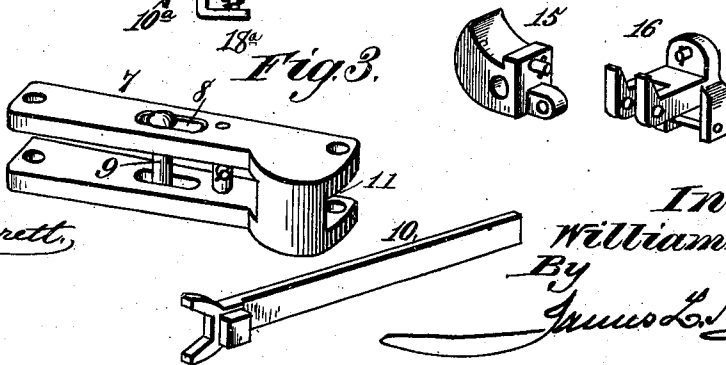
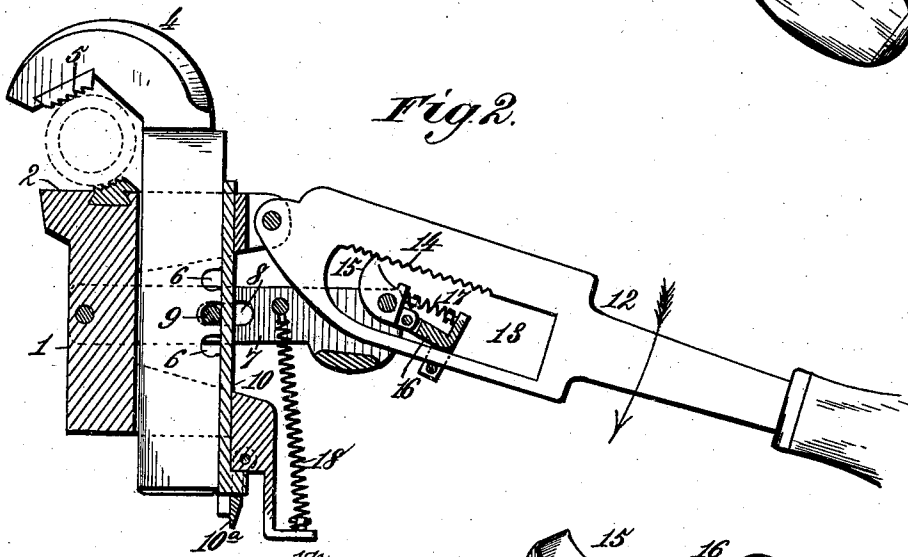
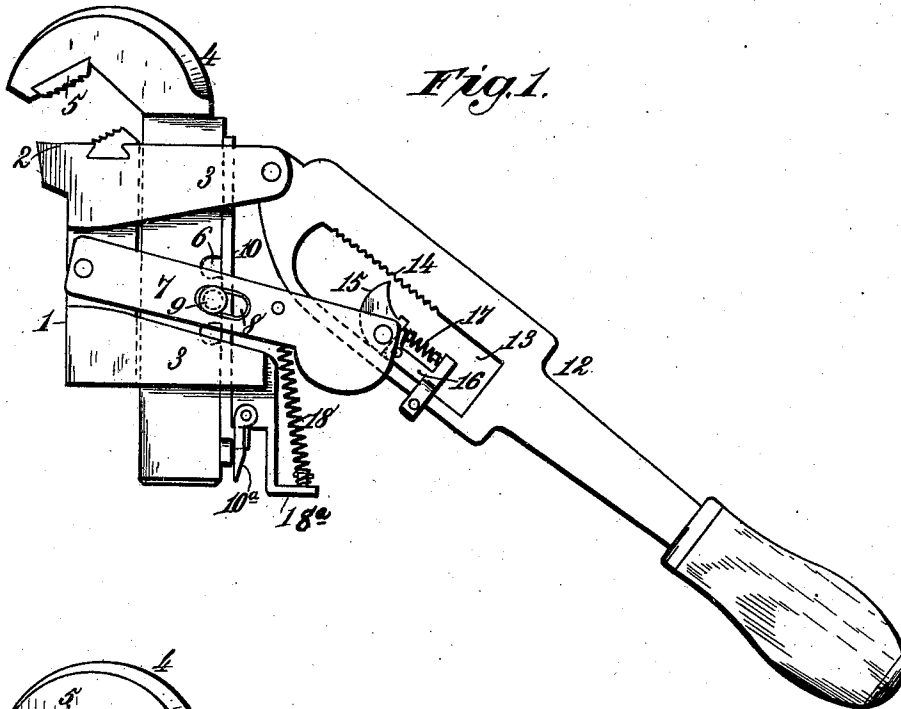


(No Model.)

