces and designed when the handle members are brought into their operative relations to constitute an axial bore 12, into which the extension 3 of the shank 2 extends. The bore 12 adjacent to the front end of the handle is internally screw-threaded to correspond to the threads upon the shank extension, and the major portion of the bore is enlarged to confine the threaded connection between the handle members and shank extension to the forward end of the handle.

The numeral 13 indicates a spring, which may be of any suitable form, secured to one or both of the handles within the bore adjacent to its rear or outer end and designed by normally expanding the rear extremities of the handle members to bring the threaded

portion of the handle into operative contact with the threads upon the shank extension 3. Thus it will be seen that by rotating the handle it will be caused to travel in the desired direction upon the threaded extension and will effect gradually the adjustment of the jaw 4. It is desirable, however, in this class of tools that, while this gradual adjustment should be possible, provision be made for quickly adjusting the movable jaw when coarse adjustments are desired. It is for this reason that the handle is composed of separate parts, as provision must be made for expeditiously disconnecting the handle from the shank extension. This can be readily done by firmly gripping the rear extremity of the handle and compressing the members against the resistance of the spring 13, swinging the members upon their common pivots 14 and separating the threaded portions of the handle from the threads upon the extension 3. In order that this may be done, it is necessary that the handle be turned to a position at right angles to that shown in Fig. 1, or, in other words, to the position shown in Fig. 4, so that the inner ends of the handle members will be unobstructed by the extensions of the front and rear walls of the movable-jaw shank. Very little movement is required to separate the threads, and I have found in practice that it is simply necessary to make the combined contours of the flanges 6 in the form of an oval, as shown in Fig. 3. This insures the close fitting of the handle and movable-jaw shank when the latter is in one position, or that shown in Fig. 1, and permits slight movement just sufficient to separate threads when the parts are relatively positioned, as shown in Fig. 4. It will thus be observed that the coarse adjustment of the movable jaw is effected by simply turning the handle to the proper position, compressing its rear end, and sliding the jaw and handle until the latter has been properly positioned. The grip upon the handle is then relieved, the spring 13 restores the threaded connection between the handle and the threaded extension 3, and the further or fine adjustment of the jaw is effected by rotating the handle, the entire manipulation of the wrench being accomplished without releasing the hold upon the handle and without in any way interfering with the handling of the tool to accomplish the work to be performed.

While the present embodiment of my invention appears to be at this time preferable, I do not desire to limit myself to the struc-

tural details illustrated and described, but reserve the right to change, modify, or vary them at will within the scope of the protection prayed.

What I claim is—

1. In a wrench, the combination with a fixed jaw and shank provided with a continuously screw-threaded extension, of a movable jaw, a handle operatively connecting the movable jaw and the threaded extension, said handle being adapted by its own movement to be disconnected from the threaded extension, substantially as set forth.

2. In a wrench, the combination with a fixed jaw and shank provided with a threaded extension, of a movable jaw, a handle operatively connecting the movable jaw and shank, said handle being composed of a plurality of relatively movable members, normally engaging the threaded extension, and adapted by the movement of the movable members to be disengaged therefrom, substantially as set forth.

3. In a wrench, the combination with a fixed jaw and shank provided with a threaded extension, of a movable jaw, a handle comprising a plurality of relatively movable members normally operatively engaging the threaded extension, and means for permitting the disengagement of the handle members from the threaded extension when the handle is in certain relative positions with respect to the movable jaw and not otherwise, substantially as specified.

4. In a wrench, the combination with a fixed jaw and shank provided with a threaded extension, of a movable jaw provided with a hollow shank having its opposite walls extended, flanged and recessed, a handle composed of two members pivoted at a point intermediate of their lengths and provided at one extremity with threaded portions designed to engage the threaded shank extension, a spring intermediate of the opposite ends of the handle members designed to normally retain the latter in operative engagement with the shank extension, and flanges upon the inner ends of the handle members, designed to cooperate with the flanges and recesses upon and in the opposite walls of the movable-jaw shank, substantially as specified.

In testimony of all which I have hereunto subscribed my name.

JAMES BEEBY.

Witnesses:

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ADAM J. SCHADE.