L. CAVANNA.

AUTOMATIC ADJUSTING PIPE WRENCH.

APPLICATION FILED OCT. 23, 1913.

1,138,728. Patented May 11, 1915.

Fig. 1.

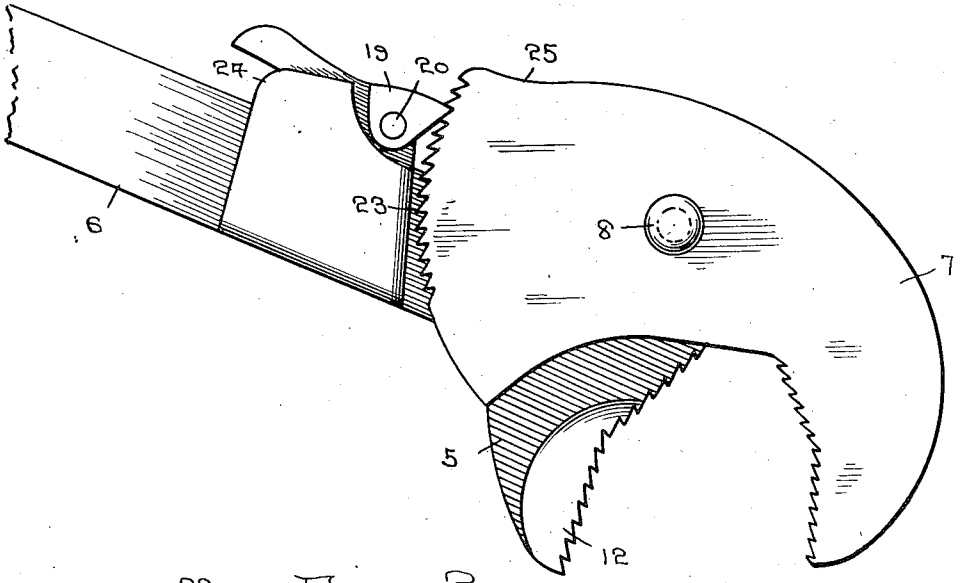
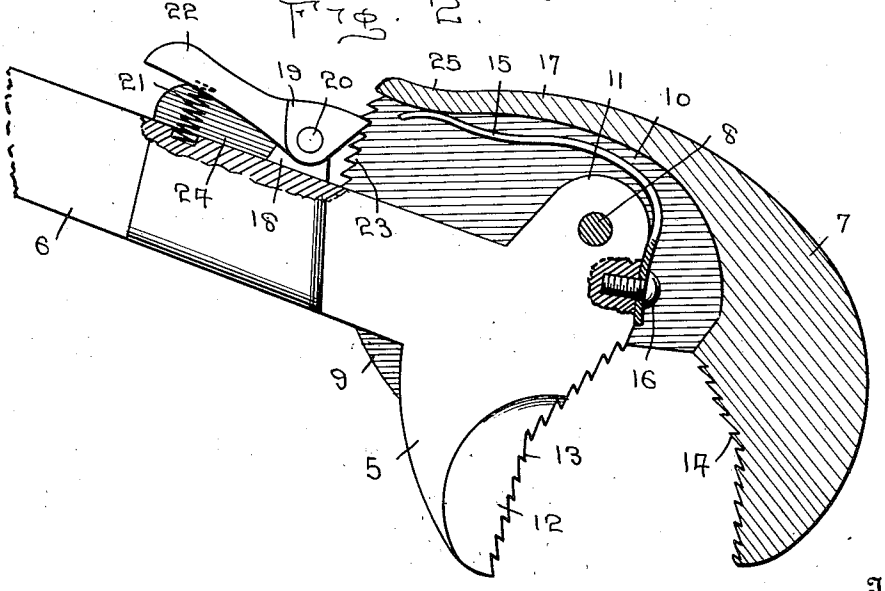


Fig. 2.



Witnesses

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AUTOMATIC ADJUSTING PIPE-WRENCH.

1,138,728. Specification of Letters Patent. Patented May 11, 1915.

Application filed October 23, 1913. Serial No. 796,945.

To all whom it may concern:

Be it known that I, LARRY CAVANNA, a subject of the King of Italy, residing at Fairmont, in the county of Marion and State of West Virginia, have invented certain new and useful Improvements in Automatic Adjusting Pipe-Wrenches, and 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 wrenches and more particularly to that class known as pipe wrenches.

The principal object of my invention is to provide a pipe wrench which is extremely simple in operation, and which is capable of easy and quick adjustment on pipes of various sizes, and which may be quickly detached, the wrench being so constructed that it may be operated with one hand.

Another object of the invention is the provision of a wrench of the class specified which is simple, durable, efficient in operation, and inexpensive to manufacture.

