April 1, 1969 A. JAY 3,435,463

ALTERATION OF PERMANENTLY PRESSED GARMENTS

Filed July 7, 1966

FIG. 1

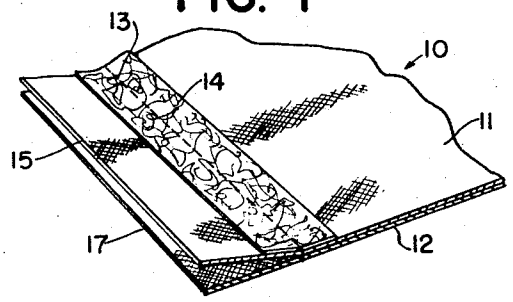


FIG. 2

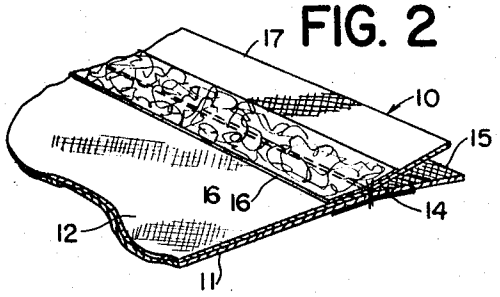


FIG. 3

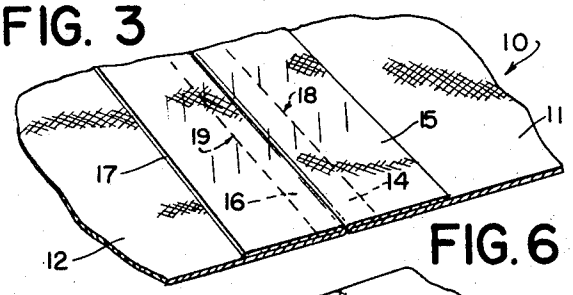


FIG. 4

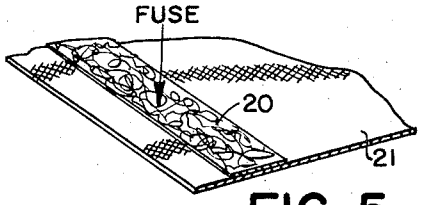


FIG. 5

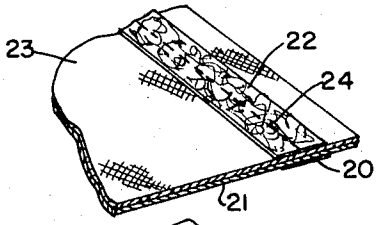


FIG. 6

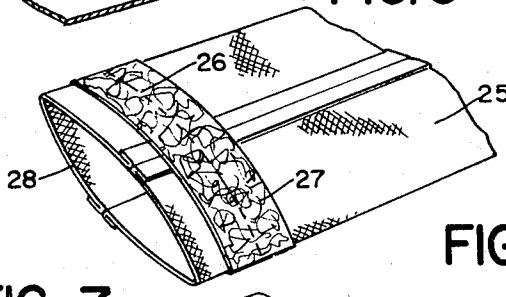


FIG. 7

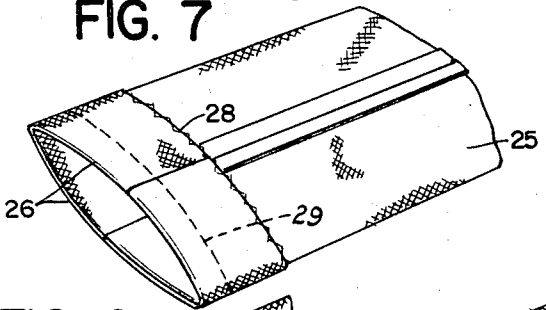


FIG. 8

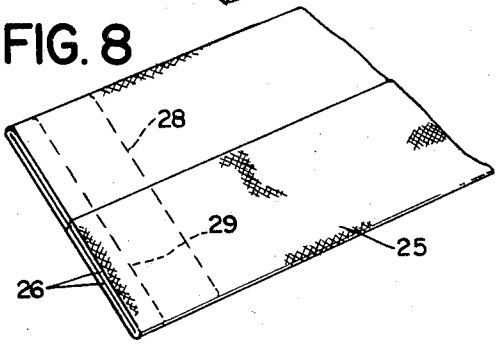
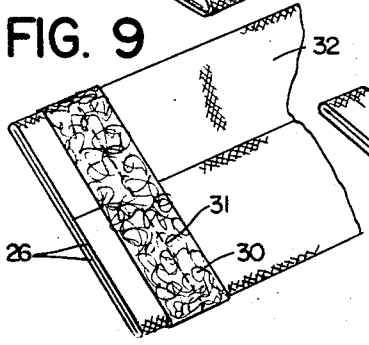


FIG. 9



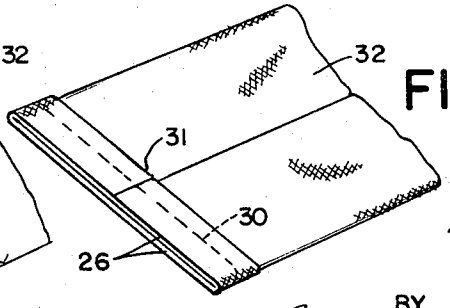


FIG. 10

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ALTERATION OF PERMANENTLY PRESSED GARMENTS

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Int. Cl. A41d 27/10
U.S. Cl. 2—269 7 Claims

ABSTRACT OF THE DISCLOSURE

A permanently pressed garment is altered by first securing over the line of alteration with a fusible strip of a cohesive spun web of self-bonded continuous lengths of polymeric fibers in multidirectional overlapping and intersecting arrangement throughout the sheet and having a sheet density greater than about 0.40 oz./yd.^{2} and the polymeric fibers being fusible at a temperature and pressure and for a period below that required to scorch the fabric. Thereafter, the fabric is folded along the line of alteration to sandwich the strip therebetween and heat and pressure are applied to the folded fabric for a period sufficient to cause the fusion of the strip thereby bonding the folded fabric at areas having the strip secured thereon upon subsequent cooling of the fabric.

This invention relates to a method for altering permanently pressed garments or apparel. Garments of this type are made of fabrics impregnated or pretreated with a thermosetting resin and are subsequently pressed or otherwise subject to a finishing treatment to set the resin in the fabrics and to press the garments into the desired permanent shape. The finished products have a smooth and pressed appearance and have found wide consumer acceptance because of their ability to maintain their press and crease throughout continued wear and even after numerous washings and cleanings.

