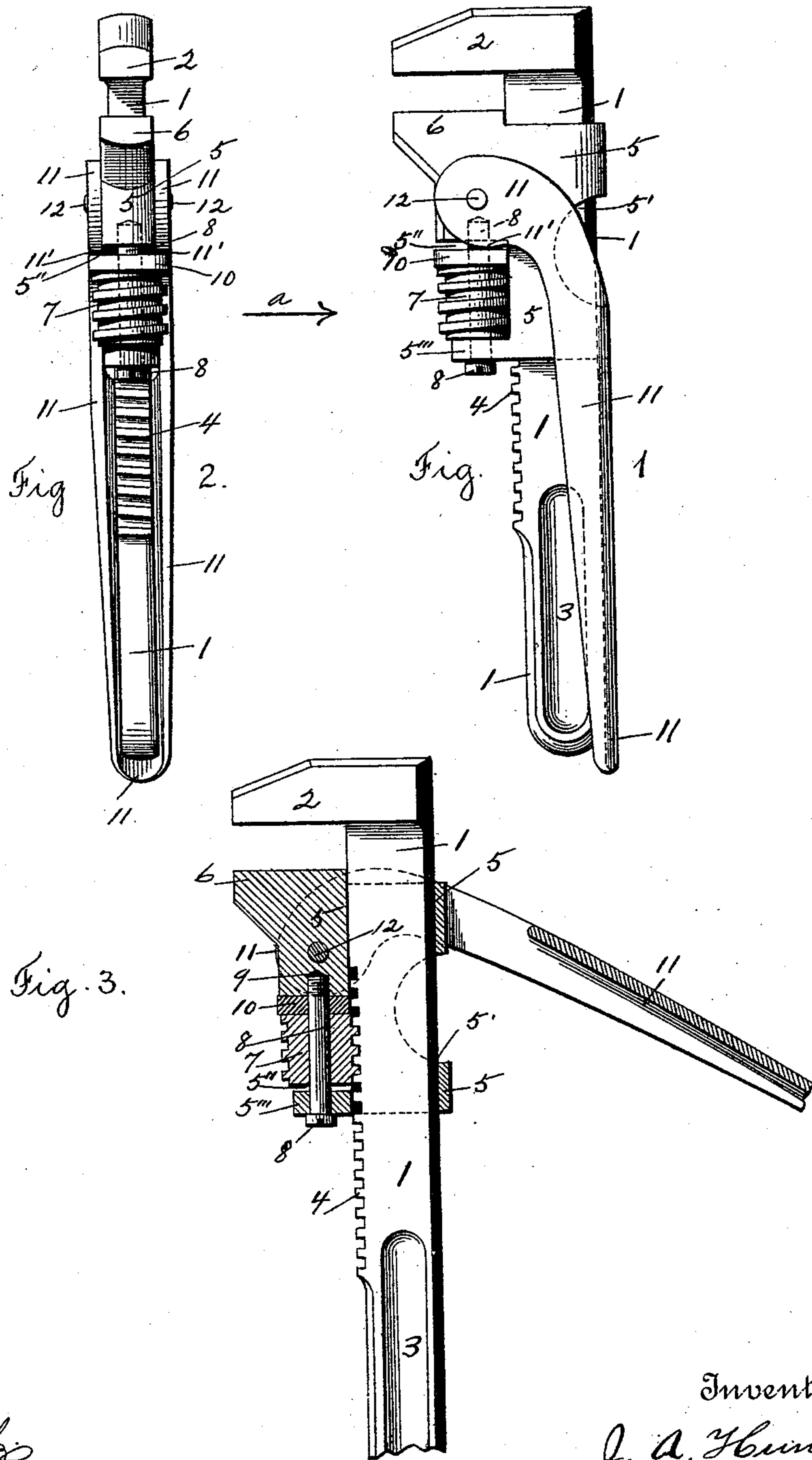


(No Model.)

J. A. HUNT.  
WRENCH.

No. 538,166.

Patented Apr. 23, 1895.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## WRENCH.

SPECIFICATION forming part of Letters Patent No. 538,166, dated April 23, 1895.

Application filed August 24, 1894. Serial No. 521,146. (No model.)

*To all whom it may concern:*

Be it known that I, JONATHAN A. HUNT, a citizen of the United States, residing at Westborough, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, which, in connection with the drawings making a part of this specification, will enable others skilled in the art to which my invention belongs to make and use the same.

My invention relates to wrenches, and particularly to that class of wrenches in which there is a fixed or stationary jaw, formed integral with the handle, and a movable jaw adapted to slide on the handle portion, and operated by a worm or nut, engaging teeth on the handle portion, and the object of my invention is to improve upon the construction of wrenches of the class above referred to, and more particularly to combine with the wrench, a clamping or cam lever, to force the jaws toward each other, after they have been moved as far as possible by turning the worm or nut, to cause them to clamp and hold more tightly the article placed between them.

My invention consists in certain novel features of construction of a wrench, as will be hereinafter fully described, and the nature thereof indicated by the claims.

Referring to the drawings:—Figure 1 is a side view of my wrench, with the clamping or cam lever moved down against the handle. Fig. 2 is a front edge view of the wrench shown in Fig. 1, looking in the direction of arrow *a*, same figure. Fig. 3 is a partial sectional view of the wrench, with the clamping lever moved out from the handle.

