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E. HUNTLEY.
WRENCH.

(Application filed July 1, 1901.)

(No Model.)

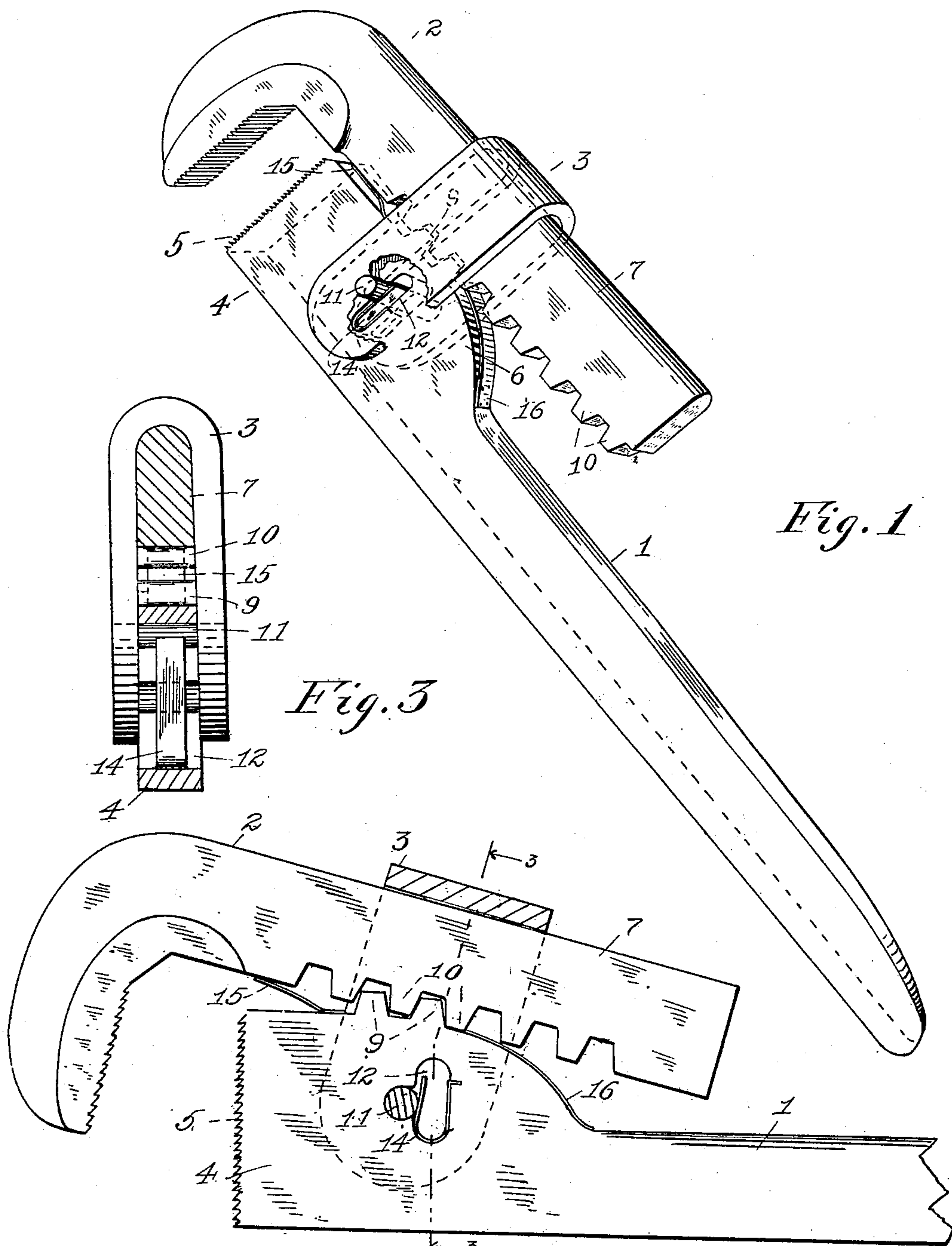


Fig. 1

Fig. 3

Fig. 2

WITNESSES:

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ELIJAH HUNTLEY, OF SEATTLE, WASHINGTON.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 698,706, dated April 29, 1902.

Application filed July 1, 1901. Serial No. 66,809. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH HUNTLEY, a citizen of the United States of America, and a resident of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to improvements in wrenches, and has special reference to tools of this class designated as "pipe-wrenches."

Among numerous objects attained by this invention and readily understood from the following specification and accompanying drawings, included as a part thereof, is the production of a strong and durable adjustable wrench at exceeding small cost embodying essential features of simplicity and efficiency which render it easy of adjustment, insures relative position of the jaws when set and a positive grip thereof in operating.

