

No. 834,741.

PATENTED OCT. 30, 1906.

A. LOVELL.  
WRENCH.

APPLICATION FILED DEC. 23, 1905.

Fig. 1.

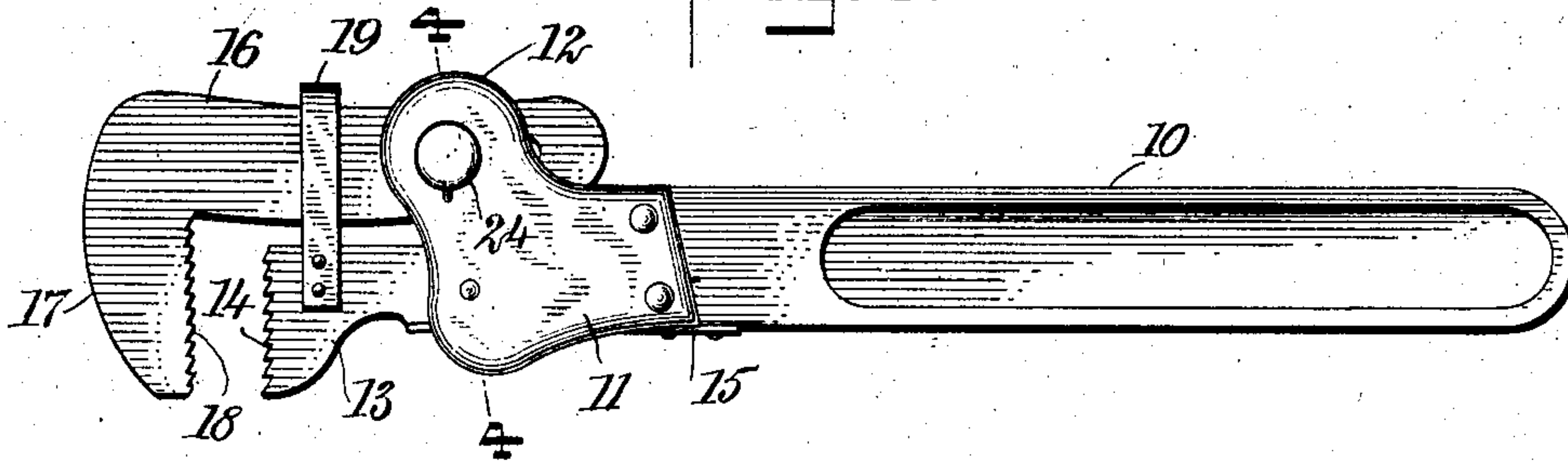


Fig. 2.

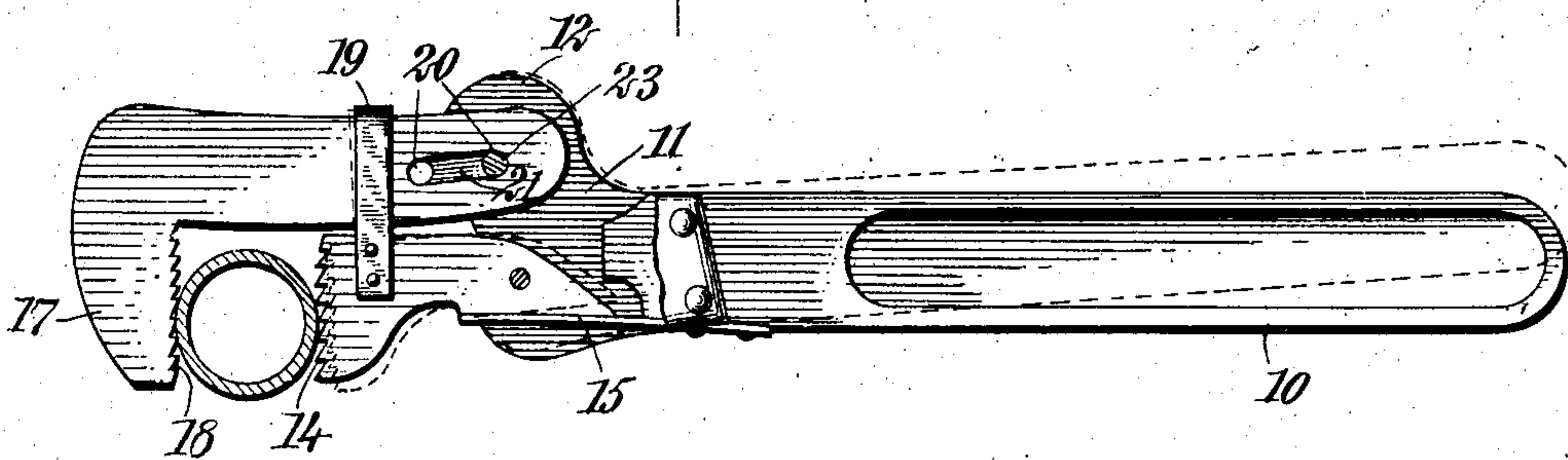


Fig. 4.

