

March 30, 1954

B. GOTTLIEB

2,673,574

TOOL FOR MAKING INVISIBLE SEAMS

Original Filed Oct. 22, 1946

2 Sheets-Sheet 1

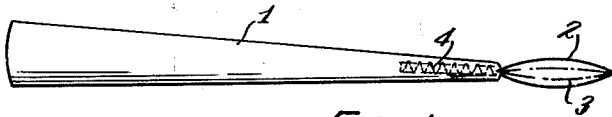


FIG. 1

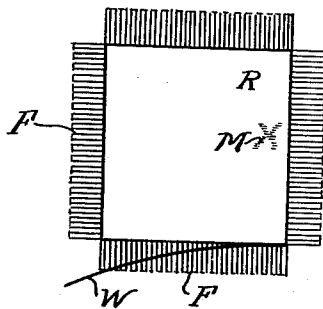


FIG. 2

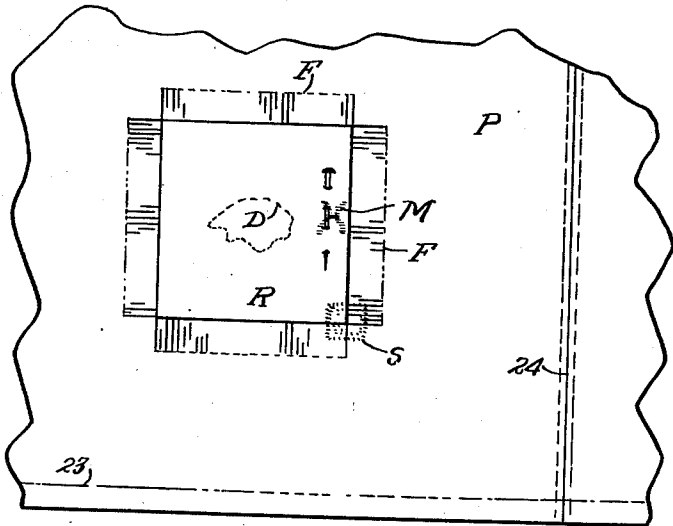


FIG. 3

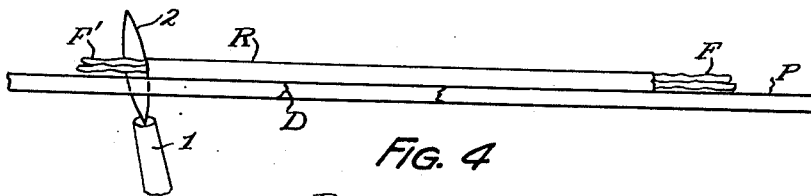


FIG. 4



FIG. 5

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FIG. 6

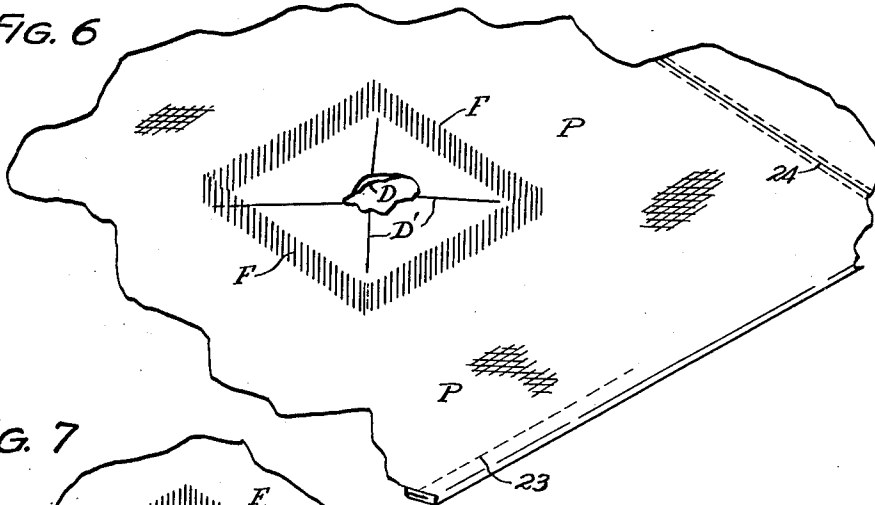


FIG. 7

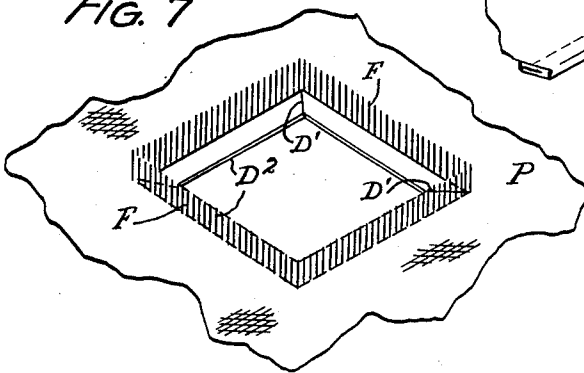


FIG. 8

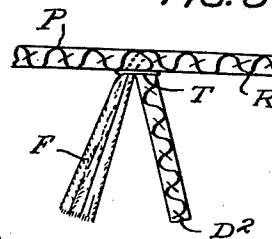
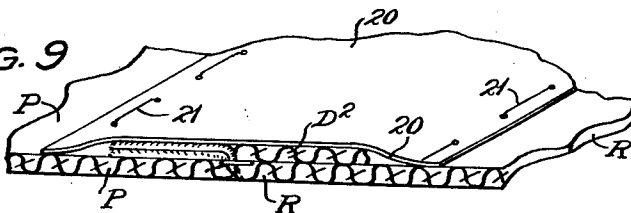


FIG. 9



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TOOL FOR MAKING INVISIBLE SEAMS

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Original application October 22, 1946, Serial No. 704,811, now Patent No. 2,461,542, dated February 15, 1949. Divided and this application November 20, 1948, Serial No. 61,217

2 Claims. (Cl. 139—1)

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This invention relates to the general art of wearing apparel and the present application is a division of my application Serial No. 704,811, filed October 22, 1946, now Patent No. 2,461,542, issued February 15, 1949. This invention is particularly adapted to the making of seams which can not be detected. It has a wide field of usefulness and value in the original construction of garments, in the making of alterations in garments, and in the repair of garments or other fabrics. In each of these several instances the outer surface of the garment or other fabric would present a uniformly smooth surface with all parts of the pattern or figure so matched as to present the appearance of one piece of cloth, irrespective of contour as, for instance, in the case of shoulders, waist or sleeves, etc.

Essential objects of my present invention include the following: simplicity of the steps for forming such invisible seam; rapidity with which the operation may be performed; security and strength of the seam; wide adaptability of the same to a large variety of cloth and fabric, from thin closely woven material to heavy pattern or check woollens and the like; and the convenience of matching figure or design from small check to large pattern figures.

Another object of my present invention consists in the fact that no special material other than that of the same kind of fabric is required in the making of these invisible seams.

The necessary operations and steps may be performed with the simplest kind of a tool, and the skill and experience required may be readily and quickly attained for the forming of such seams which as a rule can not be detected with the naked eye and in fact can be discerned only with difficulty even with a magnifying glass.

