No. 659,369. Patented Oct. 9, 1900.

J. A. HENSLER.

WRENCH.

(Application filed Mar. 24, 1900.)

(No Model.)

Fig. 1.

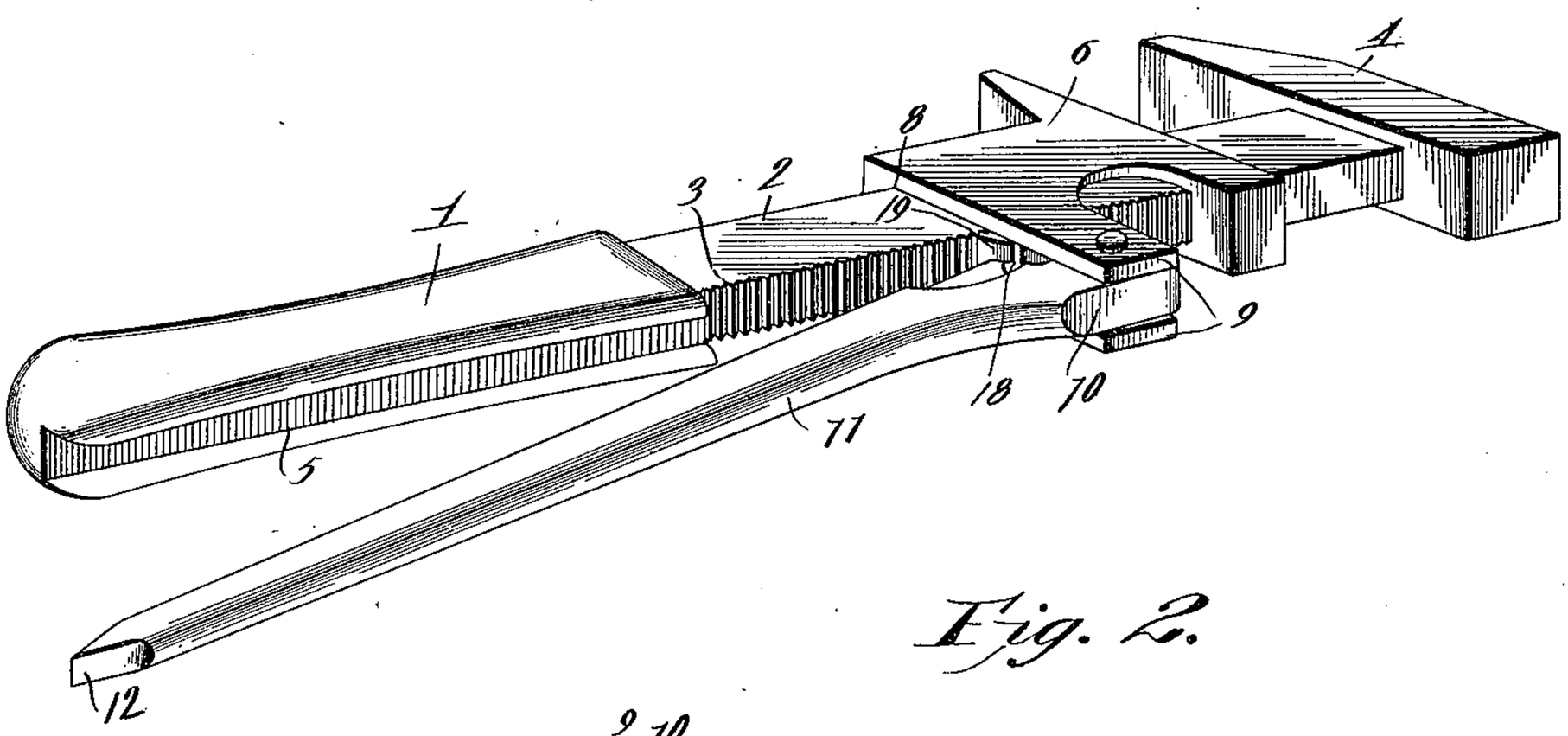

Fig. 2.