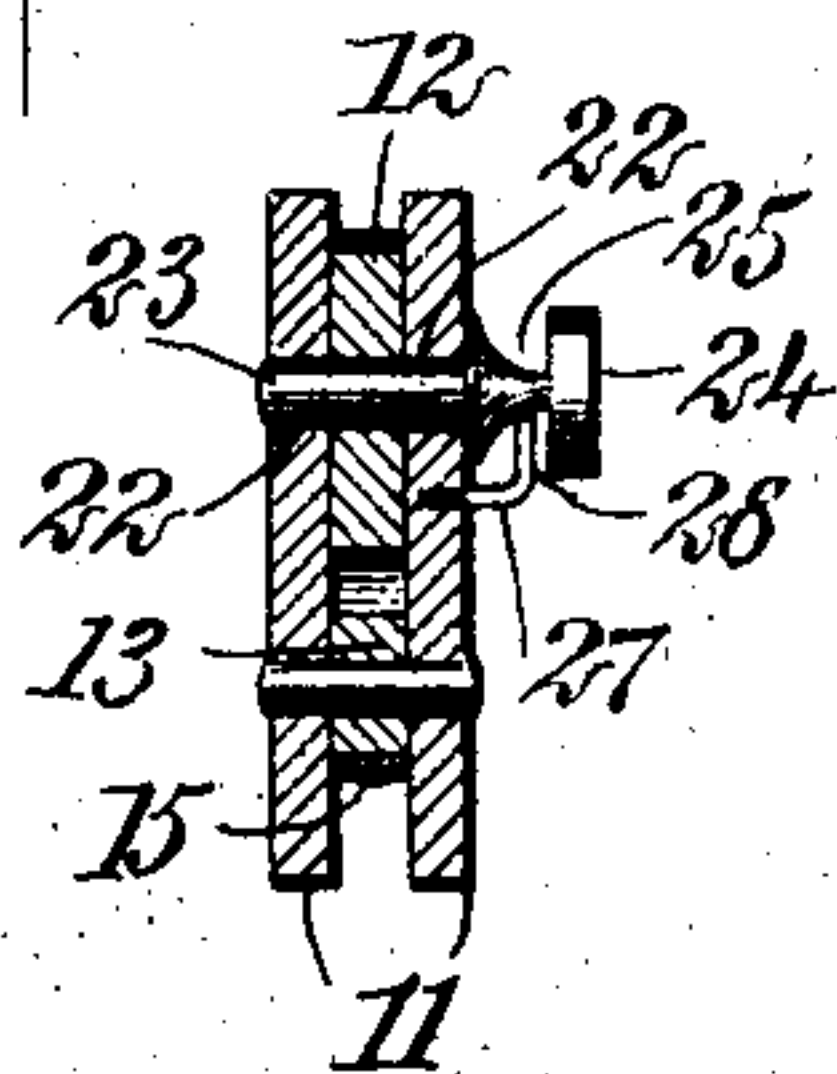


Fig. 3.

