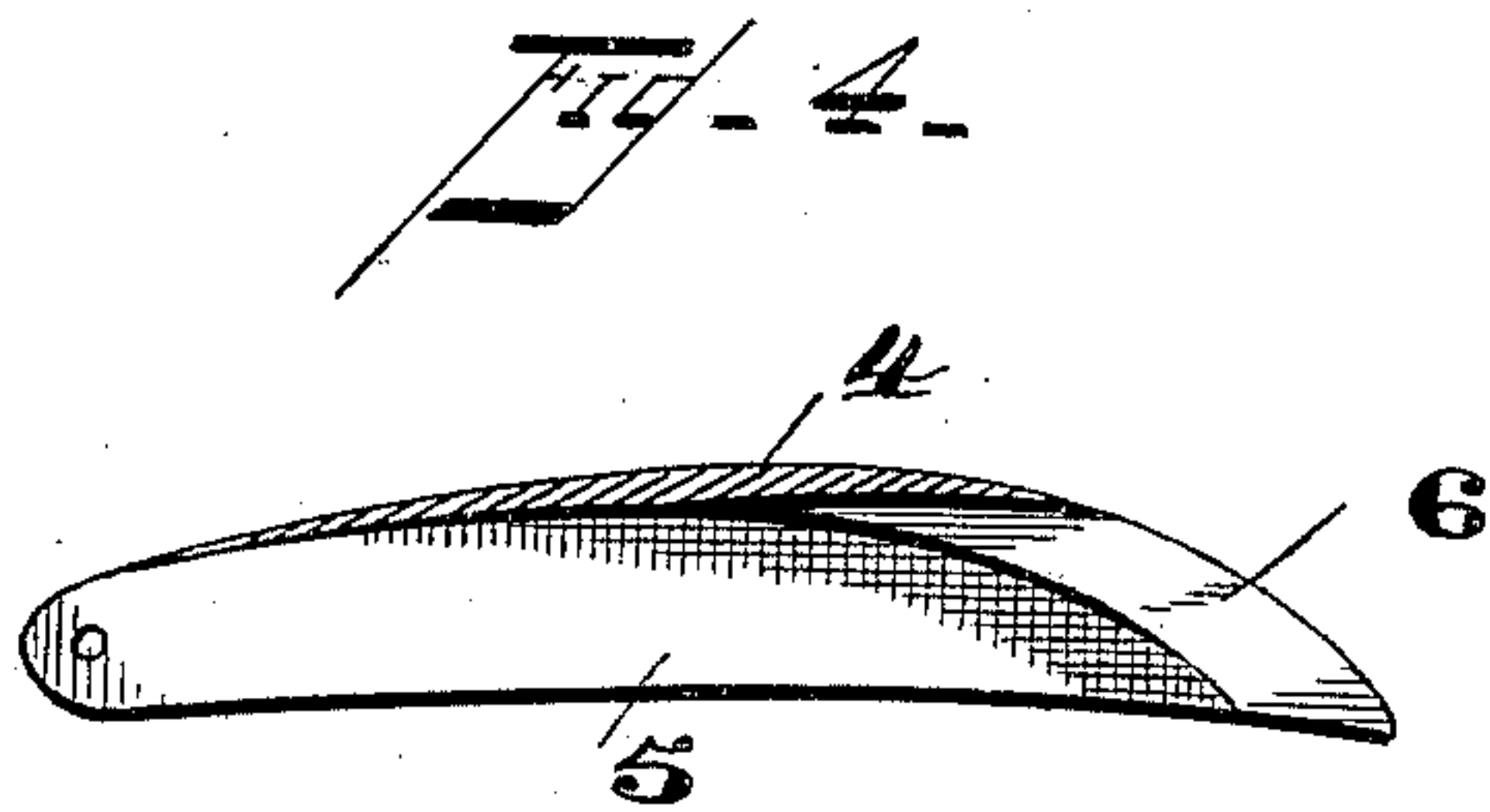
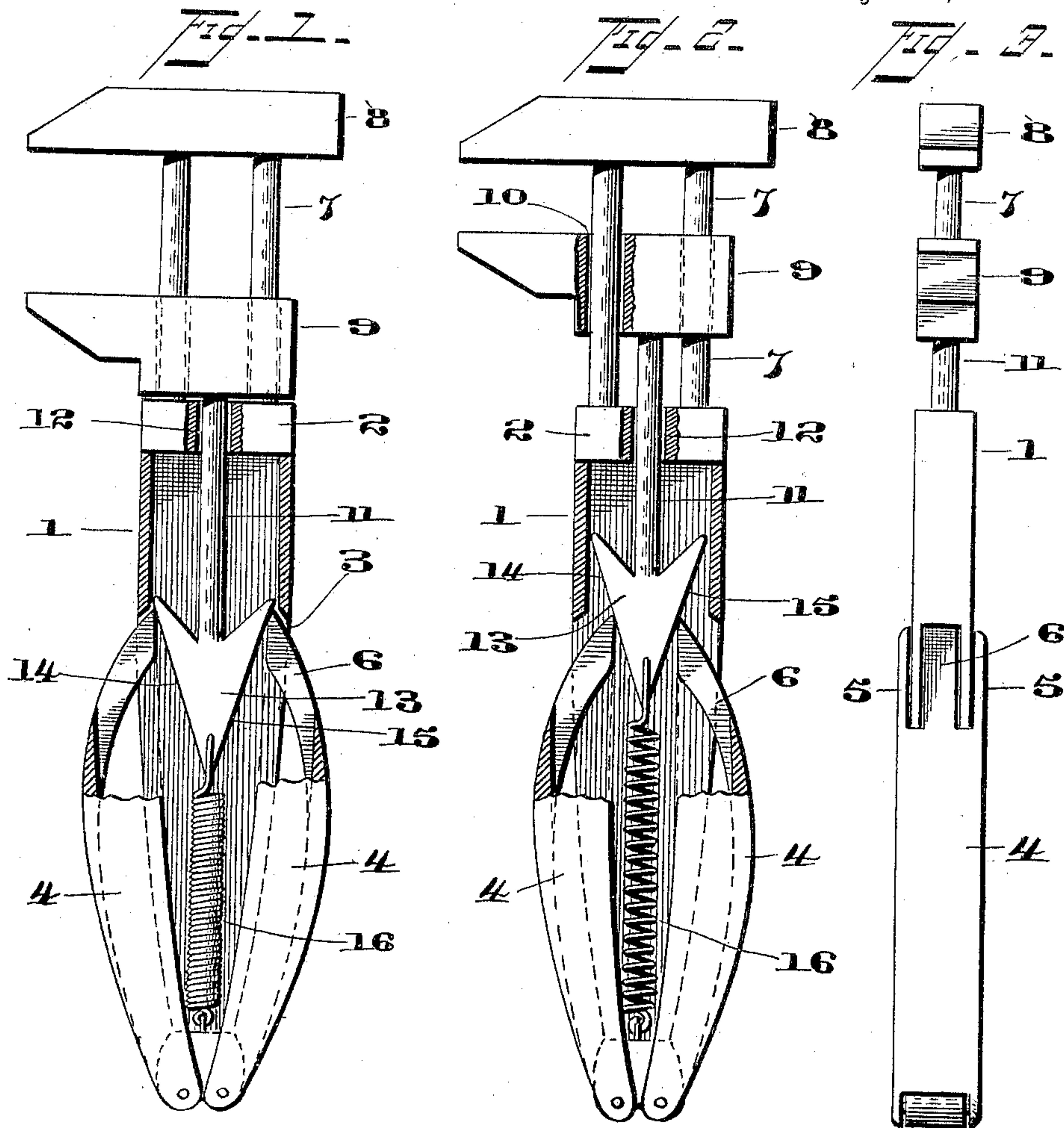


