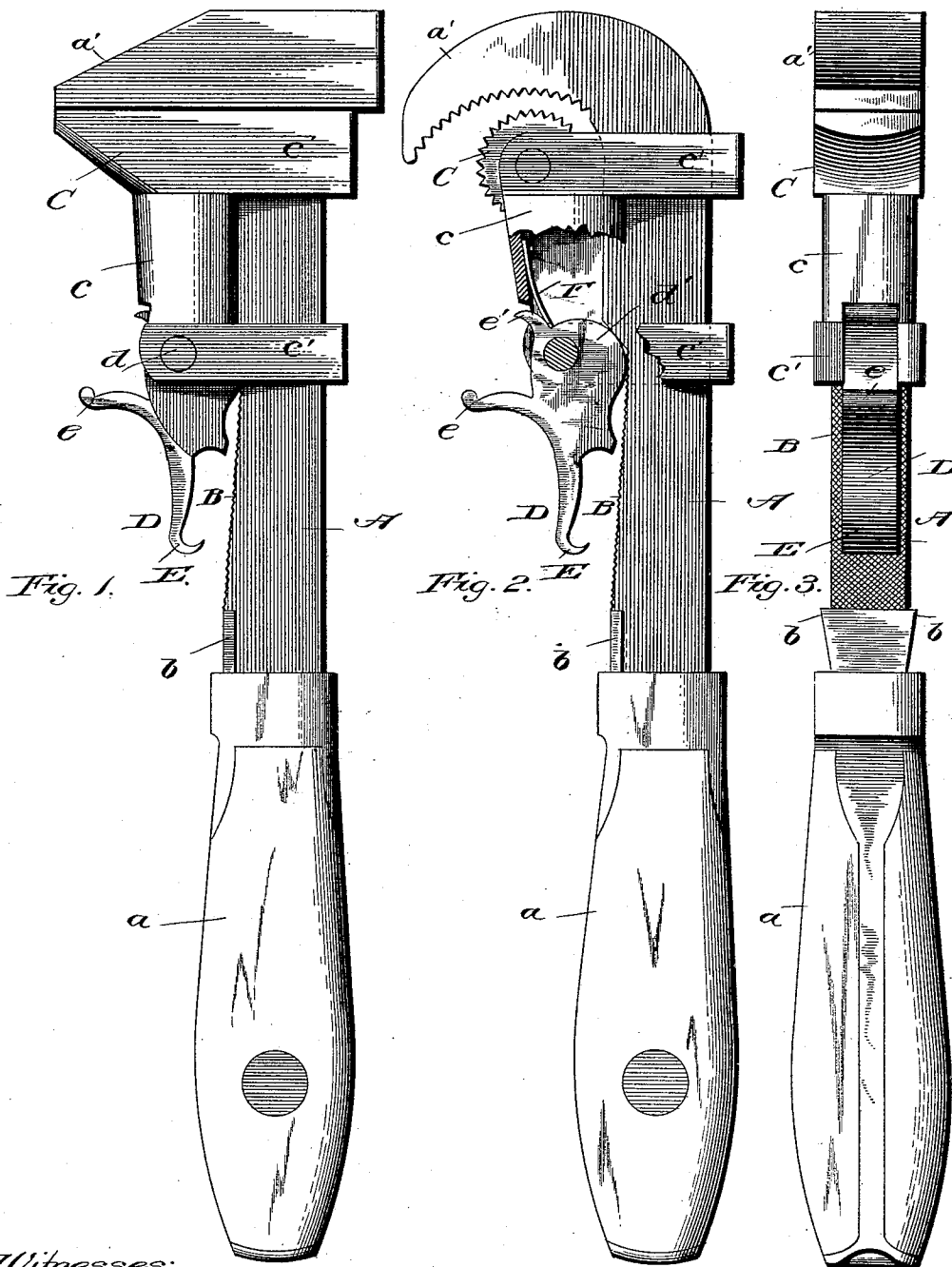


(No Model.)

A. J. CURTIS.
WRENCH.

No. 486,697.

Patented Nov. 22, 1892.



Witnesses:

Wm. O. Bell
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Inventor:

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UNITED STATES PATENT OFFICE.

ANDREW J. CURTIS, OF EAST WILLIAMSON, NEW YORK, ASSIGNOR OF ONE-HALF TO HARVEY H. POUND AND WILLIAM POUND.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 486,697, dated November 22, 1892.

Application filed May 31, 1892. Serial No. 435,026. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. CURTIS, a citizen of the United States, residing at East Williamson, in the county of Wayne and State of New York, have invented certain new and useful Improvements in Wrenches; and I 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.