In the accompanying drawings, the handle 1 consists preferably of a flat bar, having at one end the fixed jaw 2, formed integral therewith, and the other end preferably rounded, and channeled on its flat surface, as shown at 3, Figs. 1 and 3, and the front edge of the handle 1 provided with teeth 4.

A sleeve 5 is mounted on the handle bar 1, and is adapted to slide thereon, and has the movable jaw 6 formed integral therewith. The rear edge of said sleeve is preferably recessed or cut out, as shown at 5', to reduce

the weight, and the front edge is also recessed or cut out, as shown at 5'', to receive the worm or nut 7, which meshes with the teeth 4, on the handle bar 1, and is mounted and turns on a pin or screw 8, which extends through a hole in the lug or projection 5'', at the lower part of the sleeve 5, with its upper end screwed into a screw threaded hole 9, in the sleeve, above the recessed portion 5''.

A loose washer 10 is preferably used in connection with the worm 7, as shown, to furnish a larger bearing surface for the cam lever to work on, than the top of said worm furnishes, but said washer may be dispensed with, and the top of said worm used as a bearing surface.

In operating the wrench above described, the movable jaw 6 is moved as far as possible toward the stationary jaw 2, by turning the worm 7, which engages the teeth 4, to clamp the article between said jaws, but in order to clamp and hold the article still more tightly, I combine with said wrench a clamping or cam lever 11, which is preferably channeled upon its inner surface to extend over the rear edge of the handle bar 1, and is forked or bifurcated at its upper end, to straddle or extend over the sleeve 5, and curved inwardly, and pivoted eccentrically, or off its center, on the front portion of the sleeve 5, at a point above the worm 7, by a pin 12, in such a manner, that after the article is clamped between the jaws, as above described, the clamping lever 11 being first moved out from the handle bar, as shown in Fig. 3, the drawing down, or moving inwardly of the lever 11, toward the handle bar 1, will cause the lower curved portion 11' of the pivoted end of the lever 11 to engage the washer 10, in case a washer is used, or the upper end of the worm 7, in case a washer is not used, which washer, and the worm 7 engaging the rack teeth 4, remain stationary, and force the sleeve 5 and the movable jaw 6 upwardly, toward the stationary jaw 2, as shown in Fig. 1, to clamp more tightly the article between the jaws.

By combining with the wrench, the clamping lever 11, as above described, I am enabled to grip and hold very tightly any article between the jaws. The wrench may also be used as an ordinary wrench, without using the clamping lever, which will remain in the



position shown in Fig. 1, and form a part of the handle bar of the wrench, and said clamping lever may be detached from the wrench, if preferred.

5 The advantages of my improved construction of a wrench, will be readily appreciated by those skilled in the art.

I provide a light and strong wrench, having a clamping or cam lever combined therewith, 10 for compressing the jaws more tightly, upon the article between them, than can possibly be done by means of the worm 7.

It will be understood that the details of construction of my wrench, may be varied somewhat if desired. 15

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

1. In a wrench, the combination with the 20 handle bar, provided with teeth on one edge and having the stationary jaw at one end thereof, and a sleeve, mounted and adapted to slide on said bar and having the movable jaw thereon, and carrying a worm or nut to 25 engage the teeth on the handle bar, to move said sleeve thereon, of a cam lever, adapted to operate to move one jaw toward the other, substantially as set forth.

2. In a wrench, the combination with the 30 handle bar, provided with teeth on its front edge, and having the stationary jaw at one end thereof, of a sleeve mounted and adapted to slide on said bar, and having the movable jaw thereon, and carrying a worm or nut to 35 engage the teeth on the handle bar, to move said sleeve thereon, and said worm, and a pin or screw for securing the same to said sleeve, substantially as shown and described.

3. In a wrench, the combination with the 40 handle bar, provided with teeth on its front

edge, and having the stationary jaw at one end thereof, and a sleeve mounted and adapted to slide on said bar, and having the movable jaw thereon, and carrying a worm or nut to 45 engage the teeth on the handle bar, to move said sleeve thereon, and said worm, and a pin or screw for securing the same to said sleeve, of a cam lever bifurcated at its upper end, to straddle or extend over said sleeve, and pivoted on said sleeve, and adapted to be moved 50 away from and toward the handle bar, and to operate to move the sleeve and movable jaw toward the stationary jaw, for the purpose stated, substantially as set forth.

4. In a wrench, the combination with the 55 handle, consisting of a flat bar with the stationary jaw at one end thereof, and the other end rounded and channeled on its flat surface, and the front edge of said bar provided with rack teeth, and a sleeve mounted and adapted 60 to slide on said bar, and having the movable jaw thereon, said sleeve having a recessed or cut out portion at its rear edge, and a recessed or cut out portion at its front edge, in which latter recess extends a worm or nut, which en- 65 gages the teeth on the handle bar, and said worm or nut, and a washer, and a pin or screw secured to the sleeve for retaining said worm and washer in place, of a cam lever, bifurcated at its upper end, to straddle or extend 70 over the sleeve carrying the movable jaw, and pivoted on said sleeve, and adapted to engage a washer on the worm or nut, or the worm itself, to move said sleeve and movable jaw toward the stationary jaw, for the purpose 75 stated, substantially as set forth.

J. A. HUNT.

Witnesses:

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