Jan. 24, 1950 E. G. KUFALL 2,495,586

NEEDLE HOLDER

Filed Aug. 4, 1948

Fig. 1.

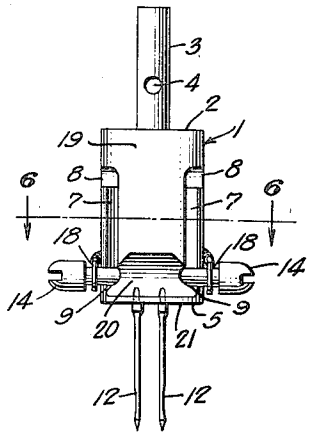


Fig. 2.

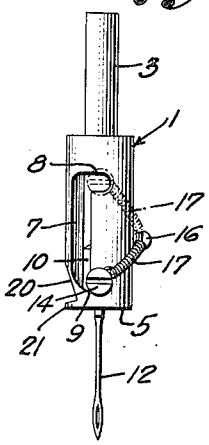


Fig. 3.

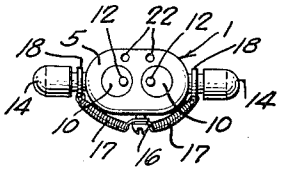


Fig. 5.

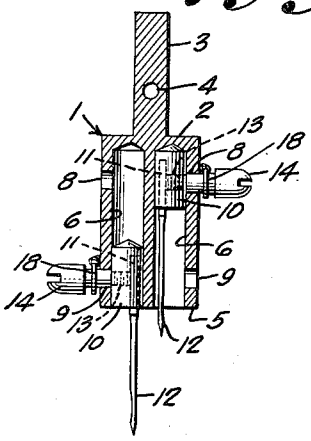


Fig. 4.

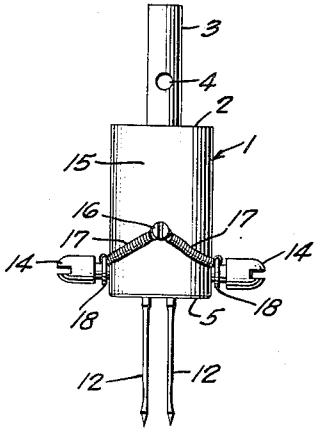
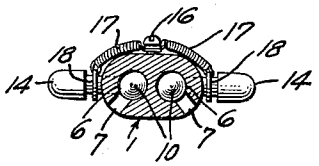


Fig. 6.



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NEEDLE HOLDER

Edward G. Kufall, Cleveland, Ohio

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3 Claims. (Cl. 112—226)

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This invention relates to a needle holder or carrier for multiple-needle sewing machines and may be used on any type chain stitch, lock stitch or triple lock stitch machine.

The primary objects of the invention are to provide an inexpensive multiple-needle holder or carrier of simplified construction and mode of operation, in which the needles may be lifted quickly, without any preliminary operation, such as unscrewing a set screw or the like, from an operative to an inoperative, substantially fully sheathed position, by a simple movement of the operator's finger, and in which the needles may be similarly lowered from inoperative to operative position, when desired.

It is a further object of the invention to provide a multiple needle holder comprising a body having a plurality of parallel bores extending from the bottom thereof upwardly thereinto, slots in said body opening into said bores and including elongated portions extending axially thereof and terminal portions extending circumferentially thereof, a cylindrical needle-carrying member in each bore, needle-pinch screws functioning also as operating levers extending through the slots into the needle-carrying members, and spring means yieldably retaining the screws or levers in the terminal portions of the slots; and the novel sub-combinations thereof.

Other and further objects of the invention will become apparent as the description proceeds, reference being made to the accompanying drawing forming a part of the present disclosure, wherein;

Figure 1 is a front elevational view of a needle holder constructed in accordance with the teaching of my invention.

Figure 2 is a side elevational view thereof;

Figure 3 is a bottom plan view thereof;

Figure 4 is a rear elevational view thereof;

Figure 5 is a vertical sectional view thereof; showing one of the needles in inoperative position; and

Figure 6 is a sectional view taken along the line 6—6 of Figure 1 looking in the direction of the arrows.

Referring in detail to the drawing, wherein for purposes of illustration one embodiment of my invention is shown, it will be seen that my multiple-needle holder comprises a needle carrier body 1 of generally elliptical form in transverse section, and provided at its upper end 2 with an upstanding needle bar carrier shank 3, which is in turn provided with a securing screw hole 4.

Extending inwardly of or upwardly into the body 1 from the bottom 5 thereof is a pair of spaced, parallel barrels or bores 6, and in the form of the invention illustrated, the bores 6 terminate below the top 2 of the body 1 although such construction obviously is not necessary.

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Two elongate slots 7 are provided in the forward side portions of the body 1, each opening into one of the bores 6 and extending generally axially thereof, and the slots 7 include or are provided with upper and lower, rearwardly directed terminal lock portions 8 and 9, also opening into the bores 6 and extending circumferentially thereof.