With these and other objects in view which will become apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts, hereinafter more fully described and claimed and illustrated in the accompanying drawing, in which like characters of reference indicate like parts throughout the figures, of which,

Figure 1 represents a side elevational view of the wrench, a portion of the handle being broken away, and Fig. 2 represents a view similar to Fig. 1, the upper jaw member being shown in longitudinal section, and a portion of the handle being broken away.

Referring more particularly to the drawing, the wrench comprises a fixed jaw member 5 formed on the enlarged lower end of the handle 6, and a movable jaw 7 centrally pivoted with relation to the lower jaw by means of a pin which passes through the walls 9 formed by a recess 10 cut in the upper jaw, and through a lug 11 formed on the lower end of handle 6, said lower end of the handle and a portion of the lower jaw being embraced by walls 9.

The jaw 5 is formed on both sides thereof with enlarged portions 12 which add strength, and a greater gripping surface to the jaw, and said jaw is provided with a series of teeth 13 which co-act with teeth 14 formed on jaw 7 for gripping pipes or other objects, the series of teeth formed on each jaw having their ends disposed at an angle one to the other.

A leaf spring 15 is secured by a screw 16 to the front end of the handle adjacent lug 11, and extends rearwardly over said lug and contacts at its rear end with the rear portion of what may be termed a bridge 17 connecting walls 9 at the upper edges thereof. It will be understood that jaw 7 is preferably formed of a single piece of metal, as is also the handle and jaw 5, although these parts may be assembled from various pieces of material if so desired, without departing from the spirit of the invention.

A lug 18 is formed on the upper edge of handle 6 rearwardly of jaw 7, and a spring actuated pawl 19 is pivoted thereon by means of a pin 20, the spring 21 which actuates said pawl having its ends seated in recesses in the handle 6, and in the stem 22 of the pawl. The rear edges of walls 9 are formed with teeth 23 and the pawl is adapted to be normally held in contact with the teeth by means of spring 21, the teeth being so formed as to allow movement of the toothed portions 14 of jaw 7 toward jaw 5, but to prevent an opposite movement of jaw 7. It will be seen by this construction, that leaf spring 15 tends to hold the jaws in contact with a pipe or other object (not shown), and that pawl 19 will counteract the tendency of the jaws to separate as the wrench is being used.

The handle 6 has formed thereon a pair of guide plates 24 for guiding the stem 22 of the pawl and for protecting spring 21. The upper rear face of bridge 17 is concaved as at 25 to form a thumb or finger hold.

The wrench handle may be grasped with one hand, portion 25 being engaged by the thumb while the pawl stem 22 is depressed by the heel of the thumb whereby a pressure on the upper rear portion of the upper jaw 7 will cause the jaws to open so that the wrench may be adjusted on the pipe, and when it is desirable to unloosen the wrench, the pawl stem may be depressed for disengaging the pawl with teeth 23 whereupon the wrench may be disengaged from the pipe.

Although I have described the preferred embodiment of my invention I may desire

to make such changes in the construction, combination and arrangement of parts thereof, as do not depart from the spirit of the invention and the scope of the appended claims.

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

1. A pipe wrench comprising a handle, a fixed jaw formed at the forward end of the handle, a movable jaw pivoted to the fixed jaw having ratchet teeth on its inner end and provided with a seat for the point of the thumb when the handle is clasped in the hand, a spring arranged to normally press the working end of the movable jaw toward the fixed jaw and the thumb seat of said movable jaw away from the handle, and a spring pawl pivoted to the handle and normally engaging the ratchet teeth of movable jaw to prevent the opening of said jaw by its spring, said pawl having its handle end located to receive the root or body of the thumb while the point of the thumb is in engagement with the thumb seat of the movable jaw whereby all of the manual operations necessary for the adjustment and use of the wrench may be performed with one hand.

2. A pipe wrench comprising a handle, a fixed jaw at the forward end thereof projecting in opposite directions therefrom in approximately T form, one of said projections being in the form of a pivot lug, a movable jaw centrally pivoted to said lug and formed with a recess to receive the fixed jaw, the bridge of said recess being formed with a seat to receive the point of the thumb of a hand grasping the handle and the movable jaw having ratchet teeth between the thumb seat and the handle, a leaf spring secured to the pivot lug forward of the pivot, passing around said lug and bearing outwardly against the inside of the bridge of the recess of the movable jaw at the thumb seat to normally press the working face of said movable jaw toward that of the fixed jaw, and a spring pressed pawl pivoted to the wrench handle having its point normally pressed into engagement with the ratchet teeth of the movable jaw to normally hold the jaws from opening, the handle of the pawl being located in position to receive the root or body of the thumb while the point of the thumb is in engagement with the thumb seat of the movable jaw, whereby all of the manual operations necessary for the adjustment and use of the wrench may be performed with one hand.

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

LARRY CAVANNA.

Witnesses:

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VICTOR LE VELLE.