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J. MARCUS

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CLOTH CONSTRUCTION

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FIG. 1

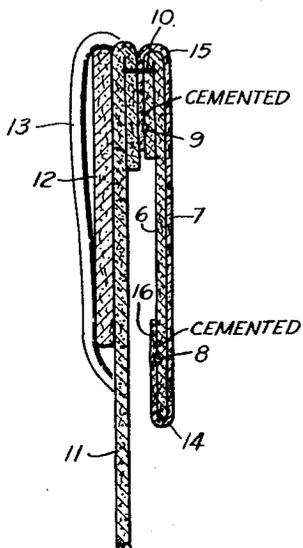


FIG. 2

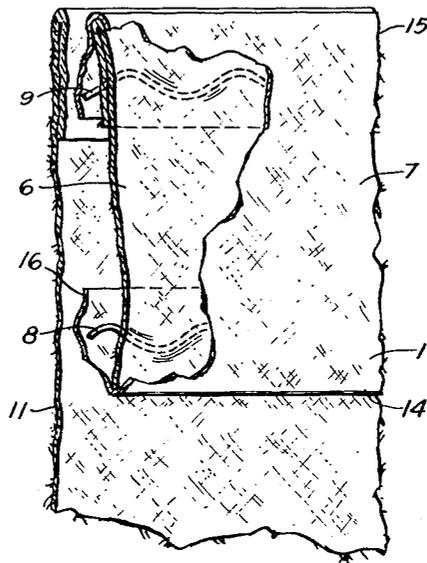


FIG. 3

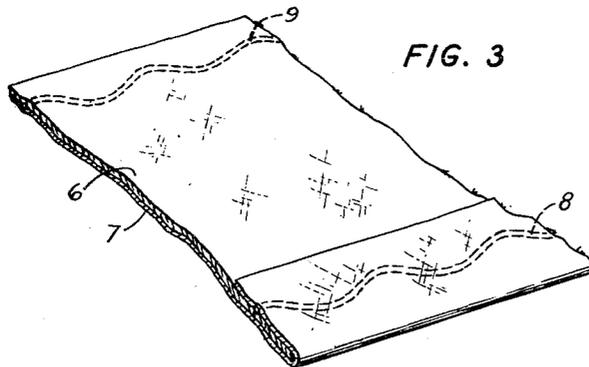


FIG. 4

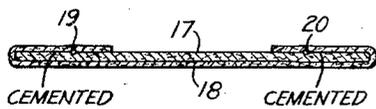


FIG. 5



INVENTOR
JACOB MARCUS
BY
Bennett Jackson
ATTORNEY

UNITED STATES PATENT OFFICE

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CLOTH CONSTRUCTION

Jacob Marcus, Brooklyn, N. Y.

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4 Claims. (Cl. 2—236)

This invention relates to a fabric or cloth having overlapping portions secured together in a stitchless manner and also relates to the method of making the same.

5 One object of the invention is to provide a cloth having overlapping portions joined in a permanent manner without the necessity of employing a line of stitching for that purpose.

10 Heretofore it has been almost universal practice to fasten together overlapping portions of cloth by a sewing operation in which the thread punctures both portions to form interlocked loops. There are many instances, however, where the sewing together of the overlapping 15 portions may be undesirable, as, for example, where the sewed cloth is subsequently required to be stretched to the point where the stitching might be torn or broken; or where the sewed cloth when in use is so folded that cloth lying against 20 the ridge formed by the stitching will be worn to the detriment of the cloth; or the type of cloth used may be such that it is liable to be torn due to the punctures therein due to the stitching.

25 In accordance with this invention the overlapping portions of cloth are held together by an adhesive such as a suitable liquid cement. In the preferred embodiment one or more threads are placed between the overlapping portions and then the threads and the overlapped portions are 30 cemented together, the special thread assisting in binding the cloth portions together after the adhesive has dried or hardened. This binding thread, however, should lie between the overlapped portions without puncturing either portion as is done when stitches are made.

35 It will also be frequently desirable to have the binding thread lie in a crooked or wavy path between the overlapped portions. This will increase the binding action and will also give more resiliency to the cloth so that when the cloth is 40 stretched lengthwise of the cemented path the thread will merely tend to conform to a straighter path without breaking the bond between the joined portions.

45 A convenient method of manufacturing such an article is to immerse the thread in a liquid adhesive material, place the saturated thread between the portions of cloth to be overlapped and joined and then pressing the overlapped portions 50 together to cause the adhesive to spread away from the thread between the overlapped portions. The extent to which the adhesive will spread from the thread may be readily predetermined by the amount of adhesive originally applied to 55 the thread and the amount of pressure employed

in squeezing the adhesive out of the thread. The amount of pressure, for example, may be accurately regulated when the pressing operation is performed by calendering the cloth.