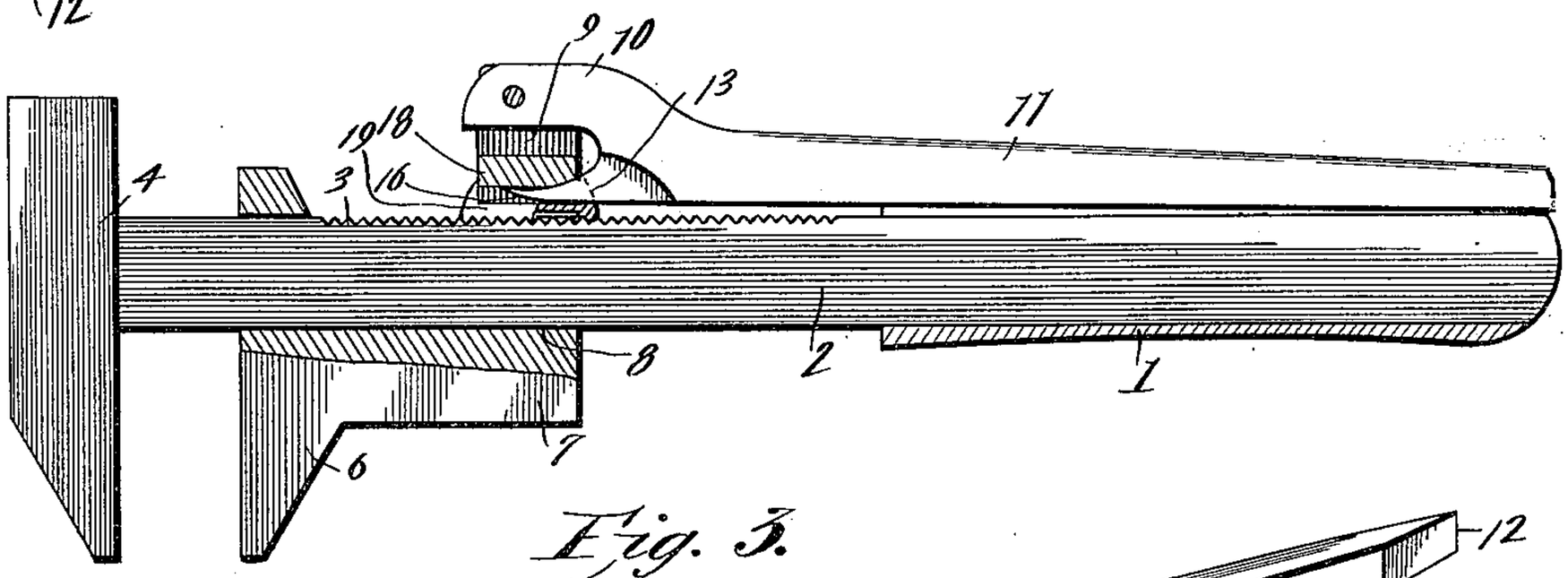

Fig. 3.

