

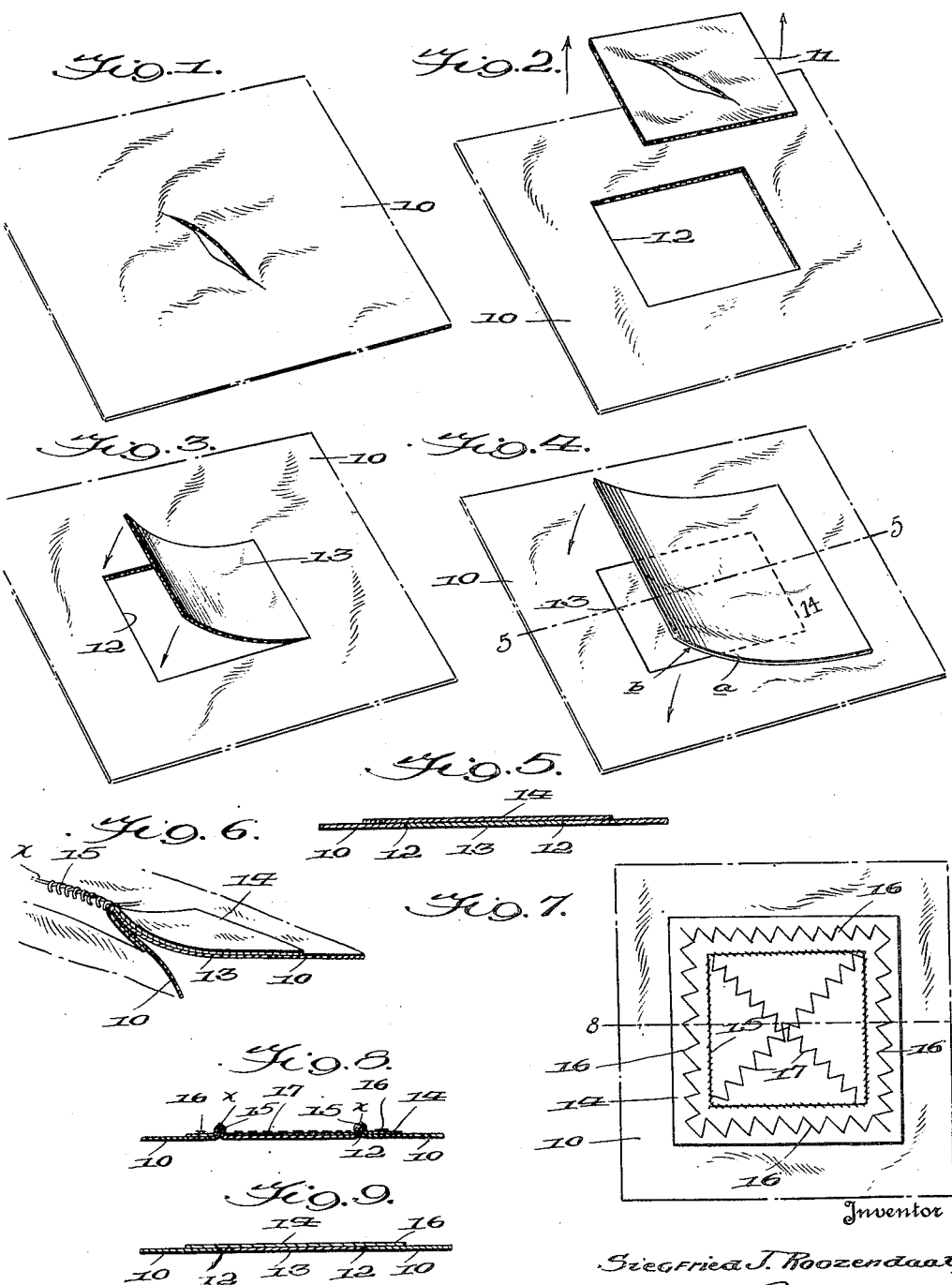
June 17, 1930.

