July 31, 1956 R. RICK ET AL 2,756,434

NOVEL PATTERN

Filed June 2, 1953 2 Sheets-Sheet 1

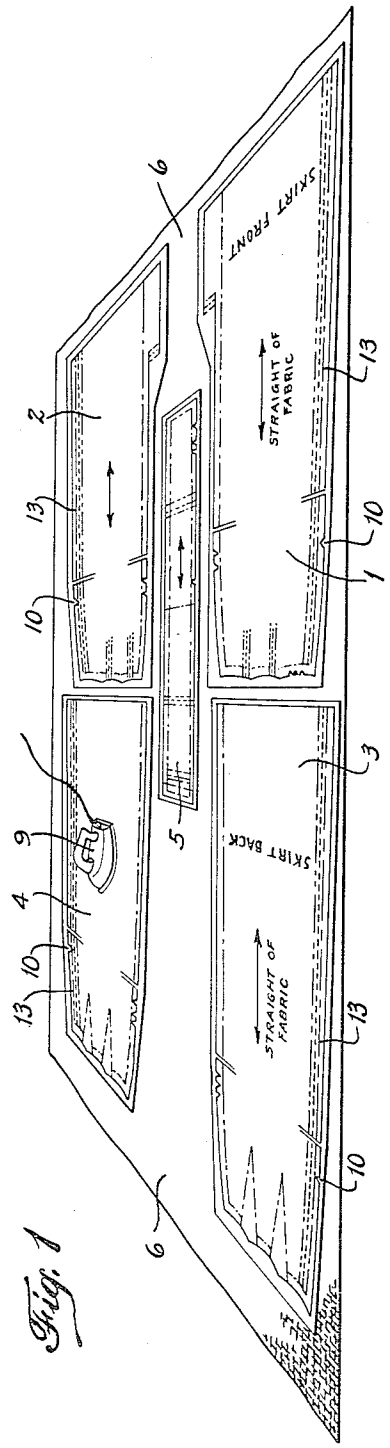


Fig. 1

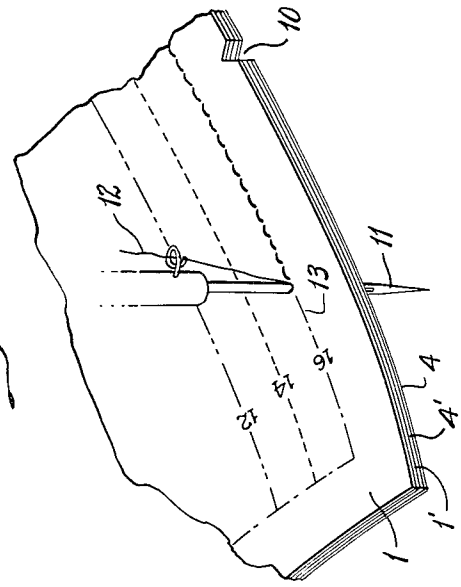


Fig. 3

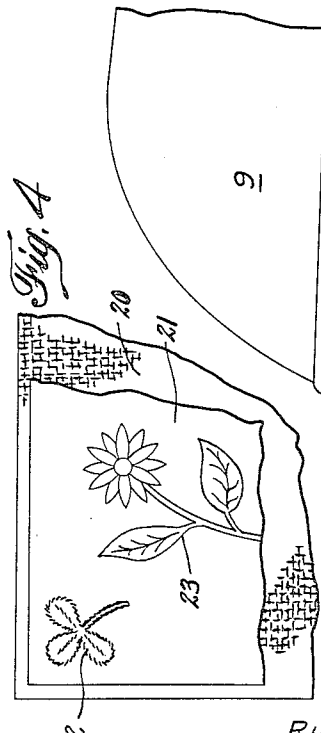


Fig. 4



Fig. 2

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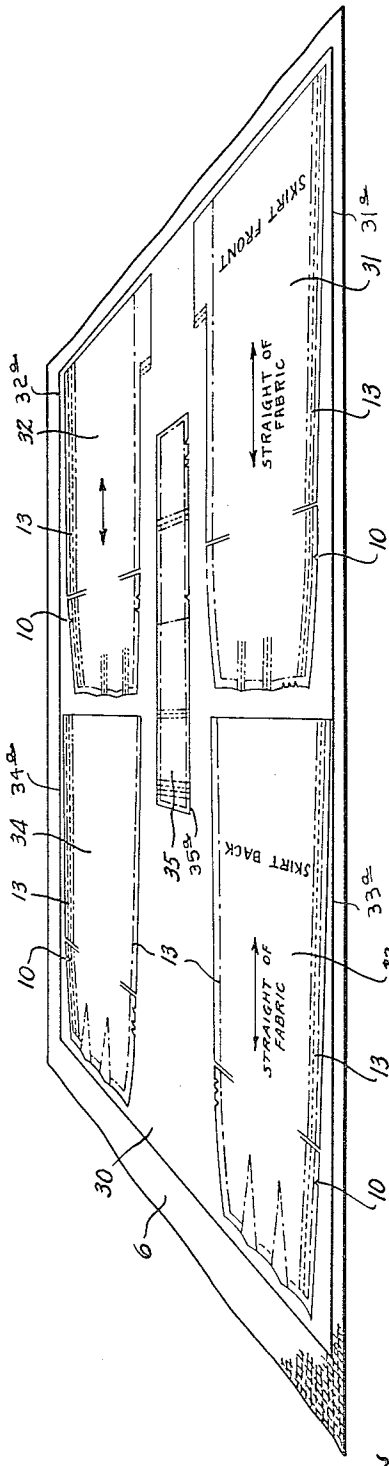


Fig. 5

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NOVEL PATTERN

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9 Claims. (Cl. 2—243)

The present invention relates to a novel pattern adapted to be used in the manufacturing of garments, or the like, and also in the embroidery of decorative designs on a fabric or garment.

Objects and advantages of the invention will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice with the invention, the same being realized and attained by means of the instrumentalities, process, steps and combinations pointed out in the appended claims.

The invention consists in the novel steps, parts, constructions, arrangements, processes, combinations and improvements herein shown and described.

An object of my invention is to provide a novel pattern which may be temporarily bonded to a fabric upon the application of heat for the manufacture of garments or the like, said pattern having marked thereon suitable indicia, such as cutting lines and sewing lines, etc. to guide a user in producing a component piece or component pieces of a garment and to guide him in joining component fabric pieces to form the garment, said pattern or portions thereof adapted to be readily stripped from its attached fabric piece after the formation of the garment.

Another object of my invention is to provide a novel pattern which may be temporarily bonded to a fabric or garment for the production of a decorative design on said fabric or garment, said pattern having marked thereon suitable indicia to guide the user in moving a threaded needle to produce the decorative design, said pattern being readily removable from said fabric or garment after the formation of said design.