The invention of the present application comprises a needle for performing the method herein described, the claims for the method being included in the parent application above referred to.

In the accompanying drawing, Fig. 1 illustrates the present form of tool used in carrying out my method;

Fig. 2 is a diagrammatic view of a piece of fabric prepared for carrying out the present invention;

Fig. 3 shows a damaged piece of fabric with the patch or repair piece of fabric in place;

Figs. 4 and 5 are sectional diagrams showing the beginning of the formation of the patch or repair seam;

Fig. 6 is a diagram in perspective showing the reverse side with the repair piece in position prior to trimming and subsequent stitching;

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Fig. 7 is a similar view showing the fabric of the parent piece cut away preparatory to the securing stitching;

Fig. 8 is an enlarged detail showing the fringed ends extending through the body of the parent piece at the point where the seam is formed and showing the stitched-together parts prior to pressing and covering; and

Fig. 9 shows a finishing strip or ribbon over the finished seam.

A simple illustration of the method of carrying out my invention by securing the raw fringed edge of one piece of cloth to another of the same pattern, is as follows.

First, the raw edge is picked to remove strands of the warp or woof W, leaving a projecting fringe F of one-eighth of an inch to one-half of an inch in length, more or less, depending upon the thickness of the fabric and the nature of the tool being employed in accordance therewith. If, for example, a part or piece such as shown at R is cut from the parent cloth to make a repair, a mark M is made before removal of the piece to indicate the direction of warp and woof.

The piece removed is then placed over the damaged spot D of the parent material P, with the weave in the same direction, and is moved until a stripe or figure, such as indicated by the lines or square S in Fig. 3, is matched on the outer surface.

The tool shown in Fig. 1 comprises a handle 1 and a wire loop 2 firmly attached to the handle by anchoring the same therein as indicated at 4. The wire loop has a point capable of penetrating fine fabric and it is flexible to permit being compressed into the form shown in dotted lines at 3, while passing through a fabric, and then springing back to the open position shown in solid lines upon emergence from the fabric. It is thrust through the parent cloth or fabric at a series of carefully selected points along a line corresponding to the edge of the frayed portion which is being held in the pattern-matching position.

