

A. ASSORATI.
WRENCH.

(Application filed Jan. 7, 1897.)

(No Model.)

Fig. 8.

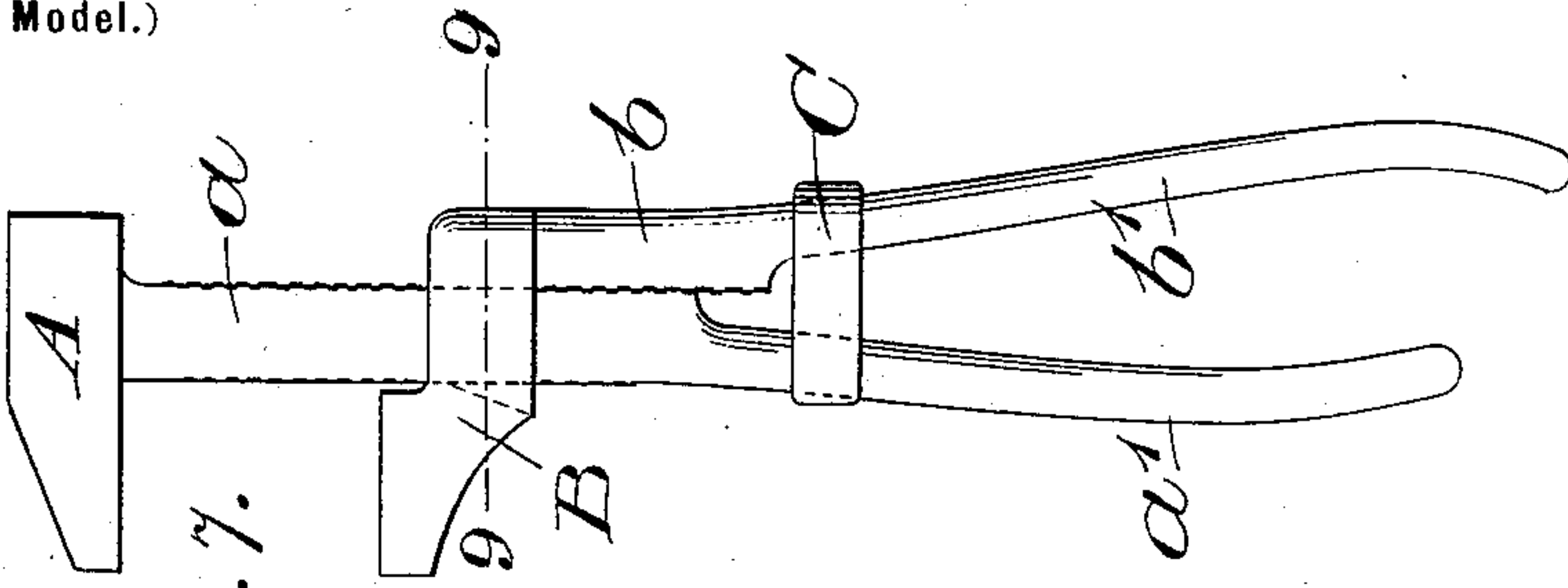


Fig. 6. Fig. 7.