With reference to the aforementioned drawings, bearing like reference characters for corresponding parts throughout, Figure 1 is a perspective view of the wrench with a portion of one stem of the yoke broken away to disclose the connection with the head. Fig. 2 is a side view thereof with the movable jaw rocked to spread the jaws of the wrench; and Fig. 3 is a transverse section on line 3 3 of Fig. 2, indicating the yoke adjusted outwardly to facilitate the adjustment of the movable jaw.

This wrench includes a shank 1, having a fixed jaw at one end, a movable jaw 2, coactingly related thereto, and an adjustable yoke 3, mounted on the head end of shank 1 and adapted to secure movable jaw 2 in set position and to guide same when moved relatively to the fixed jaw.

As now considered shank 1 is conveniently extended to form a handle, as shown, by which the tool is grasped in manipulating, and the head portion 4 is rendered somewhat wider than the shank to afford an extended end surface on which suitable teeth are formed to provide a fixed jaw 5, and a crowning, as 6, is provided along one side edge thereof adjacent the jaw to afford a surface on which the stem of the movable jaw is rocked rearwardly to adjust the opening between the jaws, and thereby facilitate the placing of the wrench for use and render the wrench accommoda-

tive for various diameters at each set position of the movable jaw. This crowning preferably extends rearwardly at right angles to the jaw for a short distance to afford a surface on which movable jaw 2 is clamped, as hereinafter set forth, and is then curved downwardly and rearwardly to offer a convexed surface on which said jaw is rocked in placing the wrench.

The movable jaw 2 is rendered substantially L-shaped and suitably roughened on the face, and the stem 7 thereof is disposed longitudinally the crowning edge of head 4, with said face opposed to the face of the fixed jaw and relatively adjustable by moving said stem parallel the crowning and rocking same rearwardly thereon.

In the preferred embodiment movable jaw 2 is secured in set position when gripping by yoke 3, which is rendered substantially U-shaped and also serves to guide said jaw as adjusted and is conveniently pivoted to the head 4, so as to embrace stem 7 and have a limited swinging movement, whereby the yoke is made to clamp stem 7 upon said crowning as the wrench is operated and binds same more securely to place as force is exerted on the handle of the wrench.

As now considered movable jaw 2 is rendered more secure in set position by means of suitable interlocking projections and indentures formed on the opposing surfaces of head 4 and the stem of said jaw and comprising respective teeth, as 9 and 10, the former of which are placed transversely the convexed surface of the crowning on the shank at the highest point and the latter formed transversely the under edge of the stem.

To facilitate the setting of jaws as desired, yoke 3 is rendered adjustable, so as to elongate the space inclosed by the head portion thereof, and thereby allow the stem of said jaw to be moved away from the head 4, when it can be freely shifted to set the jaw. In the present embodiment the yoke is conveniently rendered adjustable by shifting the position of pivot 11, which secures it to shank 1 and as permitted by rendering the seat of said pivot of suitable elongated form to accommodate the desired movement thereof. As now included this seat comprises a T-shaped slot 12, conveniently formed in head 4, with the head

portion thereof parallel the line of adjustment of the yoke and the stem suitably formed to offer a seat for pivot 11 when in its normal position and preferably on a line radial the convexed surface of the crowning at comparatively short radius.

The pivot 11 is movably secured in adjusted positions by means of a U-shaped spring 14, placed in the head of slot 12, with one stem yieldingly holding said pivot to its seat and adapted to spring under pressure and allow the pivot to enter the head of the slot and move to the upper extremity thereof, where the spring retains it during adjustment of the movable jaw.

If desired, suitable lifting-springs, as 15 and 16, are included to facilitate the adjustment of jaw 2 and are placed between head 4 and said jaw, so as to separate the same when the yoke is adjusted outwardly. These springs are preferably formed from suitable band-metal and are respectively secured by one end to the shank, with the free ends adapted to press upwardly on the adjacent edge of the stem of jaw 2 and raise the same when the yoke is adjusted and also serve to yieldingly hold jaw 2 from rocking, and thereby insure its closing upon the article.

As clearly understood, the jaws of the wrench can be more widely separated after adjustment to a set position by rocking the shank of jaw 2 rearwardly, and thereby brought to accommodate several diameters at each position, and by spacing teeth 9 at a predetermined pitch the wrench is rendered adjustable to receive known sizes without trying it on the article it is desired to turn.