Another object of my invention is to provide a novel pattern which may be temporarily bonded to a fabric with a bond which permits a threaded needle to readily slide therethrough during a sewing operation, and without imparting any gummy or sticky character to the thread or bobbin.

Another object of my invention is to provide a novel pattern which may be temporarily bonded to a fabric, said pattern having suitable spaced indicia to guide the user in producing all component parts of a garment by using said pattern so as to eliminate the requirement of a separate pattern for each component piece.

A still further object of my invention is to provide novel methods for producing component fabric pieces and for assembling them to form a garment or the like.

Another object of my invention is to provide a novel method for embroidering a decorative design on a fabric or garment.

The accompanying drawings, referred to herein, and constituting a part hereof, illustrate one embodiment of the invention, and together with the description, serve to explain the principles of the invention.

Fig. 1 illustrates the use of five patterns of the present invention having suitable indicia marked on the top surface of the pattern paper, said patterns being placed on a length of fabric and being fixed thereto by a warm iron.

In this illustration, a separate pattern is used in cutting out each component part of a garment.

Fig. 2 is an enlarged or exaggerated section through a fabric with a pattern on top and a warm iron converting the thermoplastic resin undersurface of the pattern into an adhesive layer to temporarily join together the fabric and pattern.

Fig. 3 shows a portion of two cut-out fabric pieces with their attached patterns being joined together along the size 16 sewing line by a threaded sewing machine needle.