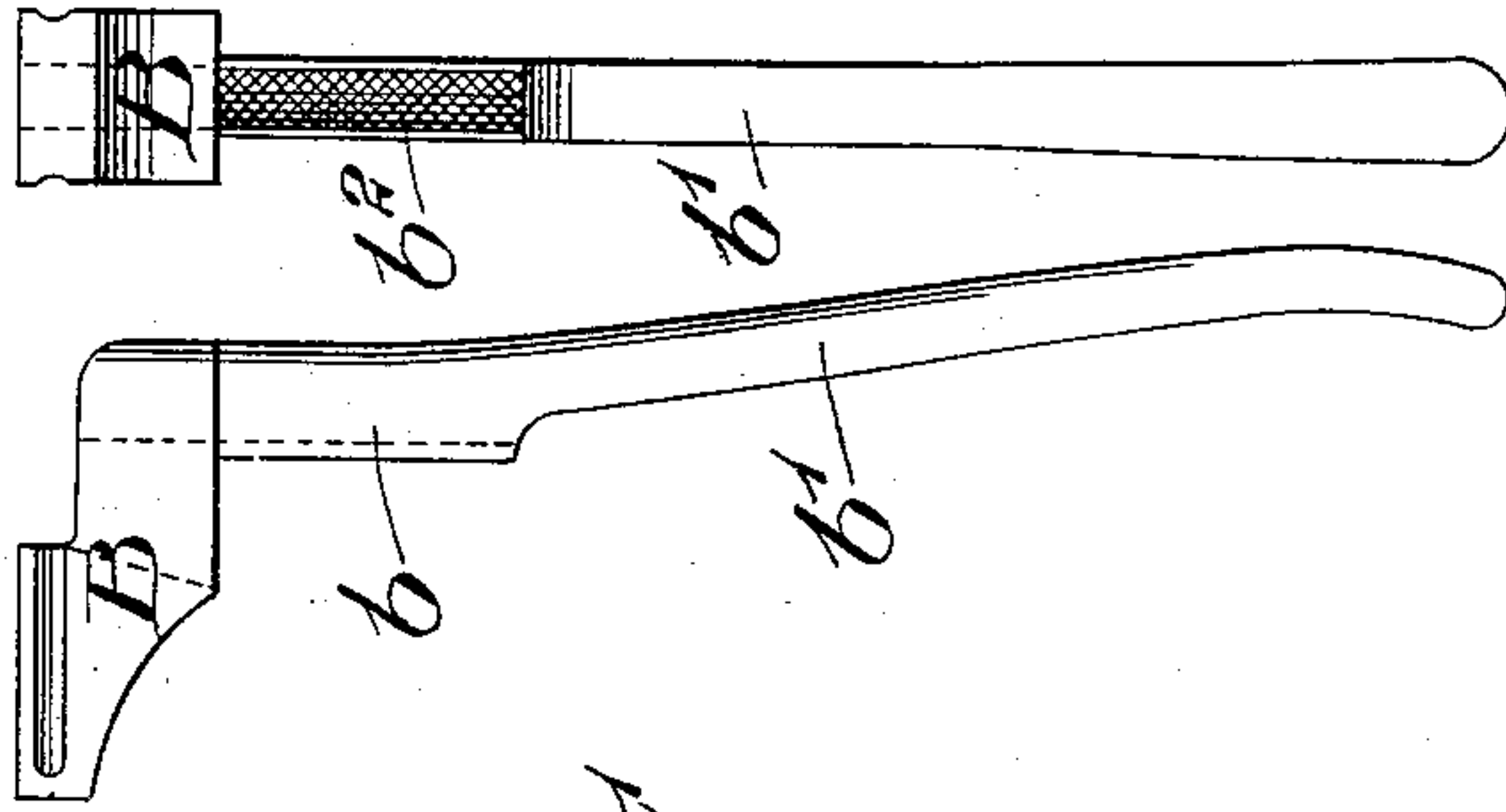


Fig. 5.