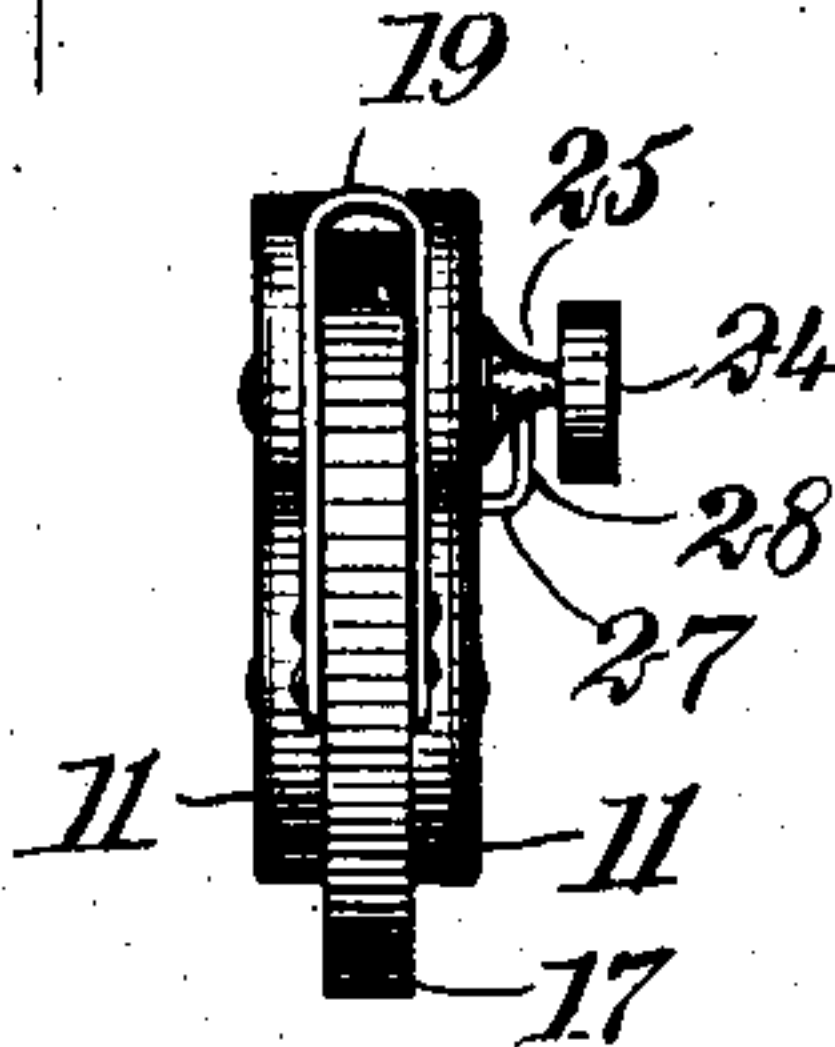
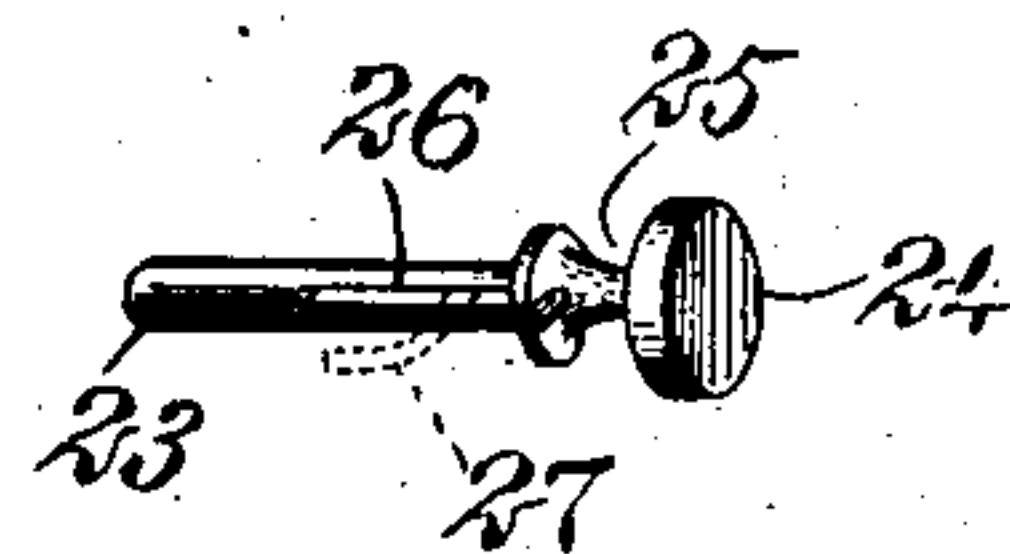


Fig. 5.



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# UNITED STATES PATENT OFFICE.

ARTHUR LOVELL, OF EAST ST. LOUIS, ILLINOIS.

## WRENCH.

No. 834,741.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed December 23, 1905. Serial No. 293,068.

*To all whom it may concern:*

Be it known that I, ARTHUR LOVELL, a citizen of the United States, and a resident of East St. Louis, in the county of St. Clair and State of Illinois, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

My invention relates to wrenches, and particularly to the type commonly termed "pipe wrenches."

