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SEWING MACHINE NEEDLES

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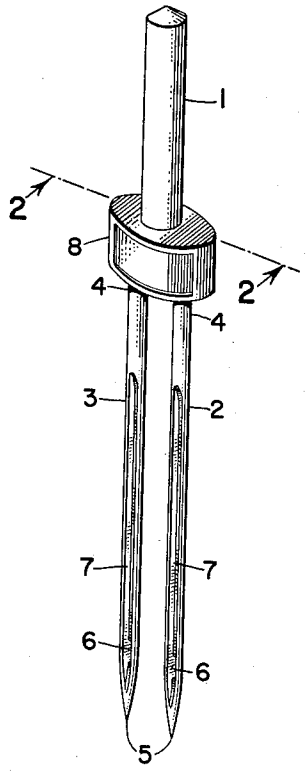


Fig. 1.

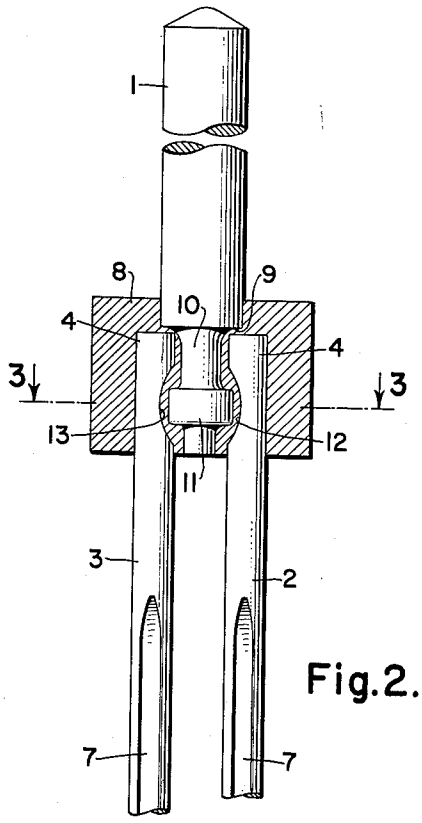


Fig. 2.

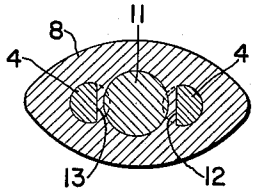


Fig. 3.

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WITNESS

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SEWING MACHINE NEEDLES

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4 Claims. (Cl. 112—226)

The present invention relates to sewing machine needles and particularly to so-called twin-needles such as illustrated in German Patent No. 813,930. The object of this invention is to provide improved means for securing together, in operative relation, the two needle blades and single needle shank of a twin-needle, which means will lock the elements together to insure against their accidental displacement relatively to one another.

Having in mind the above and other objects that will be evident from an understanding of this disclosure, the invention comprises the devices, combinations and arrangements of parts as illustrated in the presently preferred embodiment of the invention which is hereinafter set forth in such detail as to enable those skilled in the art readily to understand the function, operation, construction and advantages of it when read in conjunction with the accompanying drawings in which:

Fig. 1 is a perspective view of a twin-needle constructed in accordance with the present invention.

Fig. 2 is a sectional view taken substantially along the line 2—2 of Fig. 1.

Fig. 3 is a sectional view along the line 3—3 of Fig. 2.

With reference to the drawings, there is disclosed a twin-needle constructed in accordance with the present invention and which comprises a needle shank 1 formed in the usual manner to be received within a conventional needle-clamp (not shown) carried by the lower end of a sewing machine needle-bar (also not shown). There is provided a pair of needle blades comprising a right blade 2 and a left blade 3 having butt ends 4, work-penetrating ends having the usual work-penetrating points 5 and thread-eyes 6, and longitudinally-arranged grooves 7 in the periphery thereof. As seen in the drawings, the needle blades 2 and 3 are arranged in parallel relation and the shank 1 is disposed parallel to the blades and with the lower end thereof between and overlapping the laterally spaced upper or butt ends of the blades 2 and 3. The blades and shank are fixed in this relationship by a metallic alloy connector 8 which is cast over the overlapping end portions of the blades and shank.