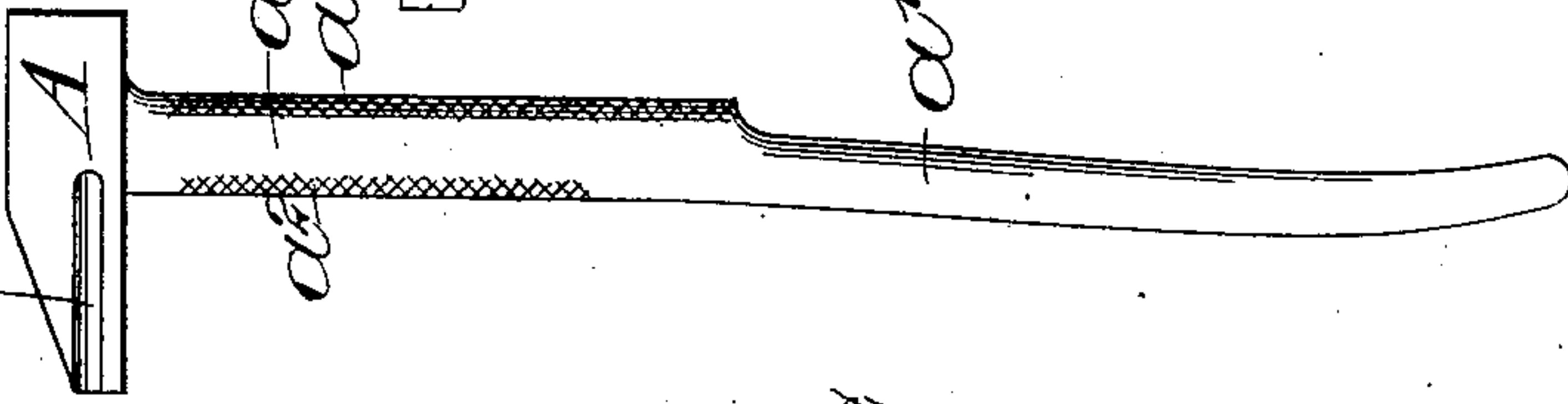


Fig. 4.

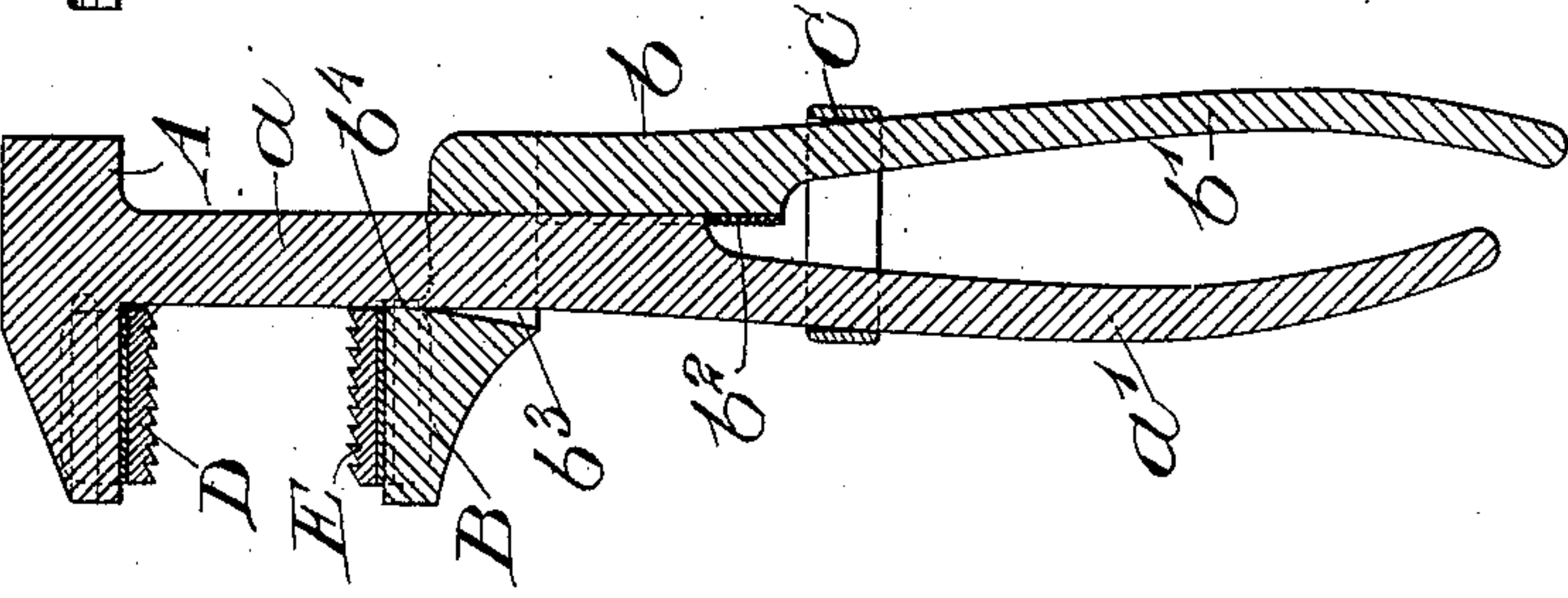


Fig. 3.