Fig. 4 is a plan view of a fabric having a pattern attached thereto; said pattern having decorative design indicia marked on its top surface with an embroidery decorative design having already been embroidered on one of said design indicia.

Fig. 5 illustrates the use of my novel pattern wherein suitable spaced indicia are marked on a single piece of paper to act as a guide for the user in producing all of the component fabric pieces by the use of a single pattern in contrast to the illustration of Fig. 1 wherein a separate pattern is used for each component piece.

For clarity, the following are given as definitions of the terms used herein:

The term "fabric" shall include any form of cloth, leather, straw sheets or any other sheet-like materials used in the manufacture of garments hereinafter defined.

The term "garment" as herein defined shall collectively include clothing for both sexes; accessories, such as gloves, scarfs, hats etc.; furniture covering; stuffed animals; household furnishings, such as drapes, pillows etc.; and in general any article which is made of, or covered with, a plurality of pieces of fabric sewed together.

The term "piece" shall mean any portion of fabric cut out or intended to be cut out to constitute a component part of a garment to be sewed.

The term "indicia" shall mean any guide lines, instructions, or any other markings on the pattern to indicate the manner in which a fabric and its attached pattern or pattern portion are to be cut, registered and assembled together with other fabric pieces and attached patterns or pattern portions. This term also includes decorative design markings, which are to be guides for effectuating embroidered decorative designs on fabrics or garments.

The term "sewing" shall include hand stitching with needle and thread or machine stitching with needle and thread.

The term "embroidery" shall include both hand and machine embroidery with needle and thread or yarn.

In general, my novel pattern comprises a paper having appropriate indicia marked on its top surface and a coating of thermoplastic and heat sealable material on its undersurface, said thermoplastic material becoming adhesive in nature on application of heat. Accordingly, the pattern of the present invention may be easily attached to a fabric or garment by placing the pattern on a fabric or garment with the underside of the pattern in contact with the fabric or garment and causing the coating to become adhesive in nature upon application of heat such as by pressing a warm iron over the top of the pattern, whereupon the pattern becomes temporarily bonded to the fabric or garment.

Two different modifications of my pattern may be used in the art of manufacturing garments or the like. In one modification, the pattern has marked thereon suitable indicia such as cutting lines for producing one component part of a garment as well as other suitable indicia such as sewing lines and other instructions to guide the user in joining the attached component fabric piece to other component fabric pieces. Thus, in producing a garment, a plurality of such patterns are employed for producing an equal number of component fabric pieces

as illustrated in Fig. 1. The bonding of each pattern to the fabric in a manner as hereinbefore described, gives the fabric a hand which facilitates forming operations. By cutting a pattern and attached fabric along the appropriate cutting line, the desired fabric piece may be obtained. The fabric pieces, including their respective attached patterns, are then sewed together along appropriate sewing lines to form the garment. The patterns are then stripped from their respective fabric pieces. It should be understood that tiny portions of each pattern underlying the respective threads may remain fixed to the fabric and are held thereto by the threads, the remainder of the pattern being stripped from its respective fabric pieces.

As an alternative for using a separate pattern for each component part, a pattern may be used wherein suitably spaced indicia for each component part are marked on a single piece of pattern paper as illustrated in Fig. 5. The indicia for the component pieces must be arranged so that the fabric will be cut appropriately with respect to the grain for each component part. In using such a pattern, the pattern is temporarily bonded to the fabric as in the previous case and then the fabric is cut along the appropriate cutting lines for each component piece until all of the component fabric pieces are formed. The component fabric pieces are then joined in a manner described hereinbefore. In the present case, each component fabric piece will not have attached to it a separate pattern, but will have attached a corresponding pattern portion, since the pattern has been divided into pattern portions attached to their respective component fabric pieces. Whether individual patterns for each component part or whether a single pattern having indicia for more than one component part should be used will depend upon the circumstances in each case. If the dimensions of a fabric are such that a single pattern having all component indicia can not be fitted on the pattern then obviously individual patterns for each component part may be used.