S. J. ROOZENDAAL

1,765,098

METHOD OF REPAIRING DAMAGED SPOTS IN FABRICS

Filed Feb. 5, 1930



Inventor

Siegfried J. Roozendaal,

By *Edw. P. Walton*
Attorney

UNITED STATES PATENT OFFICE

SIEGFRIED J. ROOZENDAAL, OF COLOGNE-ON-THE-RHINE, GERMANY

METHOD OF REPAIRING DAMAGED SPOTS IN FABRICS

Application filed February 5, 1930, Serial No. 426,087, and in Denmark May 25, 1929.

The present invention relates to a patch construction for damaged spots in fabrics, as well as to the method of performing the same.

In my joint copending application for Patent Serial No. 297,890, filed August 6, 1928, a method and construction is shown for repairing damaged spots in fabrics by cutting out the damaged area in the fabric, the line of severance being parallel with the warp and woof threads of the fabric; then inserting into the opening, thus formed, a piece of fabric of the same kind and size, and preferably bearing the same pattern, as the cut-out piece. A cloth adhesive plaster is then applied on the wrong side of the fabric with the adhesive turned toward the fabric, and which extends over the edges of the inserted piece or patch. The plaster is then covered with a moist cloth and caused to adhere to the fabric and patch by the application of heat and pressure against it, such as by a pressing iron, which causes the area being worked on to be moistened by the steam from the cloth. Following this, the fabric and the patch, together with the cloth of the plaster, are placed flat on a table and two or more overcast or whipping stitches are made from the wrong side of the fabric, thus joining together by cross-stitches the abutting edges of the fabric and patch, as well as the fabric material of the plaster. Then the moistened threads are smoothed down and pressed with a flat iron.

The above stated construction and method, however, has the disadvantages that the adhesive plaster makes a hard and stiff area in the fabric and, from use and dry cleaning, its marginal edges lose their adhesive adherence to the body fabric as well as to the patch or insert, and is held in position merely by said stitches which secure the edges of the patch and opening together. Thus the cloth backing of the plaster does not receive or absorb any of the strains or pulls to which the repaired area of the fabric are subjected, resulting in the stitched edges of the patch and opening pulling away from each other or opening up. Furthermore, the previous method is disadvantageous in that the abutting edges of the fabric and patch are held,

together with the cloth of the plaster, by two or more rows of stitches which produce crossed stitches, and since these stitches comprise two or more threads, when the assembly is pressed down during the smoothening and pressing operation, the stitches stretch or give, in most cases, to unlike degrees, whereby wrinkles are formed rendering the repair visible, which is objectionable.

It is the object of the present invention to overcome the above stated drawbacks and to perform the repairing operation in an improved manner and with more effective results. Other advantages, objects and features of the invention will be apparent from the sundry details of construction, combination and organization of parts and the steps of the method hereinafter more fully described and pointed out in the appended claims.

In order that a full and clear understanding of the invention may be had reference is made to the accompanying drawing, which shows the preferred embodiment of the invention as at present devised, and in which:

Fig. 1 is a perspective view of a fragmentary portion of a fabric having a damaged spot;

Fig. 2 is a view similar to Fig. 1 showing the damaged spot removed from the fabric by cutting the same out on lines parallel to the warp and weft of the fabric;

Fig. 3 is a similar perspective view showing a patch being inserted into the cut-out portion of the fabric;

Fig. 4 is a similar perspective view showing the application of an adhesive plaster over the patch and the area of the fabric surrounding the patch;

Fig. 5 is a transverse sectional view taken substantially on lines 5—5 of Fig. 4 after the plaster has been placed in position;

Fig. 6 is a fragmentary sectional view showing the assembly bent upon itself along the abutting edges of the patch and fabric and the manner in which they are sewed together;

Fig. 7 is a plan view of the assembly after the operation shown in Fig. 6, and further showing the application of additional secur-

ing stitches performed by a subsequent operation;

Fig. 8 is a sectional view taken on lines 8—8 of Fig. 7; and

Fig. 9 is a sectional view similar to Fig. 8 showing the repaired area of the fabric after the pressing operation.