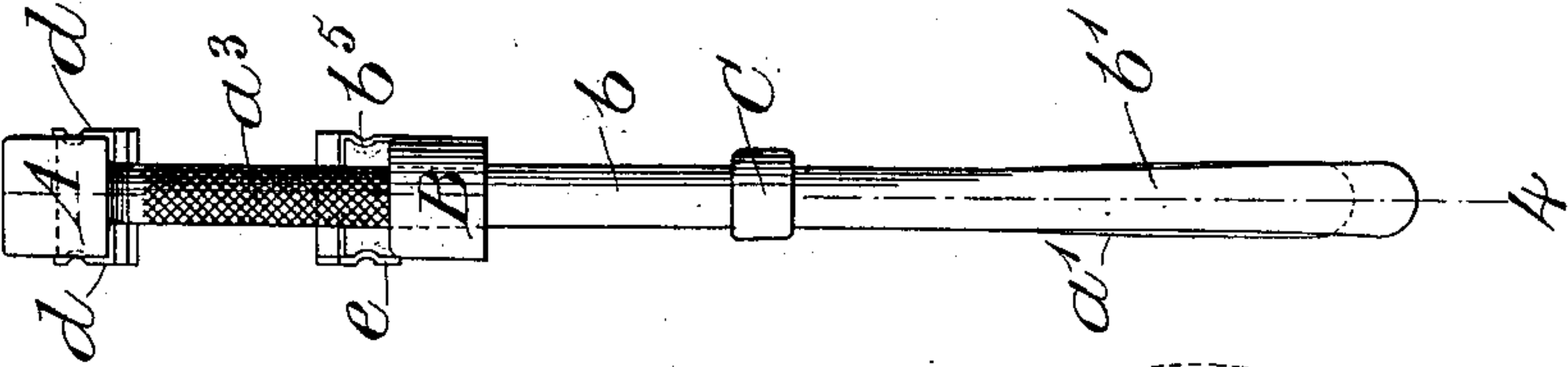


Fig. 1.

