H. T. McCLEAN.

PLIERS.

APPLICATION FILED JUNE 14, 1918.

**1,288,079.** Patented Dec. 17, 1918.

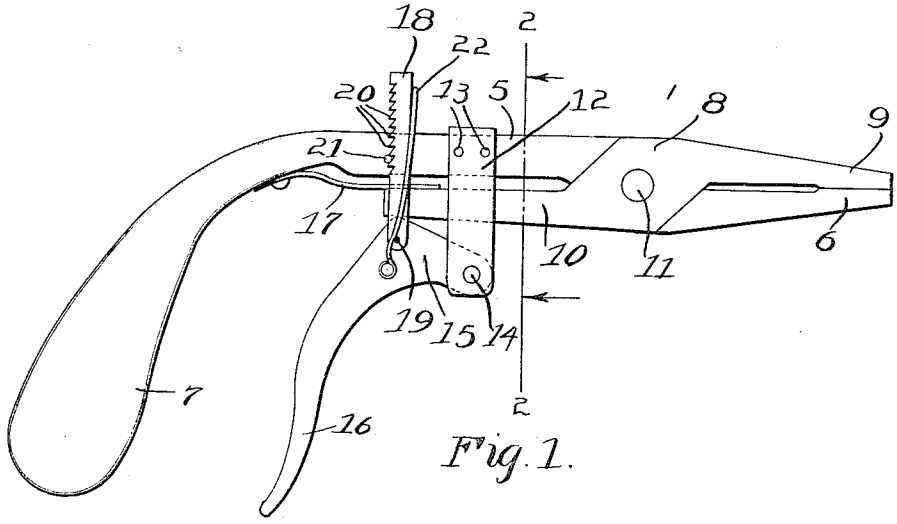



Fig. 1.

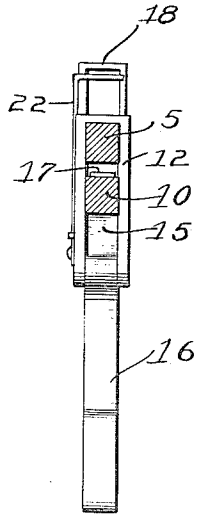



Fig. 2.

Witnesses
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# UNITED STATES PATENT OFFICE.

HORATIO T. McCLEAN, OF MOLINE, ILLINOIS.

## PLIERS.

1,288,079. Specification of Letters Patent. Patented Dec. 17, 1918.

Application filed June 14, 1918. Serial No. 240,029.

*To all whom it may concern:*

Be it known that I, HORATIO T. McCLEAN, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented new and useful Improvements in Pliers, of which the following is a specification.

This invention relates to tools, particularly to pliers, and has for its object the provision of a plier wherein the handle portion of the relatively fixed jaw is formed in the nature of a pistol grip whereby it may be very conveniently held in the hand of the operator, the pliers further embodying the provision of a movable jaw engaged by a cam having an operating lever spaced from the handle of the relatively fixed jaw and bearing a resemblance to a trigger.

A very important object is the provision of a device of this character provided with means whereby the relatively movable jaw may be locked in respect to the fixed jaw whereby articles engaged between the jaws of the pliers may be firmly held even though the pliers be released from the hand of the operator and laid upon a table or bench.

A further object is the provision of a plier of this character in which the actuation will be simple and certain, which will be positive and automatic in its locking action, and which will be generally an improvement over the art.

With the above and other objects and advantages in view, the invention consists in the details of construction to be hereinafter more fully described and claimed and illustrated in the accompanying drawings in which:—

Figure 1 is a side elevation of the device and

Fig. 2 is a cross sectional view on the line 2—2 of Fig. 1.