In carrying out the present invention, the damaged spot or portion of the fabric 10 to be repaired is first removed by cutting out an area or piece 11 about the damaged spot slightly larger than said damaged portion, said piece being cut on lines parallel with the warp and woof threads of the fabric, thus ordinarily forming a rectangular opening 12. Into the opening formed by the cut-out piece is inserted a piece of fabric 13 of the same kind and size, and preferably of the same pattern, of the fabric which has been removed. A plaster 14 composed of a cloth backing *a* having a soluble adhesive surface *b*, is then placed on the wrong side of the fabric with the adhesive toward the fabric, so as to cover the entire patch and to have its edges extending for a considerable distance over the edges of the patch. The plaster is caused to adhere to the fabric and patch by the adhesive thereon, and this may be accomplished in any suitable manner, such as by the application of moisture, heat and/or pressure, all performed substantially as above.

According to the present invention the assembly above described, is folded or bent upon themselves along the abutting and contiguous edges of the fabric and patch, and so folded that the side of the fabric bearing the plaster or backing is outermost or exposed (as shown in Fig. 6) so that the fold in the plaster backing forms a ridge *x* coincident with the abutting edges of the fabric and patch. The abutting edges of the fabric and patch are then sewed together, while the parts are in this folded condition, by a single row of overedge stitching 15, each stitch of which penetrating the folded over portions of the plaster backing adjacent said ridge (with the thread extending over the ridge) and also penetrating through the edges of said fabric and patch. This overedge stitching 15 is preferably in the form of a stitch having a locking loop at the crease or ridge *x*, such as a button hole or similar stitching, in order that the individual stitches may be each held under substantially the same degree of tension, and further in order that the thread forming each individual stitch will not slip during the sewing operation. The results of this method and construction is that the patch or insert 13 and fabric 10 are more strongly secured together by the single stitch made in the manner above described, than by several rows of overcast or whipping stitches made while the parts are lying on a flat table as in the previous method; and further by the use of the stitching 15 of a single thread, as above

stated, no wrinkles are formed or appear in the fabric 10 or patch 13 when the abutting edges of the fabric, patch and the plaster backing are subjected to a later step of compression, as by an ordinary pressing operation in which may be employed heat and moisture.

The marginal portions of the plaster extending beyond the edges of the patch or insert 13 are sewed to the fabric by rows of stitching 16 extending parallel to the edges of the cut-out portion by stitches which may run diagonally with respect to each other, or to form a zig-zag line of stitches, as shown in Fig. 7.

After the stitching 16 has been made, stitching 17, similar to stitching 16, is made to connect the plaster backing 14 to the insert 13. This stitching 17 can be made in any suitable manner. However, it is here shown in the form of an X, whose extremities extend to the corners of the insert 13.

After the last of the stitching operation, the adhesive or cement *b* on the plaster is dissolved or removed by subjecting the repaired area to the action of a steam jet, water or benzine, or other solvent, in order to render the plaster and the repaired area of the fabric soft and pliable. By the stitching 16 and 17 the plaster backing 14 is securely held to the fabric 10 and insert 13, respectively, so that the backing will absorb or take the strains to which the fabric may be subjected without affecting the stitching 15, which secures the edges of the insert to the edges of the cut-out portion of the fabric. The next step is to subject the repaired area, shown in Figures 7 and 8, to a compressing operation, which may employ heat and moisture. Thus the parts are flattened out and the seam or ridge caused by the stitching 15 disappears, as shown in Figure 9.

Also, by the stitching 16 and 17 the patch does not become loose from the plaster and the seam 12 does not open up and the marginal edges of the plaster are retained in flat condition at all times. The removing of the adhesive or cement *b* permits the repaired area to be soft, smooth and elastic, which is particularly desirable in garments.