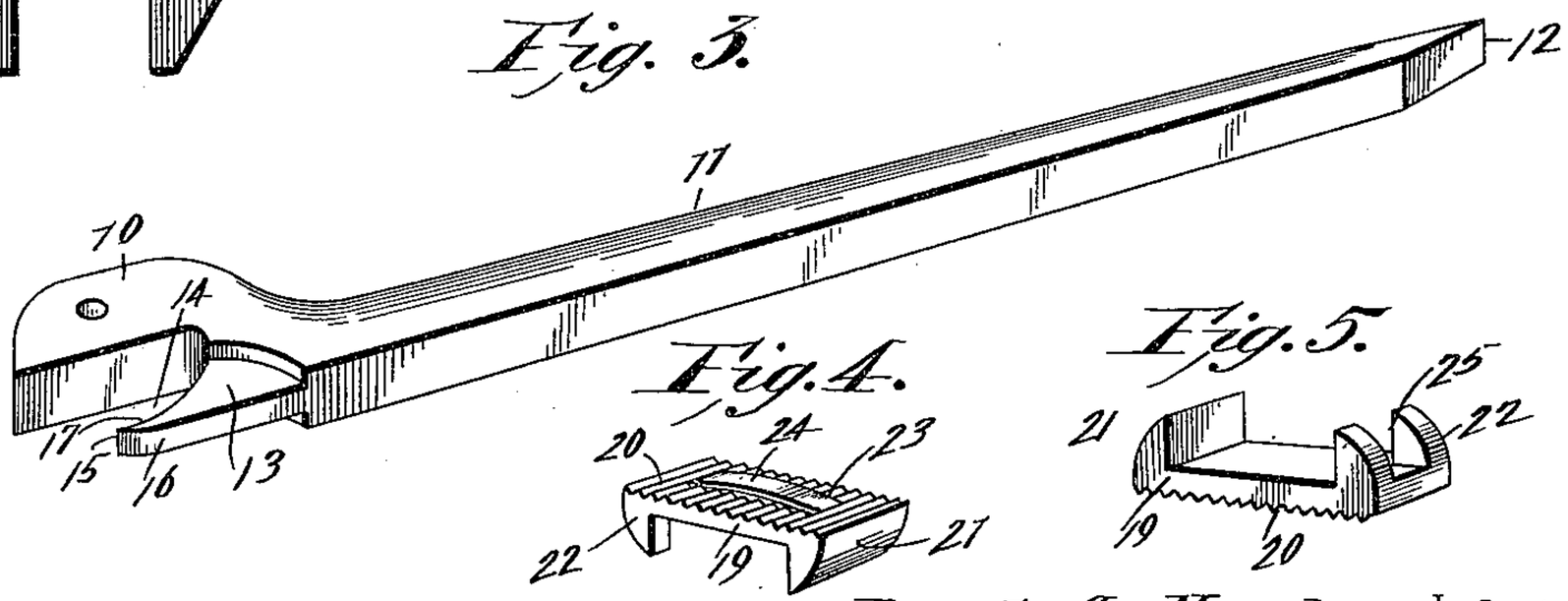

Fig. 4.

Fig. 5.

Witnesses
C. H. Walker.
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Joseph A. Hensler Inventor
By his Attorneys,
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UNITED STATES PATENT OFFICE.

JOSEPH A. HENSLER, OF AKRON, COLORADO, ASSIGNOR OF ONE-HALF TO AUGUST MUNTZING, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 659,369, dated October 9, 1900.

Application filed March 24, 1900. Serial No. 10,061. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. HENSLER, a citizen of the United States, residing at Akron, in the county of Washington and State of Colorado, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to wrenches of that type having a stationary jaw with which an adjustable jaw is disposed in operable relation; and the object of the same is to provide a device of this character having a simple construction and efficient operation and wherein the adjustable jaw may be easily moved by the manipulation of a lever carrying an integral key operating in conjunction with a loosely-mounted gib, which serves to positively maintain the adjustable jaw in fixed position and subject to quick readjustment without requiring the actuation of screws or other analogous devices that have heretofore been employed.

With this and other objects and advantages in view the invention consists of the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a wrench embodying the features of the invention. Fig. 2 is a side elevation broken away in longitudinal direction to show the interior construction. Fig. 3 is a detail perspective view of the operating-lever. Fig. 4 is a detail perspective view of the gib in inverted position. Fig. 5 is a similar view of the gib shown in normal position.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates the handle, having a shank 2, with regular serrations or teeth formed on one edge and extending over a portion of the same, the said shank at its outer end having a fixed jaw 4 thereon and a handle 1, having its edge in line with the serrations or teeth 3, formed with a slot 5, extending longitudinally the full length thereof. On the shank 2 a movable jaw 6 is mounted and constructed with a rear extension 7, having a slot 8 therethrough for the reception of the shank 2 and also formed with right-angular ear extensions or bearing-arms 9, between which the head 10 of an operating-lever 11 is pivotally mounted. The said lever 11 has its rear end 12 reduced to form a screw-driver or analogous implement, and the head end adjacent the serrations or teeth 3 of the shank 2 is provided with a key 13, which is centrally located relatively to the part of the head to which it is connected; but between the main portion of the said head and the outer edge of the key a clear space or throat is provided, as at 14, to permit the said key to operate in a manner which will be presently set forth. The key 13 is reduced in thickness and gradually tapers from the head 10 to its free terminal 15, the inner edge 16 adjacent said terminal being curved, as at 16, at the inner part in convex contour, and the outer edge 17 is formed concave, as clearly shown in Fig. 2. The form of this key as set forth makes it have a cam action, and by the reduced construction toward the terminal 15 said key is permitted to yield slightly to prevent jamming or obstruction to its desired operation.