A cylindrical needle-carrying cartridge or member 10 is provided in each of the bores 6. The members 10 are each provided with an axially extending bore 11 adapted to receive the shank of a needle 12, and a threaded transverse or radially extending opening 13 adapted to receive a large headed needle pinch screw and operating lever 14. The screws 14 extend through the slots 7 and ride therein when a needle is moved from operative to inoperative position or vice versa.

The rearward side 15 of the body 1 is provided with a small screw 16 approximately centrally thereof. Tension springs 17 are connected to the screw 16 and to openings in flanges 18 provided on the screws 14. The tension springs 17 yieldably retain the screws and operating levers 14 in the terminal lock portions 8 or 9 of the slots 7.

The lower portion of the forward side 19 of the body 1 is cut-away as indicated at 20 to provide a ledge 21, and thread guides in the form of openings 22 are provided in the said ledge.

Fig. 1 of the drawings illustrates my device with both needles 12 in operative position. As will be obvious, with the needles in this position, a double seam will be sewed. It is desirable when sewing a double seam to avoid crossing of the lines of stitching at angles or corners of the material, and to do this, it is necessary to render one of the needles inoperative, depending upon the direction of the turn of the cloth, which in turn may or may not depend upon whether the operator is left-handed or right-handed. It will be obvious that my device provides means whereby either one of the needles may be quickly rendered inoperative, as illustrated on the right in Fig. 5, by merely grasping a screw or lever 14, rotating the same slightly forwardly out of its lower locking position in the slot portion 9, lifting the same to the top of a slot 7, and releasing the same whereby the spring 17 will function

to snap the lever into its upper locking position in the slot portion 8.

To move a needle from inoperative to operative position the lever 14 is grasped by the operator, pulled forwardly out of its upper locking position in the slot portion 8, pulled downwardly to the bottom of the slot 7 and released, whereupon the spring 17 functions to snap the lever into its lower locking position in the slot portion 9.

It is to be noted that no time consuming preliminary operation, such as loosening and tightening a screw or the like, is necessary in moving the needles from one position to the other and in addition, the needles may be moved from operative to inoperative position even though they are projecting through the cloth at the start of the operation, without danger of pulling or tearing the threads of the cloth, due to their substantially straight line movement between the two positions. Similarly, a needle may be moved from inoperative to operative position while the other needle is projecting through the cloth. The slight eccentricity of the mounting of the needles 12 in the cartridges 10 coupled with the relatively small angular movement of the lever 14 into and out of the slot portions 9 causes such slight transverse movement of the needle as not to interfere with such operation.

It will be obvious, of course, that one needle may be rendered inoperative when it is desired to sew only a single seam. In this connection, right-handed operators will usually prefer to use one of the needles, left-handed operators the other, and my device provides means where either may be used as desired.

It will be noted in Fig. 5 that when a needle 12 is rendered inoperative, it is substantially entirely sheathed within the bore 6. This tends to eliminate accidents, and if desired, the body 1 may be made slightly longer and the entire needle sheathed. This is not usually necessary, however.

Although the drawing illustrates, and there has been described herein in detail, a multiple-needle holder or carrier comprising two needles, it will be obvious that if desired the same principles could be applied to a multiple-needle holder having more than two needles.

Other modifications may occur to those skilled in the art, and it is my desire to cover all such modifications as come within the scope of the appended claims.

I claim:

1. A needle holder comprising a needle carrier body having a plurality of parallel bores extending inwardly from the bottom thereof, elongate slots in said body opening into each of said bores and extending generally axially thereof, said slots including terminal portions opening into said bores and extending circumferentially thereof, a cylindrical needle-carrying cartridge in each of said bores, said cartridges each having an axially extending opening therein adapted to receive the shank of a needle, a needle pinch screw and operating lever extending through each of said slots into the cartridge in the bore associated therewith, spring means connected to said body and said operating levers for yieldably retaining said operating levers in the terminal portions of said slots, a projecting ledge on the lower portion of said body, and a plurality of thread guiding openings in said ledge.

2. A needle holder comprising a needle carrier body having a plurality of parallel bores extending inwardly from the bottom thereof, elongate slots in said body opening into each of said bores and extending generally axially thereof, said slots including terminal portions opening into said bores and extending circumferentially thereof, a cylindrical needle-carrying cartridge in each of said bores, said cartridges each having an axially extending opening therein adapted to receive the shank of a needle, a needle pinch screw and operating lever extending through each of said slots into the cartridge in the bore associated therewith, and spring means connected to said body and said operating levers for yieldably retaining said operating levers in the terminal portions of said slots.

3. In a needle holder comprising a needle carrier body having a bore extending inwardly from the bottom thereof, an elongate slot in said body opening into said bore and extending generally axially thereof, said slot including terminal portions opening into said bore and extending circumferentially thereof, a cylindrical needle-carrying cartridge in said bore, said cartridge having an axially extending opening therein adapted to receive the shank of a needle, a needle pinch screw and operating lever extending through said slot into the cartridge in said bore, and spring means connected to said body and said operating lever for yieldably retaining said operating lever in the terminal portions of said slot.

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No references cited.