Having thus described the invention and the manner in which the same is to be performed what is claimed is:

1. The method of mending damaged spots in fabrics, which includes cutting out the damaged area along lines parallel to the warp and weft of the fabric; inserting in the resultant opening in the fabric a patch of a shape conforming to the shape of said opening; applying an adhesive fabric plaster to the wrong or inner face of the fabric so that the plaster will entirely cover the patch and the area of the fabric surrounding the patch; pressing the plaster in position to adhere to the patch and said fabric; then folding the

assembly upon itself along the line defined by the contiguous edges of the fabric and patch with the plaster outermost and said fold forming a ridge on the outer surface of the plaster; sewing the parts together by a single row of over-edge stitching at said ridge, said stitching penetrating the folds of the plaster adjacent the apex of said ridge and the edge portions of the fabric and patch; and then subjecting the plaster, fabric and patch to a pressing operation whereby the assembly is made flat and smooth.

2. The method of mending damaged spots in fabrics, which includes cutting out the damaged area along lines parallel to the warp and weft of the fabric; inserting in the resultant opening in the fabric a patch of a shape conforming to the shape of said opening; applying a fabric plaster and having soluble adhesive thereon to the wrong or inner face of the fabric so that the plaster will entirely cover the patch and the area of the fabric surrounding the patch; pressing the plaster in position to adhere to the patch and said fabric; then folding the assembly upon itself along the line defined by the contiguous edges of the fabric and patch with the plaster outermost and said fold forming a ridge on the outer surface of the plaster; sewing the parts together by a single row of button hole stitching at said ridge, said stitching penetrating the folds of the plaster adjacent the apex of said ridge and the edge portions of the fabric and patch; then securing the marginal portions of said plaster adjacent the edge thereof to said fabric by a row of stitches extending along said marginal portions of the plaster; then sewing said plaster to said patch by rows of stitches, each latter row crossing the other and extending diagonally of the patch; then subjecting the plaster to an adhesive solvent; and then subjecting the plaster, fabric and patch to a pressing operation whereby the assembly is made flat and smooth.

3. The method of mending damaged spots in fabrics, which includes cutting out the damaged area along lines parallel to the warp and weft of the fabric; inserting in the resultant opening in the fabric a patch of a shape conforming to the shape of said opening; applying an adhesive fabric plaster to the wrong or inner face of the fabric so that the plaster will entirely cover the patch and the area of the fabric surrounding the patch; pressing the plaster in position to adhere to the patch and said fabric; then folding the assembly upon itself along the line defined by the contiguous edges of the fabric and patch with the plaster outermost and said

fold forming a ridge on the outer surface of the plaster; sewing the parts together by a row of over-edge stitching at said ridge, said stitching penetrating the folds of the plaster adjacent the apex of said ridge and the edge portions of the fabric and patch; and then subjecting the plaster, fabric and patch to a pressing operation whereby the assembly is made flat and smooth.

4. The method of mending damaged spots in fabrics, which includes cutting out the damaged area along lines parallel to the warp and weft of the fabric; inserting in the resultant opening in the fabric a patch of a shape conforming to the shape of said opening; applying an adhesive fabric plaster to the wrong or inner face of the fabric so that the plaster will entirely cover the patch and the area of the fabric surrounding the patch; pressing the plaster in position to adhere to the patch and said fabric; then folding the assembly upon itself along the line defined by the contiguous edges of the fabric and patch with the plaster outermost and said fold forming a ridge on the outer surface of the plaster; sewing the parts together by a row of over-edge stitching at said ridge, said stitching penetrating the folds of the plaster adjacent the apex of said ridge and the edge portions of the fabric and patch; then securing the marginal portions of said plaster adjacent the edge thereof to said fabric by a row of stitches; then sewing said plaster to said patch by rows of stitches, and then subjecting the plaster, fabric and patch to a pressing operation whereby the assembly is made flat and smooth.

In testimony whereof he has hereunto set his hand.

SIEGFRIED J. ROOZENDAAL.