Granted production of such a wrench, the user sets the same for a predetermined size by first forcing pivot 11 from its normal seat by pressing rearwardly on the stems of yoke 3, when spring 14 will press the pivot to the top end of the head of slot 12, and thereby adjust said yoke to release the stem of jaw 2 from engagement with the teeth on head 4 by action of the lifting-springs, when said jaw can be set as desired and the yoke then pressed downward to return the pivot to normal position as assisted by spring 14. After setting the wrench is readily placed to grip the article by forcing jaw 2 to rock rearwardly, and when pressure is brought to bear on the handle the interlocking portions serve to tighten the grip by drawing on jaw 2 as it works slightly on head 4, and yoke 3 swings therewith and clamps same to the shank.

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

1. In a wrench of the nature indicated; a shank having a jaw on one end surface and a crowning on one side edge adjacent thereto, having a convexed surface, a movable L-shaped jaw with the stem disposed on said crowning and a yoke pivoted to the shank on a line radial said surface at comparatively short radius, embracing said stem and adapt-

ed to swing and clamp the same to the crowning, and means for yieldingly holding the fulcrum of the yoke in its adjusted position.

2. In a wrench of the nature indicated; a shank having a jaw on one end surface and a crowning on one side edge adjacent thereto, a movable L-shaped jaw with the stem disposed on said crowning, adjustable means to normally clamp said stem upon the crowning and springs interposed between said stem and shank at opposite ends of the crowning and adapted to raise and yieldingly support the stem when released from said clamping means.

3. In a wrench of the nature indicated; a shank having a jaw on one end surface, a crowning on one side edge adjacent thereto and a transversely-disposed T-shaped slot with the head parallel said surface, a movable L-shaped jaw with the shank disposed on said crowning, a yoke adjustably pivoted in said slot, embracing said stem and adapted to swing and clamp same to the crowning and means to yieldingly secure the pivot of said yoke in adjusted positions in the slot, and lifting-springs between said shank and stem.

4. In a wrench of the nature indicated; a shank having a jaw on one end surface, a crowning on one side edge adjacent thereto and a transversely-disposed T-shaped slot with the head parallel said surface, a movable L-shaped jaw with the shank disposed on said crowning, a yoke adjustably pivoted in said slot embracing said stem and adapted to swing and clamp the same to the crowning and a U-shaped spring disposed in the crowning and means for yieldingly holding the fulcrum of the yoke in its adjusted position.

5. In a wrench of the nature indicated; a shank having a jaw on one end surface, a crowning on one side edge adjacent thereto having a convexed surface and a transversely-disposed T-shaped slot with the head parallel to said end surface, a movable L-shaped jaw with the shank disposed on said crowning; a yoke adjustably pivoted in said stem and adapted to swing and clamp the same to the crowning and a U-shaped spring disposed in the head of said slot with one stem yieldingly holding the pivot of said yoke normally in the stem of the slot.

6. In a wrench of the nature indicated; a shank having a jaw on one end surface, a toothed crowning on one side edge adjacent thereto having a convexed surface and a transversely-disposed T-shaped slot with the head substantially parallel said end surface, a movable L-shaped jaw having teeth formed in the stem adapted to normally interlock with the teeth on said crowning, a yoke adjustably pivoted in said slot embracing said stem and adapted to swing and hold same to the crowning and a U-shaped spring disposed in the head of said slot with one stem yieldingly holding the pivot of said yoke normally in the stem of the slot.

7. In a wrench of the nature indicated; a

shank having a jaw on one end surface, a toothed crowning on one side edge adjacent thereto having a convexed surface and a transversely-disposed T-shaped slot with the head substantially parallel said end surface, a movable L-shaped jaw having teeth formed in the stem adapted to normally interlock with the teeth on said crowning, a yoke adjustably pivoted in said slot embracing said stem and adapted to swing and hold same to the crowning and a U-shaped spring disposed in the head of said slot with one stem yieldingly holding the pivot of said yoke normally in the stem of said slot.

15 S. In a wrench of the nature indicated; a shank having a jaw on one end surface, a toothed crowning on one side edge adjacent thereto having a convexed surface and a transversely-disposed T-shaped slot with the head substantially parallel said end surface, a mov-

able L-shaped jaw having teeth formed in the stem adapted to normally interlock with the teeth on said crowning, a yoke adjustably pivoted in said slot embracing said stem and adapted to swing and hold same to the crowning, a U-shaped spring disposed in the head of said slot with one stem yieldingly holding the pivot of said yoke normally in the stem of said slot and a spring at each end of the crowning secured to the shank and pressing upon said stem, and adapted to raise and yieldingly support said movable jaw when the yoke is adjusted outwardly.

Signed at Seattle, Washington, this 21st day of June, 1901.

ELIJAH HUNTLEY.

Witnesses:

GEO. D. SNOW,
S. P. DENNISON.