June 27, 1933. G. M. CLIFTON 1,915,404

PLIERS

Filed March 27, 1931

Fig. 1.

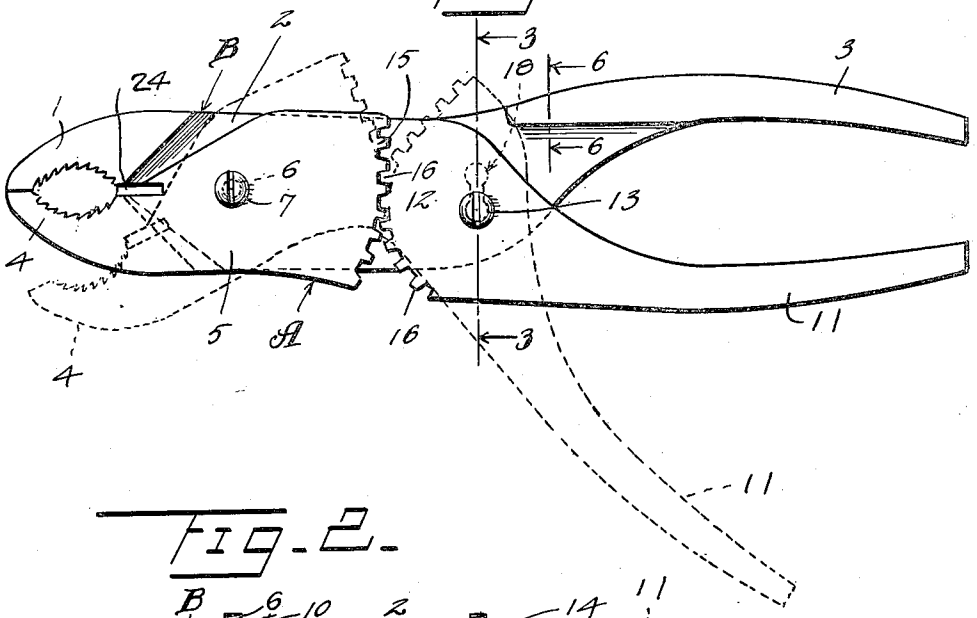


Fig. 2.

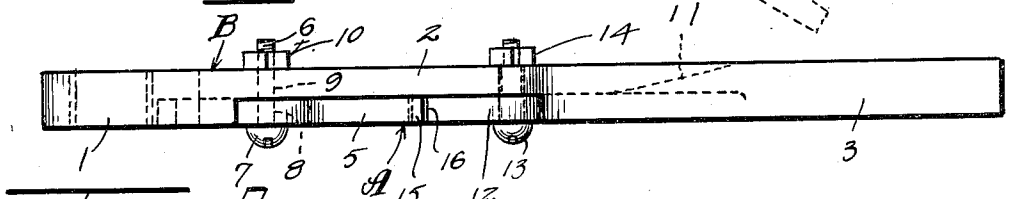


Fig. 3.

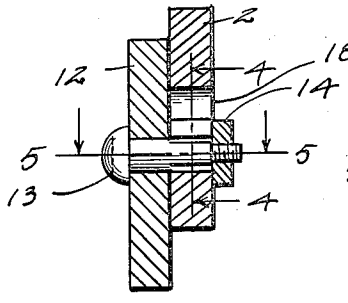


Fig. 4.

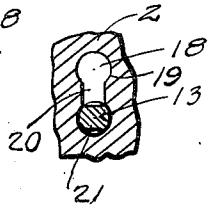


Fig. 5.

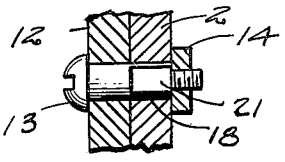
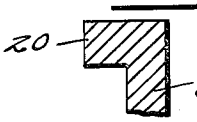


Fig. 6.



Inventor

G. M. Clifton

By John Patton Duffee

Attorney

Patented June 27, 1933 1,915,404

UNITED STATES PATENT OFFICE

GILBEY M. CLIFTON, OF PERRY, IOWA

PLIERS

Application filed March 27, 1931. Serial No. 525,809.

This invention relates to new and useful improvements in pliers.

One object of my invention is to provide novel actuating means for the movable gripping jaw of the pliers.

A further object of my invention is to provide means to prevent disengagement of the rack teeth of the upper member or section of the pliers.

A still further object of my invention is to provide a device of this character which is simple and economical in construction and highly efficient and durable in use.

