Aug. 11, 1931. E. J. REEDE 1,818,869

TOOL

Filed April 1, 1929

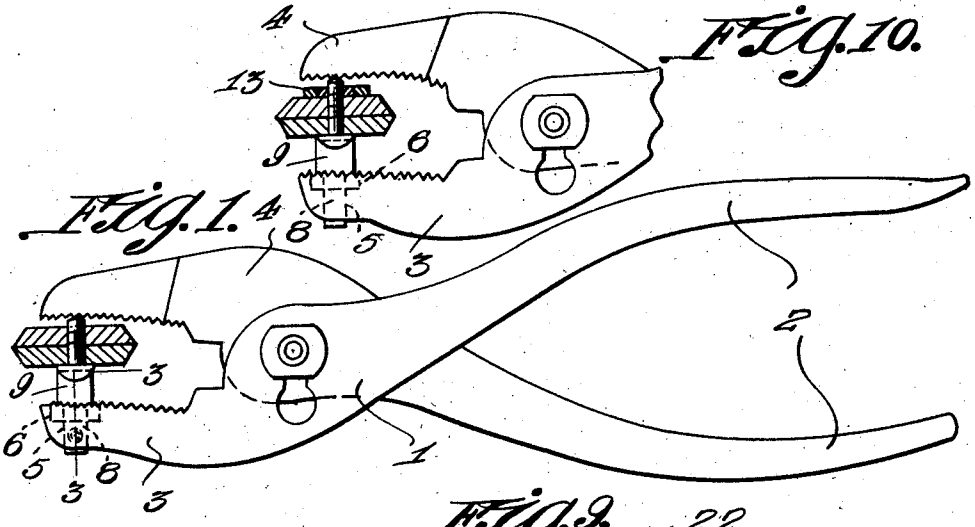


Fig. 10.

Fig. 1.

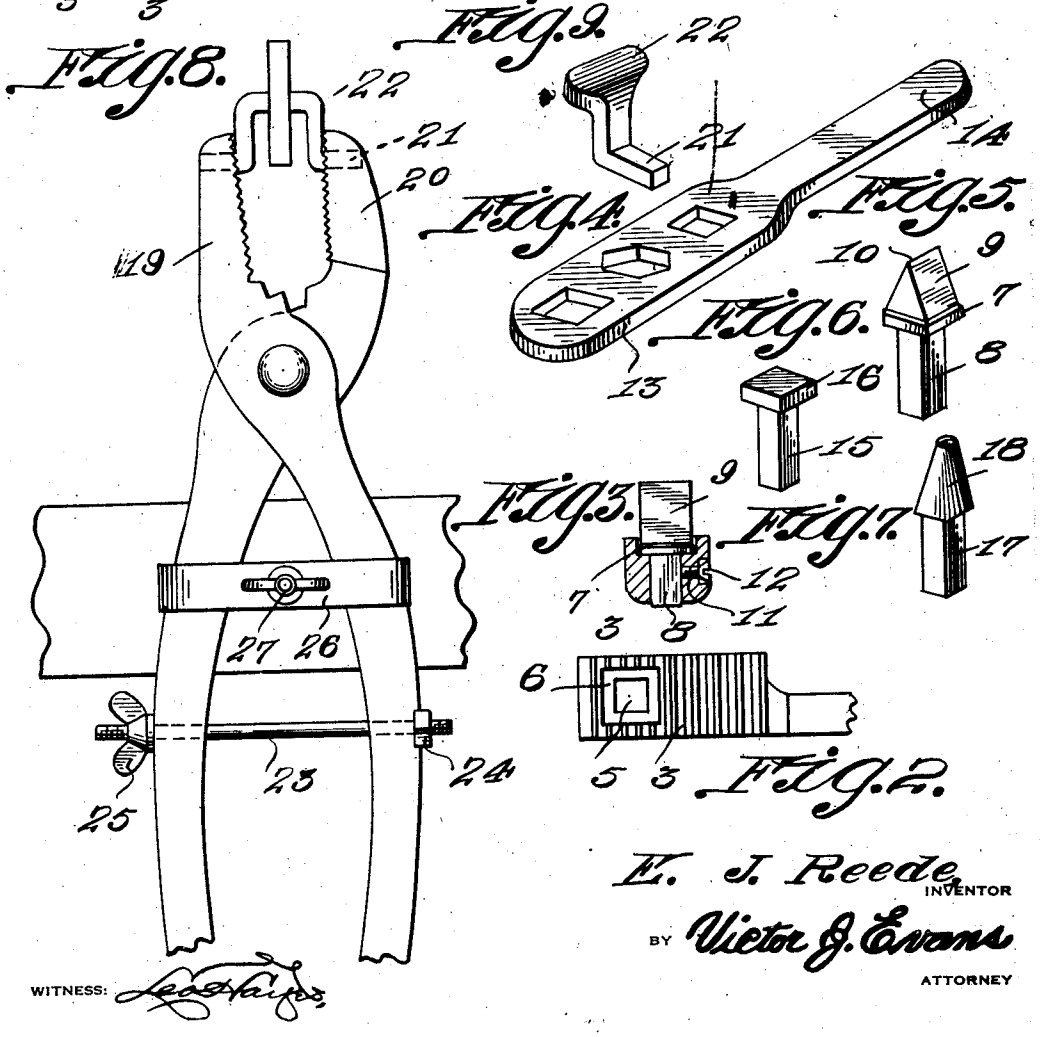


Fig. 8.

Fig. 9.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 3.

Fig. 7.