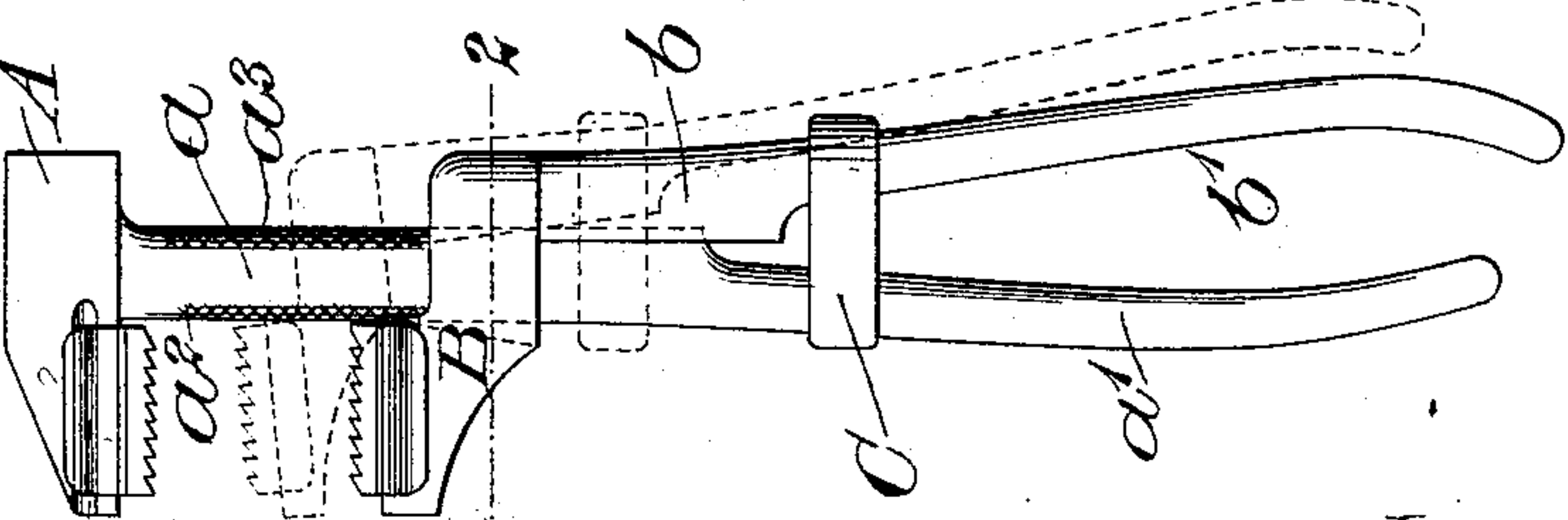
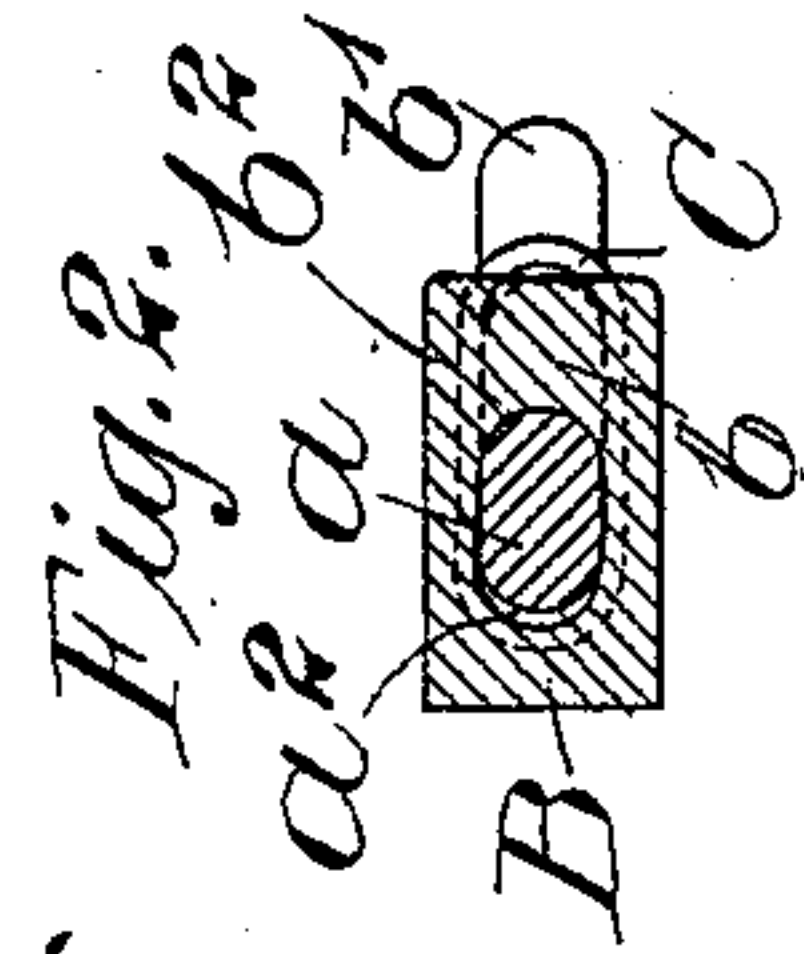
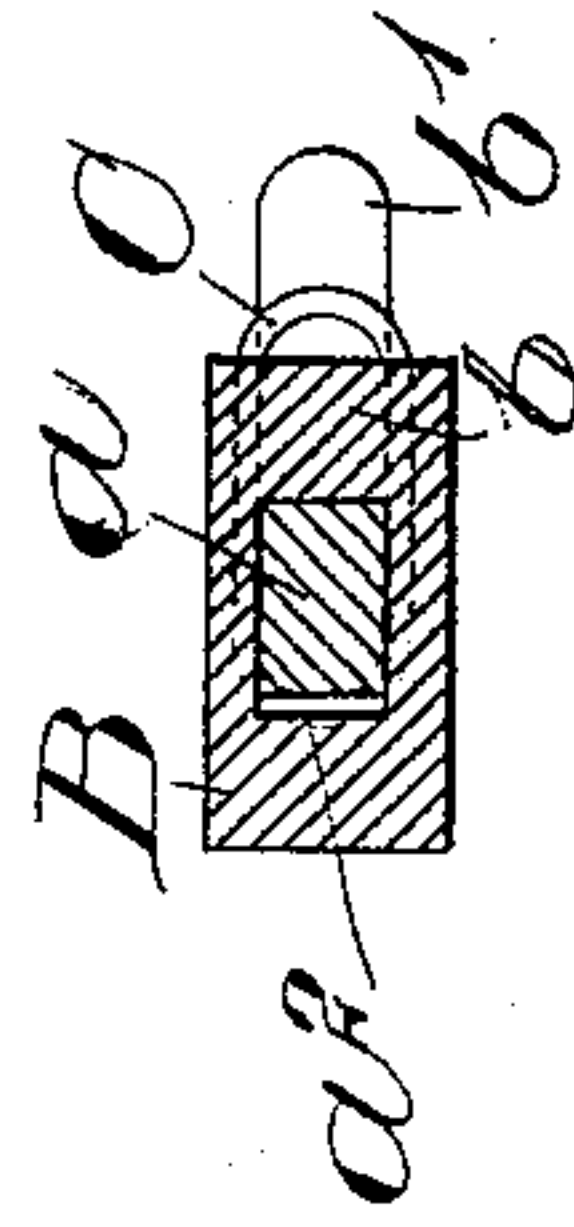