In the finishing treatment, the setting of the resin in the fabric imparts a permanent "fabric memory" therein which enables the garment to maintain its original shape. Because of the permanent fabric memory, subsequent alteration or adjustment of the garment cannot be made satisfactorily. The altered garment lacks its original smooth and pressed appearance. The difficulty in altering permanently pressed type garments thus creates a problem heretofore not experienced by the manufacturers and retailers of ready-to-wear garments. Partially to overcome this problem, it becomes necessary for the manufacturers to increase the number of available sizes and have the retailer to fit the customer as closely as possible without alteration. This approach is neither economical nor satisfactory.

I have now found that the permanently pressed garments made of resin impregnated fabrics and set into a permanent shape may be altered simply and efficiently according to the method of this invention. In the present method, a line of alteration of the garment is first determined. A fusible strip of a predetermined width is then secured over the line of alteration. After folding the fabric along the line of alteration to sandwich the strip therebetween, heat and pressure are then applied simultaneously to the folded fabric for a period sufficient to cause the fusion of the strip thereby binding the folded fabric at areas having the fusible strip secured therebetween upon subsequent cooling of the fabric.

The fusible strip is a sheet in cohesive spun web form of self-bonded continuous length of polymeric fibers in multiple directional overlapping and intersecting arrangement throughout the sheet and has a sheet density greater than above 0.40 oz./yd.^{2}. The polymeric fibers of the sheet are fusible at a temperature and a pressure and for a period below that required to scorch the fabric. The sheet in cohesive spun web form is preferably made of a polyamide material which can be fused into the fabric by the application of steam and pressure.

