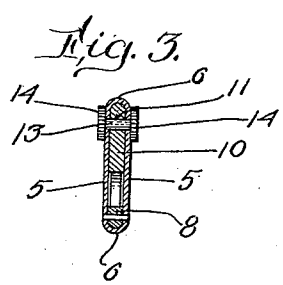
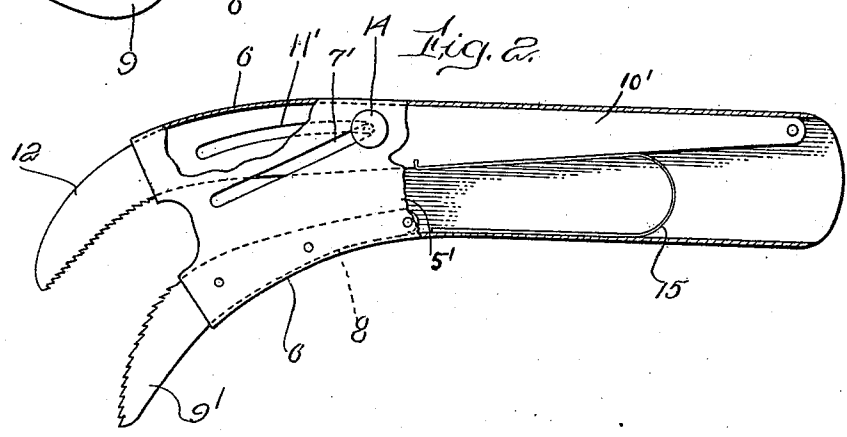
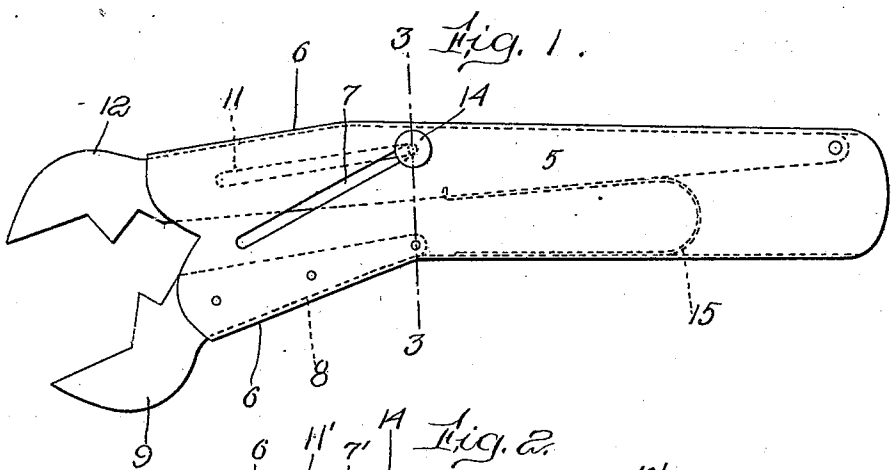


H. W. LONGFELLOW.
 WRENCH.
 APPLICATION FILED SEPT. 17, 1910.

992,511.

Patented May 16, 1911.



Witnesses:
 H. C. Witt.
 E. E. Curbach.

Inventor:
 Henry Wadsworth Longfellow
 By Henry J. Miller
 atty.

UNITED STATES PATENT OFFICE.

HENRY WADSWORTH LONGFELLOW, OF ALLSTON, MASSACHUSETTS.

WRENCH.

992,511.

Specification of Letters Patent.

Patented May 16, 1911.

Application filed September 17, 1910. Serial No. 582,458.

To all whom it may concern:

Be it known that I, HENRY WADSWORTH LONGFELLOW, of Allston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

This invention has reference to improvements in wrenches and relates particularly to the improved means for effecting the adjustment of the jaws of the wrench.

The object of the invention is to so construct a wrench having a movable jaw that said jaw may be quickly and accurately adjusted, with relation to another jaw or member, at any point within its limit of movement and held at such point of adjustment.

Other objects of the invention will appear from the following description.

The invention consists in certain peculiar features of construction and combination of parts as shall hereinafter be more fully described and pointed out in the claims.

Figure 1, represents a plan view of the improved wrench. Fig. 2, represents a similar view partially broken away, illustrating a modified form of the wrench provided with pipe engaging jaws and having a curved guide slot for the adjusting and holding device. Fig. 3, represents a sectional view taken on line 3—3 Fig. 1.

Similar numerals of reference designate corresponding parts throughout.

In carrying this invention into practice, my main object has been to provide a wrench adapted, by the use of suitably shaped jaws or members, to be utilized as a nut wrench or as a pipe wrench, so called. To this end, I provide a handle, preferably of flat tubular or box shape, having the walls 5, 5 and the enlarged end 6 in the walls of which are formed the guide slots 7, 7 preferably having the parallel edges and inclined to the general direction of extension of the handle.

Between the walls 5, 5 of the enlarged end 6, of the handle, I secure the shank 8 of the fixed jaw or member 9 and at the rear end of the handle I pivotally mount the corresponding end of the shank 10 furnished with the slot 11 and the jaw or member 12. Extending through the slot 7, 7 and the slot 11 is the pin 13, of any suitable cross sectional shape and preferably of a diameter to have a close sliding fit in said slots in which said pin is adapted to be moved by the action of

the operator's fingers or thumb on either or both of the buttons 14, 14 secured to the exterior of said pin 13.

In order to exert a retractive strain on the shank 10 of the jaw 12 I prefer to employ the spring 15 secured at one end between the shank 8 and the handle and, at the other end, bearing against the shank 10, this spring 15 may however be dispensed with without departing from the spirit of my invention.

In the modified construction shown in Fig. 2, the jaws or members 9' and 12' are so shaped and provided with suitable teeth as to adapt them to engage a pipe or other cylindrical object. In this modified construction one of the slots 7' or 11' of the handle sides 5', 5' and of the shank 10' is curved slightly in the direction of its extension as I do not wish to confine my invention specifically to the use of the slots 7, 7 and 11 exactly as shown in Fig. 1 of the drawing.

The general extension of the slots 7, 7 or any modification thereof is toward the jaw 9 and when, therefore, the buttons 14 are moved in said direction the pin 13, secured to said buttons, moves along the slots 7, 7 and acts against one edge of the slot 11 of the shank 10 to effect the swinging of said shank on its pivot and to thus accurately adjust the jaw 12 with relation to the jaw 9, in which edges of the slots 7, 7 yield to the backward movement of the pin 13 under the transverse pressure of the edge of slot 11 against said pin 13. The shank 10 is pivoted at such a point that the acting edges of the jaws 9 and 12 are always approximately parallel.

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

1. A wrench comprising a hollow handle, a jaw having a shank extending in and fixed to said handle, said shank arranged in proximity to the inner side of said handle, a spring controlled jaw opposing the fixed jaw and provided with an elongated shank extending in and having its inner end pivotally connected to the handle, said elongated shank arranged in proximity to the outer side of the handle and provided with a slot, said handle being formed with a pair of elongated slots opposing each other and having one end normally registering with the inner end of the slot of the shank, the