W. H. CONVER.
PIPE OR NUT WRENCH.

No. 503,124.

Patented Aug. 15, 1893.



Witnesses,
Robert Everett,
J. W. Rea.

Inventor,
William H. Conner,
By
James L. Norris,
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM HENRY CONVER, OF EMLENTON, ASSIGNOR OF TWO-THIRDS TO
ANDREW C. BAILEY AND JACKSON D. BAILEY, OF FORD CITY, PENN-
SYLVANIA.

PIPE OR NUT WRENCH.

SPECIFICATION forming part of Letters Patent No. 503,124, dated August 15, 1893.

Application filed December 8, 1892. Serial No. 454,510. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY CONVER, a citizen of the United States, residing at Emlenton, in the county of Venango and State of Pennsylvania, have invented new and useful Improvements in Pipe or Nut Wrenches, of which the following is a specification.

My invention relates to improvements in ratchet wrenches for pipes or nuts, and it has for its object to provide a wrench of novel construction having simple and efficient means for adjusting the wrench jaws to different sized pipes or nuts, and holding them in such position, and having also novel and simple means for bringing said jaws together to grasp a pipe or nut and moving them apart to release the same.

To this end my invention consists in the novel construction, combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1, is a side elevation. Fig. 2 is a longitudinal section. Fig. 3, is a view showing the swinging link and other parts in detail.

In the said drawings the reference numeral 1, designates a movable base or support formed at its front end with a jaw 2, having a surface suitable for operating upon pipes and which may be formed integral with said base or support or set into any suitable seat or recess and having also a surface for operating upon nuts. At the front and rear ends of the base 1 recessed arms or guides 3, extend vertically therefrom, and fitted in the guide-way formed by the arms or guides 3, is the stationary wrench-jaw 4, having a serrated gripping part 5, formed integral therewith or set into a recess or seat therein, and provided in the upper surface of its shank-portion with a series of notches 6, of any suitable number and arranged at any convenient distance apart.

The numeral 7, represents a link having two arms which straddle the base 1 and the sliding jaw 4, and which are pivoted at their lower ends to the base 1, intermediate the vertical arms or guides 3, so that the said link is capable of swinging or oscillating. The arms of the link 7, are provided with elongated slots 8, in which is located and

capable of moving up and down therein a pin or bolt 9, headed or provided with nuts upon both its ends. This bolt or pin 9, is adapted to engage the notches 6, in the shank portion 5 of the jaw, when in its lowered position, and thus secure the jaw 4 in its position of adjustment with relation to the movable jaw 2 when in its elevated or raised position to release said jaw 4 so that it may be adjusted to different positions with relation to the jaw 2, or so that it may be removed and another substituted, and said pin or bolt is held normally in engagement with the notches 6, by a suitable slide 10, which is adapted to be slid in and out of the arms or guides 3, to cover the notches 6 in the stationary jaw 4, and confine the pin 9 in said notches and to be removed therefrom to permit said pin to be removed and the said jaw adjusted. This slide 10 is formed at its rear with a lug or projection with which a swinging eye or loop 10^a pivoted to the rear arms or guides 3, engages to confine the said slide in position. Other means of retaining the pin 9 in the notches 6 may be provided, but I prefer the means shown and described herein. The upper end of the link 7 is recessed as at 11, to receive the lever 12, the lower end of which lever is pivoted to the upper ends of the front arms or guides 3. Said lever 12 is provided near its lower end with an enlarged slot 13 and in its edge at the front of said slot are formed ratchet teeth 14. Pivoted in the recess 11 of the swinging link 7, and located in the enlarged slot 13 of the lever 12, is an eccentric pawl or dog 15, whose point is adapted to engage and be disengaged from the ratchet teeth 14. 16 represents a bracket having front and rear lateral arms and a vertical arm. The rear lateral arms of this bracket 16, embrace the lever 12 at the rear of the slot 13, and is secured in relation thereto by a pin or bolt passing through said rear lateral arms. The lower end of the vertical arm of the bracket 16 is pivotally connected to the pawl or dog 15, and its front lateral arm is connected to said pawl by a spring 17.