Other polymeric compounds having a low melting point and capable of bonding the fabrics can also be used provided that the sheet has a low weight density and high porosity whereby the application of heat and pressure, such as those of an iron, will cause the sheet to melt and bond the fabric without causing the fused polymeric material to penetrate to the opposite surface of the fabric. Suitable sheets of this type can have a sheet density varying from a range from 0.4 oz./yd.^{2} to about 2 oz./yd.^{2}. A fusible strip that I have found to be eminently suitable is available commercially under the trade name "Wonder Under" manufactured by the Pellen Corporation of New York. This fusible strip is available as a continuous and peelable sheet on a paper carrier or on a transfer medium from which the strip can be easily transferred to the garment to be altered. The fusible strip has a sheet density in the range from 0.45 to 1.8 oz./yd.^{2}.

The method of this invention which can be practiced without any special equipment is particularly suitable for retail stores to alter permanently pressed garments. Its simplicity makes the method also attractive for home application. The garment when altered in a manner according to the present invention retains its original pressed and smooth appearance and does not have the puckering and cockling problems prevalent in altered permanently pressed garments. The altered garment also has substantially the same drapability and hang and will stand repeated washings or dry cleanings.

The present method may be used to alter vertical seams, for example seams running with the warp of the fabric such as side seams, seat seams, inseams, etc. It may also be conveniently used to adjust the length of a garment, such as bottom hems and cuffs for skirts and trousers. These specific applications of the present method are described hereinbelow with reference to the accompanying drawings wherein:

FIGS. 1–5 are perspective views of a segment of a permanently pressed garment illustrating the steps required by the two alternative procedures to form a new seam thereon;

FIGS. 6–8 are perspective views of a lower segment of a permanently pressed trouser illustrating the steps for forming a hem therefor; and

FIGS. 9–10 are perspective views of a lower segment of a permanently pressed trouser illustrating the steps for providing a cuff thereto.

Referring initially to FIG. 1, the typical procedure according to the present invention, for altering a vertical seam of a garment **10** joining two pieces of fabric **11** and **12**, requires initial determination of the position of the new seam. This operation may be carried out by placing the surface sides of the two pieces of fabric **11** and **12** facing each other and drawing a line **13** or providing markings on the garment **10** where the new seam is to be located. Once the position of the new seam is decided, a fusible strip **14**, which has the characteristics described hereinabove, is then placed centrally over the line **13** on the wrong side of the fabric **11**. The fusible strip **14** is secured thereon by stitching or sewing along line **13**.

The width of the fusible strip can be varied. It, however, should not be so wide as to protrude from the edge **15**. For a normal vertical seam, a width in the order of ⅜ inch to 1 inch is adequate. The sheet density of the fusible strip should be commensurate with the weight of the fabric **11** and **12**. In other words, for a light fabric,

a low sheet density strip is used and for a heavy fabric, a heavier strip. Normally, the sheet density of the fusible strip should be as light as possible provided that it would still have the required bonding strength. The strips should not be so heavy as to increase appreciably the thickness along the seam or to cause markings on the surface side.

After the first fusible strip **14** is secured on the wrong side of the fabric **11**, the garment **10** is turned over and a second similar fusible strip **16** is centrally placed along line **13** on the wrong side of the fabric **12**. This strip is similarly sewed on along line **13** as shown in FIG. 2. After the fusible strips **14** and **16** are secured on the wrong sides of the two pieces of fabric **11** and **12**, they are then laid opened, and the free edges **15** and **17** of the two pieces of fabric, respectively, are folded along line **13** as shown in FIG. 3. The folding of the free edges **15** and **17** sandwich the fusible strips **14** and **16** between the free edge and the wrong side of the fabric **11** and **12**. Heat and pressure are applied to cause the fusion of the fusible strip. Upon subsequent cooling, the free edges **15** and **17** are bonded to the fabric **11** and **12** at the areas defined within the two dotted lines **18** and **19**.