Fig. 9.



Witnesses:-
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UNITED STATES PATENT OFFICE.

ANTENOR ASSORATI, OF NEW YORK, N. Y.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 608,358, dated August 2, 1898.

Application filed January 7, 1897. Serial No. 618,285. (No model.)

To all whom it may concern:

Be it known that I, ANTENOR ASSORATI, of New York, in the county and State of New York, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My invention relates to an improvement in wrenches, with the object in view of providing a wrench in which a movable jaw is fitted to slide along the shank of the stationary jaw, and means for quickly and securely fastening the movable jaw in any desired adjustment toward and away from the fixed jaw.

A further object is to provide a wrench of the above character which will consist of a very few parts and which may be adapted for use either as a pipe or as a nut wrench.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents a side view of the wrench, showing in full lines the position of the parts when the shank of the movable jaw is clamped to the shank of the fixed jaw and in dotted lines the position of the movable jaw when released for sliding it toward and away from the fixed jaw. Fig. 2 is a transverse section on the line 2 2 of Fig. 1. Fig. 3 is a back view of the wrench with the parts in the position shown in full lines in Fig. 1. Fig. 4 is a vertical central section from front to rear through the wrench on the line 4 4 of Fig. 3. Fig. 5 is a side view of the fixed or stationary jaw, its shank, and handle. Fig. 6 is a side view of the movable jaw, its shank, and operating-handle. Fig. 7 is a front view of the same. Fig. 8 is a side view of a wrench of modified form, the parts being shown in their locked position; and Fig. 9 is a transverse section on the line 9 9 of Fig. 8.

The fixed or stationary jaw is denoted by A, and it is provided with a suitable body portion or shank h , which is extended into an operating-handle a' . The shank a is preferably rounded along its front and back, and said front and back are milled or roughened, as shown at a^2 a^3 , for preventing the sliding movable jaw from slipping when engaged in clamping position therewith, as will be hereinafter more fully set forth.

The movable jaw is denoted by B, which jaw embraces the shank a of the fixed jaw A

and may be slid along the same except when clamped thereto. The movable jaw B is provided with a suitable shank b , which is extended to form a suitable operating-handle b' . The front b^2 of the shank b is preferably concave in cross-section, so as to fit snugly around the curved back a^3 of the shank a of the fixed jaw, the said front b^2 being preferably milled or roughened, as shown. The opening b^3 in the movable jaw B, through which the shank of the fixed jaw slides, is gradually increased in diameter from front to rear and from top to bottom to allow the shank b of the movable jaw to swing or rock away from the shank a to release the milled or roughened portion b^2 from engagement with the roughened portion a^3 upon the shank of the fixed jaw.

The back b^4 of the movable jaw B above the opening b^3 is preferably milled or roughened, which milled or roughened portion engages the roughened portion a^2 upon the front of the shank a when the movable jaw is clamped to the shank of the stationary jaw and will be released therefrom as the operating-handle b' is rocked away from the handle a' , thereby allowing the movable jaw to be easily slid up and down along the shank a of the fixed or stationary jaw.

The means which I have shown for clamping the fixed and movable jaws at any desired distance apart is as follows: The handles a' and b' are so formed as to gradually diverge from each other as they extend downwardly. A clamping-ring C is placed in position surrounding the shanks of the fixed and movable jaws, the said ring C being of sufficient diameter from front to rear to enable the shank and handle of the movable jaw to be rocked away from the shank and handle of the fixed jaw for adjusting the movable jaw up and down relative to the fixed jaw. This clamping-ring C may be placed in position by first withdrawing the fixed jaw and its shank, then sliding the ring onto the shank of the movable jaw, then passing the handle and shank of the fixed jaw down through the movable jaw and through the ring until the said ring is in its position surrounding the shanks of the two jaws.