Referring more particularly to the drawing the numeral 5 designates the relatively stationary portion of my device which is formed as a bar having one end formed as a jaw 6 and its other end curved laterally as shown to provide a handle 7 which is in the nature of a pistol grip. The relatively movable member is designated by the numeral 8 and terminates at one end in a jaw 9 coöperating with the jaw 6 and at its other end in a rearward extension 10 spaced from the member 5. The members 5 and 8 are crossed in respect to each other and are pivotally connected as shown at 11. A substantially U-shaped yoke 12 is disposed in straddling relation to the member 5 and extension 10 and is connected with the member 5 as shown at 13. The sides of the yoke 12 extend beyond the extension 10 and have pivotally connected therewith as shown at 14 an actuating member 15 which is formed as a cam and which engages against the rear extremity of the extension 10. Secured to or formed upon the member 15 is a lever 16 which extends in spaced relation to the handle 7 and which has the form of a trigger. A leaf spring 17 is secured at one end upon the under side of the handle 7 and extends within the yoke 12 with its other end bearing upon the inner edge of the extension 10. The spring 17 normally holds the rear end of the extension 10 in engagement with the cam actuating member 15 and also urges the extension 10 away from the member 5 so that the jaws 6 and 9 will normally be in open position.

It will be seen that when the operator grasps the handle 7 and engages his fingers about the lever 16, a pull upon the lever 16 will result in swinging movement of the member 15 upon its pivot 14 which will result in the extremity of the extension 10 being urged toward the member 5 whereby the jaws 6 and 9 will be brought together into clamping relation upon an article placed therebetween.

In order to provide means whereby an article placed between the jaws may be gripped and held while the device is laid down, I provide a link 18 pivotally connected with the member 15 as shown at 19 and disposed transversely of the member 5 with its end projecting beyond the outer edge thereof. The rear edge of the link 18 is provided with ratchet teeth 20 engageable with a transverse pin 21 extending from the member 5. A leaf spring 22 is secured to the rear edge of the member 15 and bears against the forward edge of the link 18 whereby the teeth 20 will be constantly held in engagement with the pin 21.

When the operator grasps the device and pulls the lever 16 to move the jaws 6 and 9 together, the movement of the member 15 will cause the link 18 to be projected outwardly beyond the member 5, the teeth 20 slipping idly over the pin 21. The formation of the teeth 20 is such that when the operator relieves the pressure upon the lever

16, the engagement of the teeth with the pin 21 will prevent retrograde movement of the link 18 and member 15 and consequently the movable jaw will be held fixed. In order to release the teeth from engagement with the pin 21 it is merely necessary for the operator to place the tip of his thumb against the extreme end of the link 18 and move the link 18 upon its pivot point 19 against the resistance of the spring 22 until the teeth are free from contact with the pin 21, whereupon the pressure of the spring 17 will return the jaws 6 and 9 to their open position.

From the foregoing description and a study of the drawing it will be apparent that I have thus provided a plier having a gripping handle and actuating lever so constructed and arranged that great pressure may be brought to bear with the utmost ease and without any discomfort to the operator. It will also be noted that the formation of the cam member 15 is such that a powerful leverage is exerted upon the jaws of the device. It will moreover be obvious that an article placed between the jaws may be firmly clamped and held against any possible displacement even though the operator does not hold the device in his hand but lays it upon a bench or table.

It will of course be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention nor the scope of the subjoined claim.

What is claimed:—

A device of the character described comprising a relatively stationary member terminating at one end in a jaw, a handle on said member, a relatively movable member disposed in crossed relation to said first named member and pivoted thereto, said movable member terminating at one end in a jaw coöperating with said first named jaw, a rearward extension on said movable member disposed in spaced relation to said first named member, a supporting member secured to said first named member and extending beyond said extension, an actuating member pivoted upon said supporting member and engaging the extremity of said extension for moving said movable jaw, a link pivotally connected with said actuating member and extending transversely of and beyond the outer edge of said first named member, a transverse pin extending from said first named member, a plurality of teeth formed on one edge of said link and engaging said pin, and a spring secured to said actuating member and bearing against said link for moving said teeth into engagement with said pin.

In testimony whereof I affix my signature.

HORATIO T. McCLEAN.