This invention will be particularly described 60 as embodied in a waistband lining for trousers which use is typical of various embodiments in which the use of this invention would be advantageous. Such a waistband lining ordinarily employs a strip of stiffening material sewed to the 65 lining strip proper and the two sewed strips subsequently sewed to the top of the trousers. In accordance with this invention the overlapping edge portions of the stiffening material and the lining are secured without stitching by placing a 70 thread saturated with liquid adhesive between the overlapping edge portions and then pressing the said portions together and drying the adhesive, as by calendering for example. The composite article so formed is then ready to be sewed 75 to the top of the trousers to form the desired lining to the waistband.

This invention will be better understood by reference to the following detailed description 80 taken in connection with the accompanying drawing in which,

Fig. 1 represents a sectional view of this invention as applied to a waistband lining for trousers;

85 Fig. 2 is a plan view partly in section of the waistband lining for trousers embodying this invention;

Fig. 3 is a plan view of the waistband lining prior to attachment to the trousers;

90 Fig. 4 is a sectional view of another form of lining embodying this invention; and

Fig. 5 is a sectional view of a third form of lining made from a single strip of cloth.

Referring more particularly to Figs. 1 to 3, the 95 waistband lining of this invention comprises two strips of cloth cut on the bias, a stiffener member 6 and a lining member 7, the lining member being appreciably wider than the stiffener member. These strips may be of any suitable 100 material, for example, the strip 6 may be of light weight canvas while the strip 7 may be any lining cloth such as mercerized cotton or rayon. At the point 14, one edge portion of the lining element 7 is folded over the lower edge of the strip 6. Instead of securing the folded-over portion 105 16 to the strip 6 by a line of stitching it is cemented thereto by applying a suitable liquid cement between the parts and allowing the cement to dry or harden. Within this cemented area lies as independent thread 8 which lies in a flat 110

spiral or wavy path extending along the entire cemented area in a direction roughly parallel to the folded-over edge of strip 7.

The preferred way of securing this adhesion between portion 16 and strip 6 is to immerse the thread 8 in a suitable liquid cement until the thread absorbs the proper amount of cement after which it is promptly placed between portion 16 and strip 6 and then pressure applied to force portion 16, strip 6 and thread 8 into close contact until the cement has dried. The application of pressure will, of course, cause the liquid cement to be partially forced out of the thread and spread over a narrow band of the cloth on either side of thread 8 and thus increase the area of adhesion between the parts. The principal attachment, however, between portion 16 and strip 6 is due to the thread 8 which is cemented on one side to portion 16 and on its other side to strip 6, the thread 8 being partially buried in the opposing cloth faces due to the pressure employed in bringing the cloth faces together while drying the cement, as by calendering, for example.

As previously stated, the thread 8 is preferably placed in a flat spiral or wavy path between the fabrics to be joined instead of merely being placed in a straight path parallel to the edge of one of the cloth portions. It is frequently customary to stretch waistband linings in attaching them to the top of trousers. The lining of Fig. 2, for example, is given more resiliency due to the wavy path of thread 8 so that when the cloth is stretched lengthwise of the cemented path, the thread 8 will merely tend to conform to a straighter path without breaking the bond between the joined cloth portions and without causing the thread 8 to be broken by the stretching force. This is particularly true when rubber cement is used around thread 8 and between the cloth portions, because such a cement even after drying is elastic and flexible, so that the joined portions containing thread 8 may be readily stretched and the cement will stretch along with the cloth and the consequent straightening of thread 8 without damage to the band and the joined portions after such stretching will tend to return to its original form. That is the cemented cloth portions may be safely subjected to a pulling or stretching which would ruin cloth portions joined by the usual stitching.

It is to be noted that thread 8 does not form a line of stitching which punctures both strip 6 and folded-over portion 16 but lies entirely between said strip and said portion along its entire path. Thread 8 may be of any desired size and material. For example, it may be of cotton, silk, or linen. For waistband linings it may have various sizes although cotton thread size #70 has been found appropriate. This invention, however, is not limited to the use of a thread 8 of any particular size or shape nor is the invention limited to the use of a single thread between cloth portions to be joined since a plurality of spaced threads such as thread 8 may be used simultaneously.

The other edge portions of strips 6 and 7 preferably have edges which substantially coincide. If desired, these other edge portions may also be secured together by a cementing process accomplished by an independent thread 9 in the same manner as described above for the folded-over portion 16. Thus, as shown in Fig. 3 the thread 9 lies in a flat spiral path between the

edge portions of the two strips, the liquid cement conveyed by thread 9 to the opposed cloth faces serving to bind thread 9 to both cloth faces and also binding the cloth faces to each other over a narrow region on each side of thread 9.