Connected to the bearing-arms 9 is a transverse bridge-web 18, which extends transversely outward from the serrations or teeth 3 a suitable distance, and between the said bridge-web and the shank a gib 19 is loosely disposed and has an inner interlocking face 20, also formed with transversely-extending serrations or teeth to coincide with the serrations or teeth 3 of the shank 2. The said gib 19 has outwardly-extending bearing-lugs 21 and 22, which engage the front and rear edges of the bridge-web 18, the latter serving as means for guiding the said gib in its operations, and to have the gib normally operate to disengage itself from interlocking relation to the shank 2 a longitudinally-extending seat 23 is formed in the interlocking face 20 thereof to receive a bowed spring 24 of such tension as to cause the teeth of the said interlocking face of the gib when the latter is released to be thrown out of engagement with the teeth 3 of the shank 2. In this loose operation of the gib the lugs 21 and 22 ride over the front and rear edges of the bridge-web 18, and to force the gib inwardly against the shank 2 the rear lug 22 is formed with a slot 25, extending in a longitudinal di-

rection and through which the key 13 has full movement and is normally located between the outer portion of the said gib and the inner face of the bridge-web 18, as clearly shown by Fig. 2.

In operation the lever 11 is drawn outwardly from the handle 1, as shown by Fig. 1, and by such movement of the lever the head 10 is swung on its fulcrum inwardly and the tongue 13 drawn rearwardly and outwardly to bring the reduced extremity thereof only between the gib 19 and the bridge-web 18, and simultaneously the said gib through the action of the spring 24 is forced outwardly to disengage the teeth in the interlocking face thereof from the teeth of the shank 2. The movable jaw 6 can then be adjusted as desired toward or away from the fixed jaw 4, and after the required adjustment has been obtained the lever 11 is drawn inwardly toward the handle 1, and simultaneously the tongue 13 is gradually shoved into the interval between the outer portion of the gib and the inner face of the bridge-web, and thereby gradually moves the said gib toward the shank 2 and finally interlocks the teeth of the gib and the shank, which will prevent accidental movement of the jaw 6. When the lever 11 is drawn toward the handle 1, it fits snugly in an operable manner in the slot 5, and the adjustment or interlocked engagement of the parts set forth can be maintained very easily by firmly gripping the handle and holding the said lever closed thereto.

The advantage of this form of wrench construction relative to analogous devices as heretofore constructed is the quick action that can be imparted to the several parts without lost motion or the operation of screws, which become corroded and stick, and, moreover, the adjustment of the movable jaw being positively retained injury to the polygonal gripping parts of taps and other devices is prevented.

Changes in the form, proportions, size, and minor details may be resorted to without departing from the principle of the invention.

Having thus described the invention, what is claimed as new is—

1. In a wrench, the combination of a handle having a shank with a fixed jaw thereon and teeth on one edge, a movable jaw mounted on the said shank, a lever pivotally connected to the movable jaw and having a key at the front extremity thereof, and a spring-actuated gib, having teeth to engage those of the shank, the said gib being operated to engage the shank by the key slidably moving thereagainst.

2. In a wrench, the combination of a handle having a shank with teeth on one edge and a fixed jaw, a jaw movably mounted on said shank and having bearing-arms connected by a transverse bridge-web, an operating-lever pivotally mounted in said arms and having an inner key reduced toward its free terminal and movable inside of the plane of the bridge-web, and a spring-actuated gib having portions movably engaging the said bridge-web and through a part of which the said key loosely extends and operable to bring the gib in clamping contact with the shank, the said gib having teeth to engage those of the shank.

3. In a wrench, the combination of a handle having a shank with teeth on one edge and a fixed jaw, a movable jaw on the shank, a lever pivotally connected to the said movable jaw, a gib having teeth to engage those of the shank, and a bowed spring located in its engaging face to normally throw it out of locking contact with the shank, the said gib being held within a part of the movable jaw and operated by a portion of the lever.

4. In a wrench, the combination of a handle having a shank with teeth in one edge and a fixed jaw, the said handle also having one portion thereof longitudinally slotted to form a seat, a jaw movably mounted on the said shank and provided with bearing-arms connected by a transverse bridge-web, a lever pivotally mounted in the said bearing-arms and having a key extending from the inner part of the head thereof and reduced toward its free terminal, the said key being located between the bridge-web and the shank, a gib having teeth to engage those of the shank and end bearing-lugs to contact with the front and rear portions of the bridge-web, the rear lugs being longitudinally slotted to permit loose movement therethrough of the key, and a bowed spring situated in the inner engaging face of the gib, the slotted portion of the handle receiving the lever when the latter is moved inwardly toward the same.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH A. HENSLER.

Witnesses:

H. G. PICKETT,

E. W. CLARK.