The movable jaw is slid along the shank

of the fixed jaw until it is adjusted to the proper point. The clamping-ring is then forced downwardly along the handles of the two jaws to the limit of its movement in that direction. This downward movement of the ring C will serve to force the handles toward each other, thereby causing the several roughened surfaces upon both of the shanks to be engaged with each other to firmly hold the parts against movement. When it is desired to increase or diminish the distance between the movable jaw and the fixed jaw, the clamping-ring C is slid upwardly into a position to embrace the shanks of the two jaws, when the said movable jaw may be rocked, as hereinbefore described, to release it from clamping engagement with the shank of the fixed jaw.

In the form of wrench shown in Figs. 8 and 9 the shank of the fixed jaw is shown as rectangular in cross-section rather than oval, and the faces of the movable jaw and its shank which engage the shank of the fixed jaw are also shown flat rather than concave.

The wrench as above described is intended for use as a nut-wrench. When it is desired to use the wrench as a pipe-wrench, the fixed and movable jaws are provided with suitable sliding gripping-plates D and E, having their adjacent faces roughened or provided with teeth, as shown. The gripping-plate D frictionally engages the fixed jaw A. In the present instance I have shown the gripping-plate D as removably secured to the fixed jaw in the following manner:

The fixed jaw is provided with side grooves a^1 , into which enter the upwardly-extended sides d of the gripping-plate D. The grooves a^1 in the fixed jaw are open through the front of the jaw, so that the gripping-plate D may be attached by sliding it inwardly toward the shank of the fixed jaw.

The sides of the gripping-plate D may be of spring form, as shown, to insure their snug frictional engagement with the fixed jaw.

The movable gripping-plate E upon the movable jaw B is preferably attached thereto in the following manner:

The jaw B is provided with grooves b^5 upon its opposite sides, which grooves extend from the back b^4 of the jaw forwardly almost but not quite to the front of the said jaw. The plate E is provided with downwardly-extended sides e , which are adapted to enter the grooves b^5 as the gripping-plate E is inserted into position. It will be noted that the movable jaw B must be removed from engagement with the fixed jaw before the gripping-plate can be inserted in position, and when the said movable jaw is in engagement with the shank of the fixed jaw the plate E

is locked against removal from the said movable jaw.

It is not essential that the gripping-plate D should be locked to the fixed jaw A, for the reason that when the pipe or other curved object is grasped between the two gripping-plates and the wrench is operated to twist the said pipe the tendency will be to force the gripping-plate D inwardly toward the shank of the fixed jaw and the gripping-plate E outwardly to the forward end of the movable jaw.

It will be seen that the wrench as above described consists of a very small number of parts and that the same may be made of dropped forgings, thereby insuring great strength of parts, the opening b^3 in the movable jaw being bored out. It will be further seen that the movable jaw has its operating-handle and shank fixed relatively thereto, preferably integral therewith, the said jaw having both a sliding movement along the shank of the fixed jaw and also a rocking movement to clamp it to and release it from the said shank of the fixed jaw.

The wrench as above described may be easily adjusted to different articles and clamped in position by the use of one hand only, and when once a desired distance between the jaws is obtained the wrench may be clamped in such position until positively released.

What I claim is—

1. A wrench comprising a fixed jaw provided with a shank and handle, a movable jaw provided with a shank and handle and having a socket for the reception of the shank of the fixed jaw, the shank of the fixed jaw being roughened along its back, and the movable jaw being provided with an extended bearing for engaging the roughened back of the shank of the fixed jaw, the said movable jaw being arranged to be thrown toward the fixed jaw when the handles are pressed toward one another, substantially as set forth.

2. A wrench comprising a fixed jaw with a shank and handle, a movable jaw with a shank and handle and having a socket for the reception of the shank of the fixed jaw, a clamping-plate having a sliding engagement with the movable jaw and held therein by the engagement of one end with the shank of the fixed jaw and a gripping-plate having a sliding engagement with the fixed jaw and provided with a spring-clamp for removably engaging it with the opposite sides of the fixed jaw, substantially as set forth.

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Witnesses:

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