Nov. 26, 1957 E. G. SANDERS 2,814,222

FERRULE CRIMPING PLIERS WITH REPLACEABLE JAWS

Filed July 16, 1956

Fig. 1

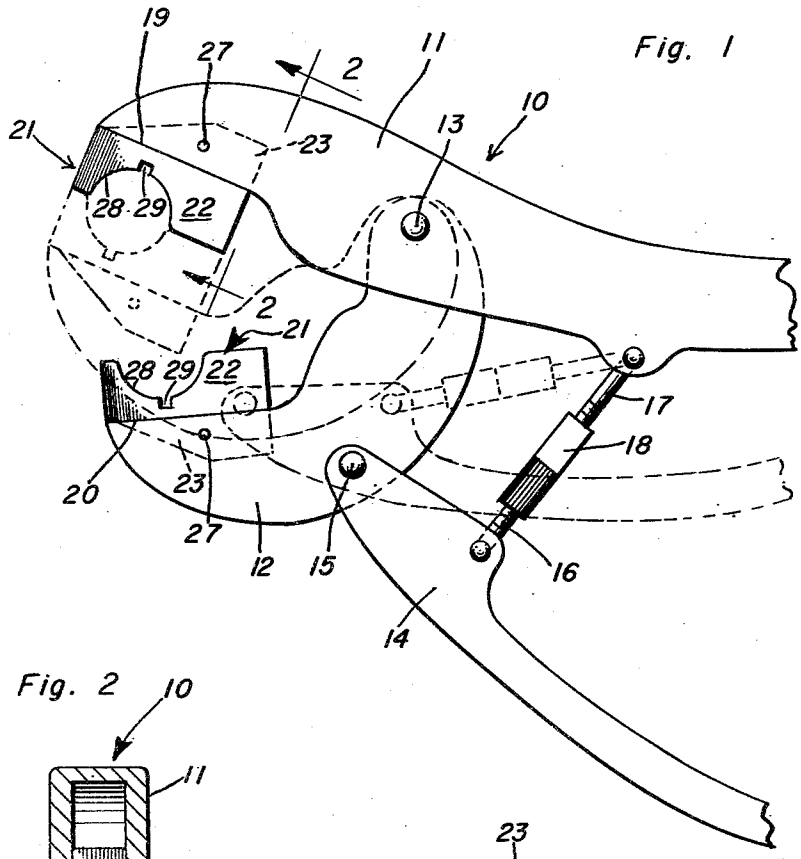
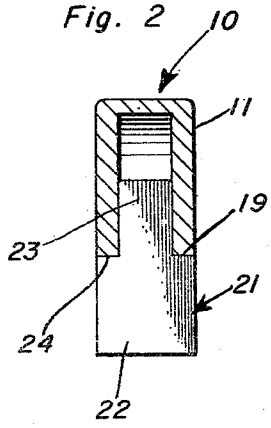


Fig. 2



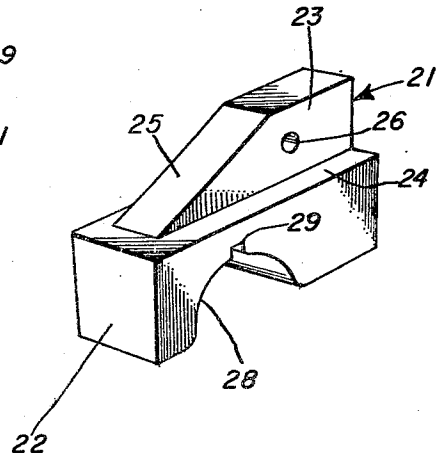


Fig. 3

INVENTOR

Emmitt G. Sanders

United States Patent Office 2,814,222 Patented Nov. 26, 1957

2,814,222

FERRULE CRIMPING PLIERS WITH REPLACEABLE JAWS

Emmitt G. Sanders, San Lorenzo, Calif.

Application July 16, 1956, Serial No. 598,056

1 Claim. (Cl. 81—15)

This invention relates to jaws for multiple grip pliers or the like.

It is an object of the present invention to provide jaws for multiple grip pliers which are removable and are made with various radii whereby to adapt the same to various sizes of hose ferrules.