The type of adhesive used to secure the cloth strips together may largely be a matter of choice although for waistband linings best results have been obtained by the use of liquid rubber cement in which the threads such as threads 8 and 9 may be immersed before insertion between the cloth faces. Such a rubber cement may comprise virgin rubber and a little sulphur dissolved in a suitable liquid hydrocarbon. Other types of cement, however, such as glue may prove useful in many instances. Liquid rubber cement is particularly adapted to be applied between the cloth portions by a thread previously immersed in the cement and by the use of such a thread a thinner coating of cement between the cloth portions can be obtained than if the cement were applied to the cloth by a brush for example. The cement used should preferably be not brittle or applied in sufficient amount to appreciably thicken or stiffen the fabric. Care must also be taken that the cement is not in sufficient amount to penetrate through the cloth portions and appear on their reverse sides. Rubber cement does not harden but is elastic when it is dry. If a thick glue is employed there is danger that any needle passing through the cemented portion may get heated and cause frequent breakage of the sewing thread.

After the cement in and around threads 8 and 9 has dried or hardened the completed waistband lining shown in Fig. 3 is ready to be attached to the top of the trousers cloth as shown in Fig. 1. This may be accomplished by placing the outside face of lining 7 against the outside of the trousers cloth 11 and joining the two by a line of stitching 10 where the stitching thread passes through the trousers cloth 11, the stiffener 6 and line 7, the lining strip and the trousers cloth being then folded back to present a seam as shown in Fig. 1. The lower portion 16 of the lining may also be suitably fastened to the trousers. It is, of course, to be understood that the waistband lining of this invention may be attached to the trousers in any of a variety of ways by hand or machine of which Fig. 1 is merely one example.

In Fig. 1, elements 12 and 13 have nothing to do with the present invention since element 13 is merely a belt loop through which a belt 12 may be passed.

Alternative forms of the waistband lining for trousers are shown in Figs. 4 and 5. In Fig. 4 the lining strip 18 has edge portions folded over both edges of the stiffener strip 17. These edge portions are preferably cemented to the stiffener strip 17 by the use of threads 19 and 20 in the same manner as previously described in connection with threads 8 and 9 of Fig. 3. The composite strip shown in Fig. 4 may be attached to the trousers in the manner shown in Fig. 1.

In the waistband lining of Fig. 5 no stiffener cloth is employed, the lining strip 21 having both its edge portions folded over on itself and cemented thereto by the use of threads 22, 23 in the same manner as described above for threads 8 and 9. The formed strip of Fig. 5 may be attached to the top of the trousers in the same manner as in Fig. 1.

It is to be understood that this invention is of wide application in the garment industry or

other instances where formed fabrics are used and that the invention is not limited to a waistband lining for trousers. The invention is also capable of many varied embodiments as defined in the appended claims. For example, the invention may be used in the manufacture of bel-

low for patch pockets or for sleeve interlinings. amount of said independent thread material within said layer of adhesive being so small that the said independent thread material contributes negligibly to the strength of said fabric.

What is claimed is:

1. A formed fabric for garment manufacture comprising a first cloth member, a second cloth member, one edge portion of said first member overlapping an edge portion of said second member, said overlapping portions being secured together by a thin layer of adhesive of narrow width compared to the width of said overlapping portions, said layer extending along the length of said fabric in a direction generally parallel to an edge of one of said members, and an independent thread extending longitudinally of one of said members in a non-linear path and lying wholly between said edge portions and within said adhesive layer, the amount of said independent thread material within said layer being so small that the said independent thread contributes negligibly to the strength of the fabric.

3. A waistband lining comprising a stiffening member, a lining member, one edge portion of said lining member being folded over an edge portion of said stiffening member, said edge portions being fastened together in a stitchless manner by a thin layer of elastic cement of narrow width, said layer extending throughout the length of said lining in a direction generally parallel to an edge of one of said members, and an independent unwoven thread of fibrous material extending longitudinally of the lining in a non-linear path and lying wholly between said edge portions and within said cemented area, the amount of said independent thread material within said cemented area being so small that it contributes negligibly to the strength of said lining.

2. A formed fabric for garment manufacture comprising a stiffening member and a lining member, one edge portion of said stiffening member overlapping an edge portion of said lining member, said overlapping portions being secured together by a thin layer of adhesive of narrow width compared to the width of said overlapping portions to permit the formed fabric to be later fastened to other material by a line of stitching passing through said overlapping portions at points free of said adhesive, said layer of adhesive extending throughout the length of said fabric in a direction generally parallel to an edge of one of said members, and an independent thread extending longitudinally of the lining in a non-linear path and lying wholly between said edge portions and within said adhesive layer, the

4. A formed fabric for garment manufacture comprising a bias cut stiffening member, a bias cut lining member, one edge portion of said stiffening member being secured to an edge portion of said lining member in a stitchless manner by a thin layer of elastic cement of narrow width, said layer extending throughout the length of said fabric in a direction generally parallel to an edge of one of said members, and an independent unwoven thread of fibrous material of small diameter embedded in said layer of cement throughout the length of said cement layer and lying in said cement in a wavy path such that the path of the thread periodically approximately parallels the warp of one member and periodically approximately parallels the warp of said one member, the amount of said independent thread material embedded in said cement being insufficient to add any appreciable strength to the fabric.

JACOB MARCUS.

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