It is of course critical to insure the necessary cooperation with the loop-taker (not shown) during stitch formation that the blades 2 and 3 be absolutely parallel and that they remain in this relationship, and in addition, that they be parallel with respect to the shank 1. To obtain the desired holding relation between the blades and the shank, the cylindrical lower end of the shank 1 which is embedded in the connector is reduced in diameter to form a shoulder 9 and a reduced portion 10 and intermediate the ends of the reduced portion there is formed a bulb-like enlargement 11, while the embedded cylindrical upper or butt ends of the blades 2 and 3 are formed adjacent the bulb-like enlargement 11 with dished or cut-away portions 12 and 13, respectively, that are complemental to the enlargement 11. It should be noted that dished portions 12 and 13 are formed upon opposite faces of the respective blades i. e., upon the left-hand side of the right blade 2 and on the right-hand side of the left blade 3, so that they can be arranged upon opposite sides of the bulb-like enlargement 11. The blades are also arranged with the cut-away portions 12 and 13 thereof in spaced relation relatively to the enlargement 11 so that when the connector 8 is cast in place a portion thereof is deposited in the space between them and when finally assembled, the blades 2 and 3 and the shank 1 are, in effect, keyed together. It should further be noted that the ends of the blades and shank are spaced apart a distance less than the depth of said cut-away portions so, considering the elements in a direction axially of said blades, there is a portion of each of the blades at the extremities overlying a portion of said enlargement.

Numerous alterations of the structure herein disclosed will suggest themselves to those skilled in the art. However, it is to be understood that the present disclosure relates to a preferred embodiment of my invention which is for purposes of illustration only and not to be construed as a limitation of the invention. All such modifications which do not depart from the spirit of the invention are intended to be included within the scope of the appended claims.

Having thus set forth the nature of the invention, what I claim herein is:

1. A sewing machine needle comprising a pair of needle blades arranged in spaced parallel relation and each of said blades having an eye-pointed work-penetrating end and a butt end, a needle shank arranged parallel to said blades and having the one end thereof disposed between and overlapping the butt ends of said blades, and a connector cast in place about the overlapping end portions of said blades and shank which are thereby embedded in said connector, the embedded ends of said pair of blades and the embedded end of said shank comprising interlocked elements, one of said elements having formed thereon a bulb-like enlargement and the other of said elements having portions cut away on the face adjacent the enlargement, said portions being complemental to said enlargement.

2. A sewing machine needle comprising a pair of needle blades arranged in spaced parallel relation and each of said blades having an eye-pointed work-penetrating end and a butt end, a needle shank arranged parallel to said blades and having the one end thereof disposed between and overlapping the butt ends of said blades, and a connector cast in place about the overlapping end portions of said blades and shank which are thereby embedded in said connector, the embedded end of said shank having formed thereon a bulb-like enlargement, the embedded butt ends of said blade having cut-away portions on the face adjacent the enlargement on said shank, said cut-away portions being complemental to said enlargement.

3. A sewing machine needle comprising a pair of needle blades arranged in spaced parallel relation and each of said blades having an eye-pointed work-penetrating end and a butt end, a needle shank arranged parallel to said blades and having the one end thereof disposed between and overlapping the butt ends of said blades, and a connector cast in place about the overlapping end portions of said blades and shank which are thereby embedded in said connector, the embedded end of said shank being reduced to form a reduced portion and an enlargement formed on said reduced portion, the embedded butt ends of said blade having cut-away portions on the face adjacent the enlargement on said shank, said cut-away portions being complemental to said enlargement.

4. A sewing machine needle in accordance with claim 1 in which the ends of the blades and shank embedded within said connector are spaced apart a distance that is less than the depth of said cut-away portions whereby the extremity of said blade will include a portion overlying a portion of said enlargement in a direction axially thereof.

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