There is sufficient space between the rear wall of the recess 11 and the dog 15 to permit the lever 12 to have a slight forward and backward play.

A spiral or other spring 18, is secured at

one end to the swinging link 7, and at the other end to a bracket 18, extending from the rear arm or guide 3, and which normally serves to move the movable jaw toward the stationary jaw, and retain it in its position of nearest adjustment to said stationary jaw until its force is overcome by the forward movement of the lever 12.

The operation of my improved wrench is as follows:—The movable jaw 4, is first adjusted to the required distance from the stationary jaw 2, to admit the convenient insertion between said jaws of the article to be operated upon, by raising or elevating the pin or bolt 9 and moving said jaw 4 until the required notch 6 is opposite said bolt when the bolt is placed in engagement with the notch, the slide 10 inserted and the jaw 4 thus held in its adjusted position. Now in order to get the required grip or bite upon the article, the lever 12 is moved backward carrying with it the swinging link 7, and the bolt or pin 9, thus moving the sliding jaw toward the stationary jaw 2, until said jaws acquire the required grasp upon the article, when the front lateral arm of the bracket 16 will be thrown upwardly and rearwardly, by contact of the lever 12 with the pin or bolt which passes through the rear lateral arms of said bracket, a sufficient distance to distend the spring 17 whereby the nose of the pawl or dog 15 will be engaged with the ratchet teeth 14, and thus prevent the lever 12 from moving forward under the tension of the spring 18, until positive force is exerted thereon. When it is desired to release the article operated upon or to secure a fresh grasp thereon, without actually removing the wrench from the article, the lever 12 is moved forward releasing the dog 15 from the ratchet teeth 14, swinging the link 7 forward and carrying the movable jaw 1 away from the stationary jaw, whereby the back stroke of the wrench can be effected for a fresh grip without removing the wrench from the object operated on.

I have shown the movable jaw as particularly adapted for operating upon pipes, but it will be understood that when the wrench is to be used as a nut wrench, a movable jaw having a gripping surface suitable for a nut is substituted for the one shown.

Having thus described my invention, what I claim is—

1. In a wrench, the combination with a base or support provided with a stationary jaw and a guideway, of a movable jaw slidable in the guideway and provided with a series of notches, a longitudinally slotted link pivoted at one end to the base or support, a pin or bolt movable in the slotted part of the link into and out of the notches of the movable jaw, a swinging handle pivoted to the base or support, and a pivotal connection between the handle and the slotted link, substantially as described.

2. In a wrench the combination with a base

or support provided with a stationary jaw and a guide-way, of a movable jaw sliding in said guide-way and provided with a series of notches, a swinging link provided with a slotted part and pivotally connected to said base or support, a pin movable in the slotted part of said link and adapted to engage the notches of the movable jaw, and a lever for swinging said slotted link and the pin carried thereby, substantially as described.

3. In a wrench the combination with a base or support provided with a stationary jaw and a guide-way, of a movable jaw sliding in said guideway and provided with a series of notches, a slotted swinging link connected to said base or support, a pin movable in the slot of said link and adapted to engage the notches of the movable jaw, a slide for retaining the pin in engagement with the notches of the movable jaw and a lever connected with said link to swing the same, substantially as described.

4. In a wrench, the combination with a base or support provided with a stationary jaw and a guideway, of a movable jaw slidable in the guideway and provided with a series of notches, a longitudinally slotted link pivoted at one end to the base or support, a pin or bolt movable in the slotted part of the link into and out of the notches of the movable jaw, a swinging handle pivoted to the base or support, and an adjustable pivotal connection between the handle and the slotted link, substantially as described.

5. In a wrench the combination with a base or support provided with a stationary jaw and having guide arms, of a movable jaw sliding in the guide-way formed by said arms, a swinging link connected to said base or support, means carried by said link to engage said movable jaw, a lever connected to said guide arms and said link and provided with a slot and ratchet teeth, and a dog or pawl pivoted to the swinging link and adapted to engage the ratchet teeth, substantially as described.

6. In a wrench the combination with a base or support provided with a stationary jaw and having guide-arms, of a movable jaw sliding in the guide way formed by said arms and provided with a series of notches, a swinging link connected to said base or support, a pin movable in said link and adapted to engage said movable jaw, a lever connected to said guide arms and said swinging link and provided with a slot and ratchet teeth, and a dog or pawl pivoted to the swinging link and adapted to engage the ratchet teeth, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM HENRY CONVER.

Witnesses:

DAN HESS,

W. F. CAMP.