On the other hand, if the dimesions of a fabric are such that a single pattern may be used there are decided advantages in using it. First of all, the manufacturer of the pattern does not have to manufacture a plurality of component patterns. This lessens his manufacturing cost because it eliminates cutting out and folding a plurality of patterns. Secondly, the user does not have to bother assembling the individual patterns in their appropriate positions on the fabric in forming the component fabric pieces. There is also the danger that one of the individual patterns may be lost before it can be used which necessitates the repurchase of an entire pattern assembly.

My novel pattern is also useful in embroidering decorative designs on a fabric or garment. In this case, the pattern is temporarily bonded to a fabric or garment in the same manner as previously described. The pattern indicia is a decorative design marked on the pattern which guides the user in moving a threaded needle along the lines of the decorative design indicia to produce the embroidered design. After the embroidered decorative design has been produced, the pattern is stripped from the fabric or garment.

Any suitable paper or film may be used in forming my novel pattern. Preferably, the material that is used should be sufficiently thin to facilitate the cutting operation when the pattern is used in the art of manufacturing garments and should be sufficiently flexible to facilitate sewing operations in making garments and embroidery operations in the production of embroidered decorative designs on fabrics or garments.

Any suitable thermoplastic and heat sealable material which becomes adhesive but wax-like in nature upon the application of heat may be used as the coating material on the undersurface of the pattern paper. A lubricous, heat-sealable material of this type will not hinder sewing or embroidery operations, but on the contrary, facilitates

such operations because it functions as a lubricant for the sliding of the needle during such operations. Such materials are also important because they do not impart any gummy or sticky character to the thread or bobbin, whereas with starch base or other sticky adhesives the thread and bobbin become gummed up and do not function properly. The thermoplastic bonding material may be coated on the paper by any conventional coating operation such as by extrusion. Preferably, the thermoplastic coating covers the entire undersurface of the pattern paper in a continuous manner. It is not necessary that the entire undersurface of the paper be covered, however, since the material may be discontinuous in the form of spot placed at strategic positions such as the four corners and middle portion; in the form of continuous parallel strips, etc., and various other modifications.

The preferred bonding materials of the present invention are those of the polyethylene series, as exemplified by DuPont's "Alatnon." Other suitable thermoplastic materials are those of the polyvinyl chloride type such as "polyvinyl acetate AYAA," manufactured by Bakelite Division of Carbide and Carbon Corp.; polyvinylidene chloride polymers, such as "Saran," manufactured by Dow Chemical Company; copolymers of vinyl chloridevinyl acetate, such as "VYHH," manufactured by Bakelite Division of Carbide and Carbon Corp.; polyvinyl acetals, such as "polyvinyl butyral XYSG," manufactured by Bakelite Division of Carbide and Carbon Corp.; rubber polymers, such as "Vistanex," manufactured by Advance Solvents & Chemicals Corp.; and "Pliolite," manufactured by Goodyear Rubber Co.; cellulose derivatives, such as ethyl cellulose, manufactured by Hercules Powder Co.; and waxy substances such as microcrystalline wax 1005, manufactured by Socony-Vacuum Oil Co.

In order to illustrate the invention more specifically, reference is now made to Figs. 1–5 of the drawings. As shown in Fig. 1, patterns **1**—**5**, illustrating typical patterns of the present invention, wherein individual patterns are used for each component fabric piece, are shown attached to fabric **6**. A cross-section of a typical pattern, such as pattern **4**, is shown in Fig. 2, said pattern comprising paper **7** having coated on its undersurface a polyethylene thermoplastic resin forming a continuous coating **8**, said coating **8** having been extruded on said paper by the conventional extrusion method. The patterns **1**—**5** are bonded to the fabric by applying heat to said pattern pieces by means of iron **9** in a manner shown in Fig. 2. The warm iron **9** is moved over the pattern piece **1**, whose undersurface is provided with the coating **8** in contact with the upper surface of the fabric **1**. The coating **8** is shown in full line before it is subjected to heat and in dotted lines after it is heated to an adhesive state.

As shown in Fig. 1, the patterns are provided with conventional cutting and sewing lines. After the patterns have been adhered to the fabric the fabric along with its attached pattern is cut along the cutting lines indicated on each pattern.