This operation may be carried out conveniently by using a conventional steam iron to press open the seam. The temperature of the iron is adjusted according to the fabric and is held momentarily, for example about five seconds, to allow the steam and the heat to penetrate through the fabric causing the fusion of the strip, thereby forming the new seam. The surface side of this seam preferably is also pressed by a steam iron or a conventional pressing machine using steam. Upon cooling and drying of the garments, the fused strips **14** and **16** provide the garment **10** with a pressed and smooth new seam.

Instead of stitching or sewing, the fusible strip may be secured on the fabric by an alternative method which is illustrated by FIGS. 4 and 5. In this method heat and pressure are used to effect a temporary bond between the fusible strip **20** and the base fabric **21**. This operation may be accomplished by a transfer process using a fusible strip supported by a carrier such as glassine paper. The fusible strip on the carrier is placed over the line of alteration with the fusible strip facing the fabric. A dry iron is then applied to the carrier which transmits the heat and pressure to the fusible strip causing partial fusion of the strip and bonding it to the fabric. The carrier is peeled off after cooling. The temperature, pressure and time required for the transfer are below the conditions required for the complete fusion of the strip.

After a second fusible strip **22** is similarly secured on the wrong side of the fabric **23**, the two pieces of fabric **21** and **23** with their surface sides facing each other are then joined by sewing along the line of alteration **24**. The seam is then pressed open in a similar operation described hereinabove and illustrated in FIG. 3.

Referring now to FIGS. 6 to 8, the length of a trouser is adjusted by first determining on the leg **25** of the trouser the line of alteration **26** which represents the final length of the trouser. The leg **25** is then turned inside out and a fusible strip **27** is placed centrally over the line **26** all around the inside periphery on the wrong side of the fabric. The fusible strip may be secured on the fabric by either stitching or by heat and pressure. After the strip is secured thereon, the leg is folded up along line **26** as shown in FIG. 7 and the free edge **28** is stitched on to the body of the leg **25**. The leg **25** is turned over to its normal position as shown in FIG. 8. Heat and pressure are then applied to cause the fusion of the fusible strip **27** sandwiched between the fabric bonding the folded fabric along the area defined by the dotted line **29** and the line **26**, and providing a pressed and smooth appearance. The procedures for providing a hem for the trouser are also applicable to provide bottom hems for coats, skirts, and the like.

To provide cuffs for the trousers, additional steps may be required. These steps are illustrated by FIGS. 9 and 10. After the hem for the cuffed trouser is first finished according to the procedure illustrated by FIGS. 6 to 8, a second fusible strip **30** is secured centrally along a line **31** which determines the final length of the cuffed trouser **32**. The strip is secured around the outer periphery of the leg. The hem for the final cuff must be longer than the final length by the width of the cuff. The leg is folded up to form the cuff sandwiching the fusible strip **30** therebetween.

I claim:

1. A method for altering garments made of resin impregnated fabrics and set into a permanent shape, said method comprising:

determining a line of alteration on said garment;

securing over said line a fusible strip of a predetermined width of a sheet in cohesive spun web form of self-bonded continuous lengths of polymeric fibers in multiple-directional overlapping and intersecting arrangement throughout the sheet and having a sheet density greater than about 0.40 oz./yd.^{2}, said polymeric fibers being fusible at a temperature and pressure and for a period below that required to scorch the fabric;

folding the fabric along the line of alteration to sandwich said strip therebetween; and

simultaneously applying heat and pressure to the folded fabric for a period sufficient to cause the fusion of said strip thereby bonding the folded fabric at areas having said strip secured thereon upon subsequent cooling of the fabric.

2. A method according to claim **1** wherein said fusible strip is a sheet in cohesive spun web form of self-bonded continuous lengths of polyamide fibers in multidirectional overlapping and intersecting arrangement throughout the sheet to provide a sheet density in the range of 0.45 oz./yd.^{2} to 1.80 oz./yd.^{2}, said polyamide fibers being fusible by steam and the heat applied to said folded fabric is in the form of steam.