With the foregoing and other objects in view that will appear as the nature of my invention is better understood, the same consists in the novel features of construction, combination and arrangement of parts illustrated in the accompanying drawing and more particularly pointed out in the appended claims.

In the accompanying drawing, which is for illustrative purposes only and is therefore not drawn to scale:

Figure 1 is a face view of a pair of pliers constructed in accordance with the present invention;

Fig. 2 is an edge view thereof;

Fig. 3 is a transverse sectional view on a larger scale taken along the line 3—3 of Fig. 1;

Figs. 4 and 5 are sectional views on the lines 4—4 and 5—5, respectively, of Fig. 3;

Fig. 6 is a sectional view on the line 6—6 of Fig. 1.

Referring to the drawing for a more particular description of my invention and in which drawing like parts are designated by like reference characters throughout the several views, my device essentially comprises the upper and lower plier sections A and B, respectively. The lower section B comprises the stationary offset gripping jaw 1, flat elongated intermediate body portion 2 and curved handle 3. The upper section A of the pliers consists of the movable offset gripping jaw 4, formed with the flat elongated shank 5, which is pivoted adjacent its outer end, as at 6, to the body portion 2 of the lower section B. The aforesaid pivotal connection is preferably made by a transverse screw 7, which extends through corresponding transverse registering openings 8 and 9 in the shank and body portion 5 and 2, respectively, and is held in place by the nut 10. The upper section further comprises the movable handle 11, formed at its inner end with the flat widened portion 12, which is pivotally connected by the transverse screw and nut 13 and 14, respectively, to the body portion 2 of the lower section of the pliers.

In carrying out my invention, the inner end of the shank 5 of the movable gripping jaw 4, is formed with a series of arcuate rack teeth 15 and the adjacent or inner end of the flat widened portion 12, is likewise provided with a series of intermeshing rack teeth 16, formed on the arc of a smaller curve than the teeth 15.

The body portion 12 of section B of the pliers is provided with a transverse slot 18 having circular end openings 19, to provide separate pivotal bearings for the screw or bolt 13, the end openings being connected by a narrow neck 20. The bolt 13 is fixed to the portion 12 of the movable handle and is provided with a flattened portion 21 which, when the handle 11 is in the dotted line position of Fig. 1, may be passed through the neck portion 20 of the slot into one or the other of the end openings 19 to thereby effect lateral adjustment of the handle portion 12 and a consequent adjustment of the plier jaws. It will be noted that by reason of the fact that the slot 18 extends transversely of the fixed or main body 2 of the pliers the adjustment thus provided may be accomplished without disturbing the intermeshing relation between the teeth 15 and 16.

The jaws of the pliers illustrated in Figures 1 to 3, inclusive, of the drawing, and designed for general use, are provided with the wire cutter 24.

From the foregoing description taken in connection with the drawings, it is thought that the construction, operation and advantages of my invention will be readily understood without requiring a more extended explanation.

Having described my invention, what I

claim as new and desire to secure by Letters Patent, is:

1. In a pair of pliers the combination of a member having a stationary jaw at one end thereof and a handle at the opposite end, a movable jaw on said members for coaction with said stationary jaw, an operating handle on said member, intermeshing gears on said movable jaw and operating handle forming a driving connection therebetween, and an adjustable pivot for one of said gears adjustable transversely of said member to effect adjustment of said movable jaw without disturbing the intermeshing relation between said gears.

2. In a pair of pliers the combination of a member having a stationary jaw at one end thereof and a handle at the opposite end, a movable jaw on said member for coaction with said stationary jaw, an operating handle on said member, intermeshing gears on said movable jaw and operating handle forming a driving connection therebetween, said member having a slot extending transversely thereof, and a pivot pin on one of said gears fulcrumed in said slot and adjustable lengthwise thereof to effect adjustment of said movable jaw without disturbing the intermeshing relation between said gears.

3. In a pair of pliers the combination of a member having a stationary jaw at one end thereof and a handle at the opposite end, a movable jaw pivoted on said member for coaction with said stationary jaw, an operating handle on said member, intermeshing gears on said movable jaw and operating handle forming a driving connection therebetween, said member having a slot extending transversely thereof, and a pivot pin on said operating handle fulcrumed in said slot and adjustable lengthwise thereof to effect adjustment of said operating handle and movable jaw without disturbing the intermeshing relation between said gears.

In testimony whereof he affixes his signature.

GILBEY M. CLIFTON.