It has for its principal object the provision of a simple and durable implement the jaws of which may be drawn toward and separated from one another to set them upon the work by a force applied to and tending to revolve the handle about said work.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 shows one embodiment of my invention in side elevation. Fig. 2 is a similar view, parts being broken away and the jaws shown in another position of adjustment and in engagement with a pipe. Fig. 3 is an end elevation of my improved wrench looking from the left in Fig. 1. Fig. 4 is a transverse section on the line 4-4 of Fig. 1, and Fig. 5 is a perspective view of the adjustable pivot-pin.

A handle 10 has at one extremity a head, conveniently consisting of opposite plates 11 11, riveted thereto, this furnishing a lateral projection 12 from the head. Upon this head, in alinement with the handle, is pivoted a jaw member 13, having engaging teeth 14 upon its outer face. The jaw member is maintained in normal alinement with the handle by a leaf-spring 15, secured to the handle and resting against a plane surface upon the jaw member. Pivoted upon the projection from the head is a jaw member 16, which extends beyond the member 13 and has at its outer extremity an angularly-disposed portion 17, provided with teeth 18, situated opposite the teeth 14 and being inclined in a reverse direction. Secured to the member 13 and surrounding the companion member is a strap 19, which compels the two elements to move together, although preferably leaving some slight play between them. The pivotal connection of the member 16 is through one of a plurality of openings 20, there being two shown in the present in-

stance, these openings being connected at one side of the member by a groove 21. Through either of the openings 20 and alined openings 22 22 in the handle-head extends a pivot-pin 23, having at one end a head or enlargement 24, in which is an annular groove 25. Into this groove 25 opens a groove 26, extending longitudinally of the pin. Adjacent to one of the openings 22, this being at the head side of the pin, is a projection 27, having an angular end portion 28, so disposed as to enter either of the grooves 25 or 26. This projection locks the pin against outward movement except when the latter is rotated to bring the longitudinal groove opposite the projection. Then the pin may be drawn outwardly, this movement being limited by the length of the groove 26. This is preferably such that at the extreme of outward movement the end of the pin will be freed from the jaw-opening, but will still be within the connecting-groove 21. This permits the member 16 to be shifted, so that either of its openings comes into registration with the opening 22, but at the same time prevents the movement of the jaw member save in a definite path. In this manner the variation in the pivot adjustment may be readily accomplished, changing the normal distance between the jaws in a manner made apparent by Figs. 1 and 2 of the drawings.

In using the implement the space between the jaws is adjusted by means of the pivot-pin to approximate the diameter of the object to be grasped. Then as the handle is revolved in the direction which brings the teeth into engagement with the work the pivotal connection of the jaw portions with the handle and their contact with one another move them so that their toothed portions approach, thus gripping the work, the greater the stress put upon the handle the tighter being the engagement. As soon as the force upon the handle is relaxed, the spring 15 acts to restore the jaws to their original position, simultaneously moving the teeth from one another and relaxing their grasp. This enables the wrench to be shifted for a fresh hold, when the operation is repeated.

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

1. A wrench comprising a handle having a lateral projection, a jaw member pivoted



upon the handle in alinement therewith, a spring for normally maintaining said alinement, a jaw member pivoted upon the projection, and connections between the jaw members independent of the handle.

2. A wrench comprising a handle, a pair of jaw members pivoted thereon, one of said jaw members having a plurality of openings connected by a groove, and a pin for engagement with the openings, the end of the pin engaging the groove and being guided thereby between the openings.

3. A wrench comprising a handle, a pair of jaw members pivoted thereon, one of said jaw members having a plurality of openings, a pin carried by the handle for engagement with the openings and being provided with an annular groove and a longitudinal groove leading therefrom, and a projection from the handle entering the pin-grooves, whereby to

permit rotation of the pin and partial withdrawal of the same.

4. A wrench comprising a handle, a pair of jaw members pivoted thereon, one of said jaw members having a plurality of openings connected by a groove, a pin carried by the handle for engagement with the openings and groove and being provided with an annular groove and a longitudinal groove leading therefrom, and a projection from the handle entering the pin-grooves and serving to maintain said pin within the jaw-openings and groove.

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

ARTHUR LOVELL.

Witnesses:

FREDERICK KLARER,  
W. M. CAPP.