My invention relates to improvements in wrenches, which improvements may be applied with equal efficiency to wrenches having their jaws constructed for tightening and loosening nuts or to wrenches whose jaws are designed especially for turning pipes and other similar cylindrical objects.

The object of my invention is to provide a simple and effective adjusting means whereby the movable jaw may be quickly and easily adjusted to its proper position and rigidly held in place to prevent its accidental release or retrograde movement from the object on which the wrench may be used.

With these ends in view the invention consists of a shank or bar provided with an inclined surface on its front face and the usual rigid jaw at its outer end and a novel spring-controlled locking-piece pivoted in the saddle of the movable jaw, so as to engage with the inclined surface of the shank, whereby the movable jaw may be readily adjusted toward or from the rigid jaw, but the frictional contact of the locking-piece or the shank will prevent the movable jaw from having retrograde movement when applied to the object until the cam is released.

My invention further consists of the construction and arrangement of parts, which will be described and claimed hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of the wrench. Fig. 2 is a similar view partly broken away. Fig. 3 is a front elevation.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the bar or shank of my improved wrench, which is provided with a suitable handle *a* and rigid jaw *a'*. For a portion of its length, between the handle and jaw *a'*, this shank has an inclined

or cam surface B on its front face, which may be corrugated or otherwise roughened, as desired. This inclined surface B extends, preferably, from a point above the middle of the shank nearly to the handle, and it gradually merges into the shank, and lugs *b* may be provided to limit the play of the saddle carrying the movable jaw. The movable jaw C is carried by a saddle *c*, having its collars *c'* fitted on the shank A, and these collars adapt the movable jaw to slide freely up and down on the shank of the rigid jaw to adjust the wrench to nuts or pipes of different sizes. In the lower front portion of the saddle *c* is a locking-piece D, which is pivoted on a transverse pin *d* and adapted to bear directly on the front inclined face of the shank, for which purpose it has a rounded eccentric head *d'*, which may also be roughened, if desired. On the outer exposed end of this backing-piece is a thumb-piece E, by which the locking-piece may be moved manually to release the head *d'* from contact with the inclined face of the shank, and an offset *e* is arranged above said thumb-piece to bear against the saddle as the locking-piece is operated and limit the play of the locking-piece D. The locking-piece is normally pressed into contact with the shank by a spring F, which is suitably secured in the saddle above the locking-piece, and the free end of said spring is arranged to bear directly upon the eccentric head of the locking-piece, so that it will normally hold the locking-piece in close engagement with the shank A. To prevent the spring from becoming displaced, I provide a shoulder *e'*, against which the spring impinges to retain said spring in place.

It will be observed that when the thumb-piece is elevated the eccentric head is withdrawn from engagement with the shank, so that the saddle and movable jaw will be free to move on the shank in order that it may be properly adjusted to the wrench or pipe. After the movable jaw has been adjusted the thumb-piece is released and the eccentric head will be again forced into engagement with the shank by the spring, where it will take a firm hold on the roughened incline B. The eccentric construction of the head on the locking-piece and the inclined surface of the

shank serve to prevent the movable jaw and saddle from moving downward until the thumb-piece has been raised to release the eccentric head; but it will be observed that the locking-piece does not prevent the movable jaw and saddle from being moved toward the rigid jaw even when the operating-piece is engaged with said shank. As pressure is exerted upon the jaws of the wrench, the tendency will be to force the movable jaw downward; but this will not affect the operation and effectiveness of the tool, because the eccentric head of the locking-piece will be clinched all the more tightly upon the inclined face of the shank.

I am aware that changes in the form and proportion of parts and details of construction of the devices herein shown and described as an embodiment of my invention may be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations as fairly fall within the scope of my invention.

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

1. A wrench having a rigid jaw, a shank provided with the inclined bearing-surface on the front face thereof, a saddle arranged to slide on the shank and carrying the movable

jaw, a locking-piece pivoted in the saddle and having an eccentric head, and a spring arranged to force the head of said locking-piece into engagement with the inclined face of the shank, the locking-piece being provided with the thumb-piece for releasing the head from the shank and the offset to limit its play toward the shank, substantially as described.

2. In a wrench, substantially as described, the combination of the shank having a rigid jaw at one end and the inclined bearing-surface which inclines outwardly as it recedes from said rigid jaw, a saddle fitted on said shank and having the movable jaw, the eccentric pivoted in the saddle and provided with the smooth-faced head which binds directly against said inclined bearing-surface of the shank, and the pressure-spring confined between the vertical body of the saddle and the shank and pressing against said pivoted eccentric to normally force its smooth-faced head into firm contact with the inclined bearing of said shank, as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW J. CURTIS.

Witnesses:

C. K. KNAPP,
F. P. ROGERS.