3. A method for altering a seam joining two pieces of a garment made of resin impregnated fabrics and set into a permanent shape, said method comprising:

determining a line of alteration for the new seam on said garment,

securing over said line on each of the two opposite sides of said adjoining pieces a fusible strip of a predetermined width of a sheet in cohesive spun web form of self-bonded continuous lengths of polyamide fibers in multi-directional overlapping and intersecting arrangement throughout the sheet to provide a sheet density in the range of 0.45 oz./yd.^{2} to 1.80 oz./yd.^{2}, said polyamide fibers being fusible by steam at a temperature and pressure and for a period below that required to scorch the fabric;

stitching along said line to join said two pieces leaving a free edge on each of the two pieces;

folding the two free edges in opposite directions to sandwich the fusible strips therebetween; and

simultaneously applying steam and pressure to the folded pieces for a period sufficient to cause the fusion of said strips thereby bonding the folded pieces at areas having said strips secured thereon upon subsequent cooling of the fabric thereby forming said new seam.

4. A method according to claim **3** in which the fusible strips are secured on the opposite sides of the adjoining pieces by stitches which also form the stitches of the new seam.

5. A method according to claim **3** in which the fusible strips are secured on the opposite sides of the adjoining pieces by heat and pressure at a temperature and for a period sufficient to secure said strips thereon and below that required to cause complete fusion of said strips.

6. A method for adjusting the length of a garment made of resin impregnated fabrics and set into a perma-

nent shape by providing a hem therefor, said method comprising:

determining a line of alteration on said garment representing the adjusted length;

securing over said line a fusible strip of a predetermined width of a sheet in cohesive spun web form of self-bonded continuous lengths of polyamide fibers in multi-directional overlapping and intersecting arrangement throughout the sheet to provide a sheet density in the range of 0.45 oz./yd.^{2} to 1.80 oz./yd.^{2}, said polyamide fibers being fusible by steam at a temperature and pressure and for a period below that required to scorch the fabric;

folding the fabric along the line to sandwich said fusible strip therebetween; and

simultaneously applying steam and pressure to the folded fabric for a period sufficient to cause the fusion of said strip thereby bonding the folded fabric at areas having said strip secured thereon upon subsequent cooling of the fabric thereby forming said hem.

7. A method for adjusting the length of trousers made of resin impregnated fabrics and set into a permanent shape by providing cuffs for the legs of the trousers, said method comprising:

determining a line of alteration on each of the legs representing the length of the trousers plus the width of the cuff;

securing over said line and around the inside circumference of the leg a first fusible strip of a predetermined width of a sheet in cohesive spun web form of self-bonded continuous lengths of polyamide fibers in multi-directional overlapping and intersecting arrangement throughout the sheet to provide a sheet density in the range of 0.45 oz./yd.^{2} to 1.80 oz./yd.^{2}, said polyamide fibers being fusible by steam at a temperature and pressure and for a period below that required to scorch the fabric;

folding the fabric along the line to sandwich said fusible strip therebetween;

simultaneously applying steam and pressure to the folded fabric for a period sufficient to cause the fusion of said strip thereby bonding the folded fabric;

securing a second fusible strip similar to said first fusible strip over a second line of alteration on each of the legs representing the length of the trousers and around the outside circumference of the leg;

folding the fabric along the second line to sandwich said fusible strip therebetween; and

simultaneously applying steam and pressure to the folded fabric for a period sufficient to cause the fusion of said strip thereby forming said cuff.

References Cited

UNITED STATES PATENTS

1,413,885	4/1922	Anderson	2—243
3,025,622	3/1962	Hilton	38—144
3,137,865	6/1964	Evans et al.	2—243 X
3,166,765	1/1965	Getchell	2—243 X
3,168,749	2/1965	Cala	2—243
3,328,809	7/1967	Payne et al.	2—269

FOREIGN PATENTS

894,129	4/1962	Great Britain.

OTHER REFERENCES

"Daily News Record," pp. 25–29, published Feb. 7, 1966.

HERBERT F. ROSS, *Primary Examiner.*

U.S. Cl. X.R.

38—144; 2—243, 275