It is another object of the present invention to provide jaws for multiple grip pliers of the above type which are designed for crimping hose ferrules for various sizes of hose and wherein the jaws can be used in multiple grip type pliers, bench vises or with a hammer.

Other objects of the invention are to provide jaws for multiple grip pliers bearing the above objects in mind which are of simple construction, have a minimum number of parts, are inexpensive to manufacture and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a side elevational view of a preferred embodiment of the present invention shown in operative use;

Fig. 2 is a transverse sectional view taken along the line 2—2 of Fig. 1, and

Fig. 3 is a perspective view shown alone of one of the jaws.

Referring now more in detail to the drawing, 10 indicates generally a multiple grip pliers including the jaw 11 and the arcuate jaw 12 pivotally connected to the jaw 11 by means of the pin 13, substantially as illustrated. The multiple pliers 10 also includes the actuating lever 14 pivotally connected to the jaw 12 by means of the pin 15, the lever 14 being connected to the jaw 10 by means of the pivotally mounted externally threaded studs 16 and 17 and the internally threaded connecting sleeve 18, in a manner well known to those skilled in the art.

In the practice of my invention, the jaws 11 and 12 are provided with the cooperating straight edges 19 and 20 these portions of the jaws being hollow and of substantially U-shaped cross section (Fig. 2) for a purpose which will hereinafter become clear.

In the practice of my invention a pair of replaceable jaws are provided indicated generally at 21. Each of the jaws 21 is identical in construction and therefore only one will be described in detail.

Each jaw 21 includes a solid rectangular block 22 adapted to be positioned against the straight edges 19 and 20 of the jaws 11 and 12, respectively. The outer side of each of the blocks 22 is integrally formed with a reduced extension 23 forming with the block 22 a shoulder 24, the extension 23 having the inclined edge 25 and being adapted to fit within the jaws 11 and 12 with the shoulder 24 abutting the inner edges of the jaws (Fig. 2). Each of the extensions 23 is provided with

a transverse mounting opening 26 which is adapted to be aligned with corresponding openings provided in the opposite sides of the jaws 11 and 12, and through which is received the mounting pin 27.

The inner face of each of the blocks 22 is provided with the semicircular cutout 28 having a central transverse extension or groove 29.

As shown in phantom in Fig. 1, when the lever 14 is drawn towards the handle of jaw 11, the jaw 12 will move towards the jaw 11 about the axis of the pin 13 to bring the blocks 22 together to crimp a hose ferrule therebetween. Interchangeable pairs of replaceable jaws 21 will be provided with various radii to fit different size hose ferrules. The jaws can be used in the multiple grip type pliers shown, or bench vises or with a hammer for the same purpose. The pins 27 are removable to permit the replacement of the jaws, as will be obvious.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claim.

What I claim as new and desire to protect by Letters Patent of the United States is:

The combination with a multiple grip pliers having a first jaw and handle, a second jaw of arcuate shape pivotally connected to said first jaw, an actuating lever pivotally connected to said second jaw and link means pivotally connecting the handle of said first jaw and said actuating lever together, of a pair of crimping jaws removably mounted in said first and second jaws, each of said crimping jaws comprising a solid block having a planer outer face, each of said first and second jaws having straight edges adapted to abut said planer face, means for removably mounting said blocks against said straight edges, each of said blocks on the inner faces thereof having substantially semicircular cutouts adapted to cooperate to crimp a hose ferrule therebetween when said first and second jaws are closed, each of said cutouts at the inner central portion thereof having a lateral groove, said means for removably mounting said blocks comprising said first and second jaws being of substantially U-shaped cross section with open ends extending inwardly, each of said blocks on said planer face being integrally formed with a reduced extension forming with said block a pair of shoulders, each of said extensions fitting between the open ends of said jaws with said shoulders abutting said straight edges, each of said extensions having a mounting opening extending transversely therethrough, each of said first and second jaws having laterally aligned openings in the ends thereof and aligned with said mounting opening, and removable pin means within said aligned openings whereby to securely mount said blocks on the straight edges of said first and second jaws for permitting their easy and ready removal for replacement with other blocks having cutouts of varying radii whereby to adapt the device for use with hose ferrules of varying size.

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