In order to illustrate the sewing together of two cut-out pieces of fabric **1'** and **4'**, along with their attached patterns **1** and **4**, reference is now made to Fig. 3. The cut-out fabric pieces **1'** and **4'** are so arranged that these pieces form the intermediate layers, and the patterns **1** and **4** form the top and bottom layers. A cut-out guide mark **10** is used in each of the cut-out fabric pieces and patterns to provide a proper alignment of said cut-out fabric portions. The fabric pieces are then sewed by needle **11** and thread **12** along side **16** sewing line **13**, indicated on the top surface of pattern **1**. After the fabric pieces have been sewed together, the patterns are merely stripped from their respective fabric pieces by hand.

Advantageously, the novel patterns of the present invention are simple in construction and are highly efficient to use. The forming operations are greatly facilitated, and by use of the patterns of the present invention an

amateur at making clothes can produce garments which resemble those made by a professional.

It should be realized that any other indicia which would be helpful to the users may be printed on the patterns of the present invention. Hence, instructions, illustrations, etc. as to what pieces should be consecutively joined may be printed on the pattern as well as any other pertinent information.

Referring now to Fig. 4, a fabric **20** has attached thereto a pattern **21**. The pattern **21** is provided with two decorative design indicia marked thereon, one of said design indicia being hidden by the decorative design **22** which has been embroidered along the decorative indicia. Decorative design indicia **23** can be readily seen as it has not yet been utilized in making an embroidered design.

In Fig. 5, there is illustrated a pattern **30** attached to fabric **6** wherein the pattern is provided with suitably spaced indicia forming pattern portions **31, 32, 33, 34** and **35** to act as a guide for the user in producing all of the component fabric pieces by the use of said single pattern **30**. Accordingly, border lines **31***a*—**35***a* of pattern portions **31**—**35** act as cutting lines to guide the operator in cutting the fabric, said border portions being provided with appropriate sewing lines for sewing together the component pieces and attached pattern portions in a manner hereinbefore described.

The invention in its broader aspects is not limited to the specific steps, parts, constructions, arrangements, processes, combinations and improvements herein shown and described.

We claim:

1. A paper pattern, adapted to be temporarily bonded to a fabric and to readily permit the passage of a needle and thread therethrough while bonded to said fabric in manufacture of a garment or in embroidery of a decorative design on said fabric, comprising a thin, flexible paper having appropriate indicia, including sewing indicia, marked on its top surface and having on the under surface a lubricous, thermoplastic, heat-sealable resin which is non-adhesive in nature at normal room temperature, and which becomes plastic and adhesive in nature on the application of heat, whereby said pattern may be temporarily bonded to a fabric, said resin remaining lubricous after the application of heat to permit and facilitate the passage of a needle and thread therethrough while said pattern is bonded to a fabric, said resin being selected from the group consisting of polyethylene polymers, polyvinyl chloride polymers, polyvinylidene chloride polymers, copolymers of vinyl chloride-vinyl acetate, polyvinyl acetal polymers, rubber polymers, cellulose polymers and hydrocarbon waxes.

2. A paper pattern in accordance with claim 1, wherein the lubricous resin is in the form of a continuous coating.

3. A paper pattern in accordance with claim 1, wherein the thermoplastic resin is a polyethylene polymer.

4. A paper pattern in accordance with claim 1, wherein the thermoplastic resin is a polyvinyl chloride polymer.

5. A paper pattern in accordance with claim 1, wherein the thermoplastic resin is a polyvinylidene chloride polymer.

6. A paper pattern in accordance with claim 1, wherein the thermoplastic resin is a copolymer of vinyl chloride and vinyl acetate.

7. A paper pattern in accordance with claim 1, wherein the thermoplastic resin is a polyvinyl acetal polymer.

8. A method for the manufacture of garments or the like, comprising temporarily bonding to a fabric by heat a pattern, said pattern having on its top surface appropriate pattern indicia, including cutting and securing lines, by which all of the component pieces of a garment may be produced, and having on its undersurface, beneath the cutting and securing lines, a lubricous thermoplastic resin which is non-adhesive in nature at normal room temperature and which becomes adhesive in nature but remains lubricous after heating, performing cutting and securing operations using said pattern indicia as a guide to form a garment and thereafter removing said pattern from the formed garment.

9. A method in accordance with claim 8, wherein the securing lines comprise sewing lines.

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