The ends of the yarn forming the fringe F of the piece R are thrust through the open loop 2, as shown in Fig. 4, and are drawn through the parent cloth P, spreading the cloth as they pass through and projecting beneath the same, as indicated in Fig. 5.

Care is taken to draw threads of the same color through areas of the like color in the parent material. This operation is repeated on all sides of the attached piece until the parts are in the condition shown in Figs. 5 and 6. Then, as shown in Fig. 7, cuts D1 are extended outwardly, preferably diagonally from the damaged area or opening D, and these flaps of the parent

3 cloth are trimmed as indicated at D2. The trimmed edges D2 and the fringe projections F extending through the parent cloth are then stitched by hand or by machine, as indicated at T in Figs. 8 and 9, thereby securely holding the projecting yarn ends F and the portions D2.

Thereafter the fringe ends, which are now tightly held both by the gripping action of the parent material, through which they pass, and by the threads T, are flattened as shown in Fig. 9, and may be covered by a tape 20 lightly stitched, as indicated at 21, under or inside of the finished material, as illustrated in Fig. 9.

An invisible seam either crosswise or lengthwise of a garment may be made in the same fashion as above described and as herein illustrated.

Assuming two pieces are to be joined by my invisible seam in any of the several situations above noted, the edge of one piece of the material is frayed, as shown, leaving fringe ends F. The pieces are then matched to bring uniform registration of line, figure or other fabric pattern, and the frayed or fringe ends F are then pulled through as before, one, two or more at a time.

If the cut of the piece to have the fringe ends is on a bias, the ends which are to become frayed ends should be kept uniform in length by cutting the running or cross threads, i. e. the warp or woof as the case may be, at short intervals inwardly parallel with the ends to be frayed and for a distance of the length of the ends. Thereafter the severed running threads, warp or woof, are removed just as described in connection with fraying one end of the patch R.

The joining of two pieces of fabric, whether for a patch or one of the other purposes above noted, is so effected that not only is the outer surface in one plane and presents the appearance of a continuous piece, but it is very thin and flexible and quite invisible.

Making of seams in such manner as to give the impression of a finished garment woven from one piece, is entirely possible with the present method.

The rapidity with which seams may be made with this invention depends somewhat upon the nature of the fabric. In the case of checked wool goods, for example, the uniting by drawing the projecting yarn ends of the fringe through along the seam to be formed, may be done at a speed only slightly slower than fine hand stitching.

Instead of simply using the finger, a pin or needle or other suitable instrument may be used to selectively insert the fringe ends into the loop 2 of the needle.

The essential principle of the method in which my needle is employed, is to so prepare the projecting fringe of one part that the warp or woof threads may be drawn through the fabric of the other part to which it is to be joined, and in so doing they are gripped in the cross threads and yarn of the fabric and projected through on the other side.

For further security they are preferably then sewed to a seam flap which may be trimmed, flattened and faced as described.

As stated in the foregoing, the selection of the fringe ends for drawing them through the unfrayed piece allows so arranging projecting threads or yarn ends as to match the coloring, shape and appearance of the pattern sufficiently

accurately as to defy detection from the face side.

It is to be understood that the present form of disclosure is merely for the purpose of illustration and that there might be devised various modifications thereof without departing from the spirit of my invention as herein set forth and claimed.

What I claim is:

1. A tool of the character described and for the uses specified, comprising a handle member and a one-piece loop member, the free ends of the loop member being located at one end thereof and attached to said handle member, said loop member having its closed end pointed so as to be capable of penetrating between adjacent strands of a fabric, said loop member being of resilient material and having its sides uniformly bowed in duplicate arcuate form between the closed and free ends thereof and in cross section, no portion of either side of said exposed loop being parallel to the other side, said loop member being of suitable size to receive individual strands of the body of the fabric, the bowed portions of the said loop member being compressible into substantially parallel relations to each other in response to passage of said loop member through the fabric for gripping an individual strand therein as said loop member is drawn through the body of the fabric, and being adapted to return to its normal bowed condition upon emergence from the fabric.

2. A tool of the character described and for the uses specified, comprising a handle and a one-piece wire loop, the free ends of said loop being attached to said handle, said wire loop at its closed end coming to a sharp point so as to be capable of penetrating between adjacent strands of the fabric, said loop member being of resilient material and having its sides of duplicate uniformly bowed arcuate form from the free ends to the closed end, no portion of either side of the exposed loop being parallel to any portion of the other side, said wire loop being of suitable size to receive individual strands of the body of fabric, said bowed portions being compressible into substantially parallel relation to each other in response to the passage of said loop through the fabric for gripping an individual strand therein as it is drawn through the body of the fabric, and said loop member being adapted to return to its normal bowed form upon emergence from the said fabric.

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