(No Model.)

G. W. HENNING.
WRENCH.

No. 604,753.

Patented May 31, 1898.



WITNESSES
Marcus L. Byng.
A. M. Dwyer

INVENTOR
George W. Henning
By John Hedderburn
Attorney

UNITED STATES PATENT OFFICE.

GEORGE W. HENNING, OF MOUNT HOLLY, OHIO.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 604,753, dated May 31, 1898.

Application filed February 5, 1897. Serial No. 622,095. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. HENNING, a citizen of the United States, residing at Mount Holly, in the county of Clermont and State of Ohio, have invented certain new and useful Improvements in Wrenches; and I do hereby 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.

This invention relates to improvements in wrenches; and the object of the same is to provide a very simple construction of wrench in which the jaws may be adjusted to firmly grasp the object to be operated upon without the use of adjusting screws or nuts, as in the ordinary construction.

The invention also relates to providing a wrench with a positive locking movement, in which the slipping of the jaws from the nut incident to the wrenches now in general use, is entirely obviated.

The invention consists in the construction and arrangement of parts, which will be hereinafter fully described and claimed, and illustrated in the accompanying drawings in which—

Figure 1 is a front elevation of my invention with the outer wall of the casing broken away to show the interior arrangement, the jaws being shown separated. Fig. 2 is a similar view with the jaws partially closed. Fig. 3 is an edge view with the operating-handle contracted. Fig. 4 is an enlarged detail view of one of the operating members.