Fig. 2.

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WITNESS:

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TOOL

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This invention relates to tools, and its general object is to provide a pair of pliers that include socketed jaws adapted to receive tool elements of various forms to accomplish various work, the tool elements being removable and interchangeable with respect to the jaws in an easy and expeditious manner.

An important object of the invention is to provide a pair of pliers with attachments therefor that cooperate for use in adjusting, removing and tightening the pivot pins of scissors, shears and like implements.

A further object of the invention is to provide a tool in the form of a pair of pliers with tool element inserts therefor, that is extremely simple in construction, inexpensive to manufacture, and efficient in operation and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a side elevation showing my tool in use with one type of pivot pin for shears.

Figure 2 is a fragmentary view illustrating one jaw of the pliers.

Figure 3 is a sectional view taken approximately on line 3—3 of Figure 1.

Figure 4 is a perspective view of a wrench used with my pliers.

Figure 5 is a similar view of one of the removable tool elements or inserts.

Figure 6 is a similar view of another tool element.

Figure 7 is a view of still another tool insert.

Figure 8 illustrates means for securing the pliers to a work bench with means for holding the jaws thereof in fixed relation through the medium of the handles of the pliers.

Figure 9 is a perspective view of one of the removable vise tool elements as shown in Figure 8.

Figure 10 is a fragmentary view illustrating the application of my pliers and tool element as shown in Figure 1 as well as the wrench, in use with another type of pivot means for shears.

Referring to the drawings in detail, the reference numeral 1 indicates a pair of pliers which include the usual handles 2 having formed therewith jaws 3 and 4.

As shown in Figures 1 and 10, one of the jaws is provided with a square cornered bore 5 extending therethrough and this bore has arranged in communication therewith a recess 6 disposed in the face thereof which together with the face of the confronting jaw is serrated in the usual manner.

The bore 5 as well as the recess 6 is adapted to receive any of the elements as shown in Figures 5, 6 and 7, and the tool element as shown in Figure 5 is disposed in the bore and recess in Figures 1 and 10.

This last mentioned tool element is indicated by the reference numeral 7 and includes a shank 8 to be received in the bore 5 and a body 9 which is formed with converging side walls terminating in a sharp edge 10 adapted to act in the capacity of a screw driver and this edge is arranged in the kerf of the pivot pins for the shears as shown in Figures 1 and 10. Formed in the side of the jaw that is provided with the bore and recess, is a threaded bore 11 that receives a set screw 12 which engages the shank of the tool elements for securing the latter to the jaw as best shown in Figure 3. The head of the set screws 12 are countersunk in the jaw so as to not interfere with the efficient use of the tool as will be apparent.

In Figure 1, the uppermost blade of the shears is threaded to accommodate the threads of the pivot pin that passes through the blades, with the result the blades can be rotated in the position desired for loosening or tightening the pivot pin, as the body 9

of the tool element 7 will hold the pivot pin against movement.

In Figure 10 the pivot pin likewise has its head receiving the body 9, but in this form, the pivot pin is not threaded to either of the blades of the shears but has secured thereto a nut which is held against movement by a wrench 13 shown in Figure 4, the wrench being provided with a relatively wide portion having nut receiving openings of various sizes and shapes and a handle 14. The wrench is used to thread the nut of the pivot pin on and off the latter as will be apparent, and the body 9 will hold the pivot pin against turning.

The tool element as shown in Figure 6 includes a shank 15 and a flat square body 16, the shank being adapted to be received in the bore 5, while the body is received in the recess 6.

The tool element in Figure 7 is in the form of a punch and includes a shank 17 and a conical body 18, with a bore extending through the body as well as through the shank 17 to provide for the passage of portions punched from leather, metal or the like, it depending of course upon the material punched.

In Figure 8, I have illustrated a pair of pliers having bores formed in each of the jaws which for distinction are indicated by the reference numerals 19 and 20 and adapted to be received in these jaws are the shank portions 21 of tool elements that have body portions 22 in the form of vise jaws, as it will be noted upon inspection of Figure 9 that the body portion 22 is relatively wide and has a flat operating face that is adapted to cooperate with a like vise tool element for securing a piece of work between the jaws of the vise tool elements. For the purpose of securing the jaws in fixed relation I provide a rod 23 having threaded ends and which is adapted to be passed through openings formed in the handles of the jaws 19 and 20, and secured to one of the threaded ends is a nut 24 while the other threaded end receives a wing nut 25. The pliers are held in fixed relation with respect to a work bench or the like through the medium of a clamping band 26 having rounded ends to engage the handles, and this band 26 has an opening formed centrally therein to receive a bolt 27 which in turn receives a wing nut for securing the band in operative position with respect to the handles.

From the above description and disclosure of the drawings, it will be obvious that I have provided a pair of pliers with means for holding the pliers in fixed position as well as means for holding the jaws fixed with respect to each other, and the jaws of the pliers are formed with bores to accommodate tool elements of various forms to accomplish various work.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:

A tool comprising pivoted jaws having flat serrated opposing faces, handles for the jaws, one of said jaws having a rectangular shaped opening extending through the respective serrated face thereof and having in said last mentioned face a rectangular shaped recess about the opening, a shank having squared faces received in the opening, a head on the shank and seated in the recess and having converging walls to provide a thin edge to be received in the groove of a screw for connecting the blades of scissors and with the end of the screw in engagement with the serrated face of the other jaw, and a set screw carried by the jaw having the opening and engaging the shank.

In testimony whereof I affix my signature.

EDMUND J. REEDE.