Referring to the accompanying drawings, 1 indicates the casing, having its side walls cut away at its lower end, as illustrated, to form the recesses or openings 3. This casing is curved toward its lower end, where it is somewhat narrower than at its upper end, and pivoted to its lower end are the contractible operating members 4. These members 4 are curved on their outer surfaces and are provided with the side walls 5. The upper ends of the operating members are slit longitudinally to form the tongues 6, as illustrated in Fig. 4.

Extended from the upper end of the casing 1 are the vertical or longitudinal guides 7, supporting at their outer ends the stationary jaw 8.

The movable jaw 9 is provided with the perforations or passages 10, by means of which it slides upon the guides 7. Extended from the bottom or lower edge of this movable jaw 9 and between the guides 7 is the supporting-rod 11, which extends through a perforation 12 in the upper end wall of the casing 1. The opposite end of this rod 11 terminates in an arrow-shaped head 13, the outer sides of the arrow forming cam-surfaces 14 and 15. A coiled spring 16 is attached at one end to the point of the arrow and at its opposite end to the lower end of the casing 1 and serves to hold the movable jaw down upon the upper end of the casing, or, in other words, to hold the jaws separated. The tongues 6 of the operating members 4 are adapted to extend within the casing and engage the cam-surfaces of the arrow-head, and when the operating members are contracted, as illustrated in Fig. 2, the said tongues engage and move the arrow-head, which closes the jaws. It will be understood that the edges of the top and bottom walls of the casing work in the slits or cuts, which form the tongues of the operating members.

When it is desired to adjust my wrench to a nut or other object, the hand of the operator is closed upon the operating members 4 and tightened until the movable jaw is moved upon the guides 7 into engagement with the object operated upon. Thus it will be seen that the tighter the hand is grasped about the handle portion of the wrench the more securely and positively the wrench holds the object upon which it is adjusted. The curved operating members and casing form a very convenient handhold for the operator. The tongues being inclined on their outer surface, they are prevented from slipping from the casing by their engagement with the side walls of said casing. It will be understood that the spring always returns the movable jaw to its normal position.

From the foregoing description it will be seen that I have produced a very cheap and simple construction of wrench which may be quickly and easily adjusted and in which a positive engagement with the object operated upon is secured.

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

1. In a wrench the combination of a stationary jaw, a movable jaw supporting cam-surfaces, contractible operating members adapted to engage the cam-surfaces for operating the movable jaw, and means for holding the jaws normally separated, substantially as described.

2. A wrench, comprising a handle portion, a fixed jaw secured to said handle portion, a movable jaw having its shank extended within the handle portion and provided with cam-surfaces, contractible members for engaging the cam-surfaces and moving the movable jaw in contact with the fixed jaw, and a means for normally holding the jaws separated, substantially as shown and described.

3. A wrench, comprising a handle portion, guides extended from one end and supporting a fixed jaw, a movable jaw adapted to slide on said guides and having its shank extended within the handle, cam-surfaces upon the end of said shank, operating members pivoted at one end to the handle portion and adapted at their opposite ends to extend within the handle and engage the cam-surfaces of the shank of the movable jaw, whereby, when the operating members are contracted the movable jaw is moved in contact with the fixed jaw, and a means for holding the jaws normally separated, substantially as shown and described.

4. A wrench, comprising a handle portion, a fixed jaw supported by said handle portion, a movable jaw having its shank extended within the handle and provided with cam-surfaces, operating members pivoted at their

lower ends to the handle and slit at their opposite ends to form operating-tongues which are adapted to extend within the casing and engage the cam-surfaces, the edges of the top and bottom walls of the casing working in the said slits, and a means for holding the jaws normally separated, the parts adapted to operate as described.

5. A wrench, comprising a casing, guides extended from its upper end, a fixed jaw supported by the guides, a movable jaw having a shank which extends through a perforation in the upper end wall of the casing and between the guides, an arrow-head upon the opposite end of the shank portion, operating members pivoted to the casing at their lower ends and adapted to extend through the side walls of the casing and engage the cam-surfaces of the arrow-head, said operating members being inclined at the point of engagement with the arrow-head, whereby they are prevented from being disengaged from the casing, and a spring for holding the jaws separated, whereby, when the operating members are contracted the movable jaw is moved upon its guides and when the operating members are released the spring returns the movable jaw to its normal position, substantially as shown and described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE W. HENNING.

Witnesses:

JAMES W. KELLUM,
BIRD B. CUNDIFF.