

July 17, 1973

A. CAROLI ET AL

3,746,602

DISC-LIKE PLATELET FABRIC

Filed June 10, 1971

2 Sheets-Sheet 1

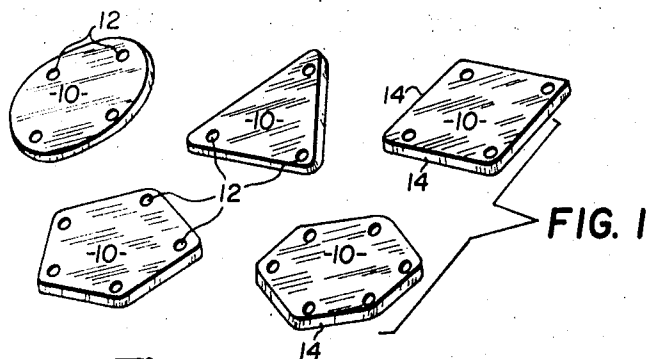


FIG. 2

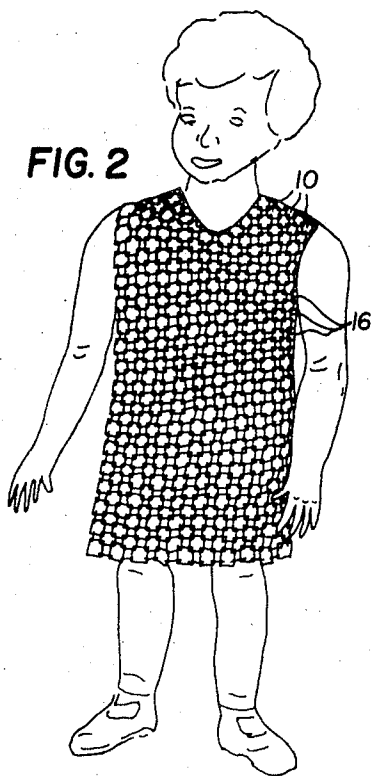


FIG. 3



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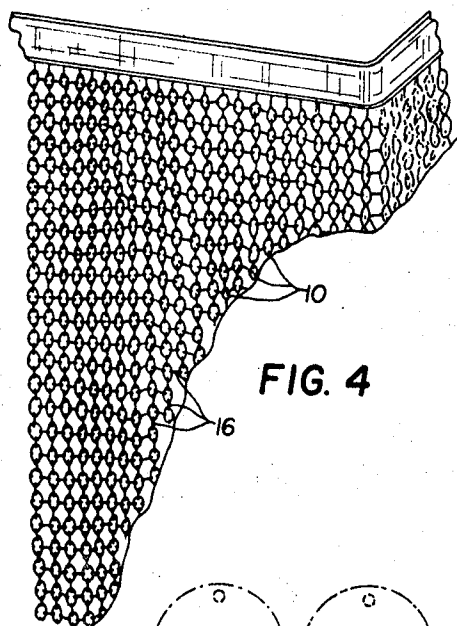


FIG. 4

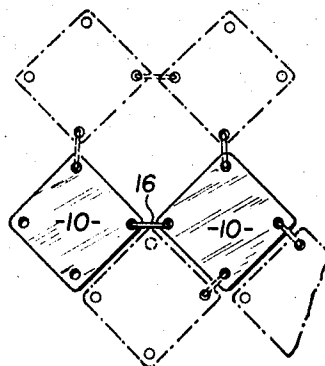


FIG. 5

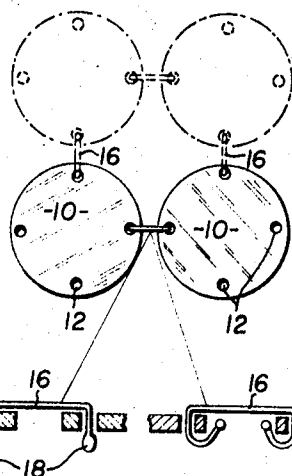
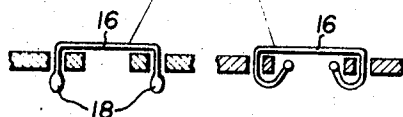


FIG. 8

FIG. 6



FIG. 7



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DISC-LIKE PLATELET FABRIC

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5 Claims

ABSTRACT OF THE DISCLOSURE

A fabric is described that can be used for decorative curtains or wall hangings, clothing for children and dolls, and the like. The fabric is formed by releasably coupling together a multiplicity of platelets and are preferably of a laminated plastic having some regular geometric shape. Each platelet is perforated adjacent its periphery to enable connecting links to be inserted therethrough for releasably joining the platelets together to form the fabric. These connecting links are also preferably of plastic and usually have an enlarged end section which can be resiliently deformable to allow passage of the same through the perforations in the platelet and thus connect the platelets releasably together. Such connecting links allow easy and rapid repairs to be made to broken or damaged platelets, as well as enabling various patterns to be designed into the fabric by rearranging the platelets according to shape and colouring.

This invention relates generally to fabrics and in particular to fabrics of the type which can be used for decorative wall hangings, curtains having common or unusual uses, for making articles of clothing for children or dolls, and the like. The fabric to be described below is made up from modules in the form of discs or platelets that are releasably coupled together.

BACKGROUND OF THE INVENTION

Various types of fabric are known today, being useful for a wide variety of applications. Fabrics that are used for special-effect curtains in many public places, for example, are made from chain-like strands of metal, coils of wire, and so on. Other more conventional fabrics made from materials commonly used in the textile trade can be made by different types of weaving, different types of material and by using different colours. These fabrics tend, however, to suffer from one common problem. They are difficult to repair easily and in the event that a change in colour or pattern is desired, it can often be extremely difficult if not entirely impossible to make such a change in a manner that is satisfactory to most people. A person would not, for instance, be inclined to unravel or take apart a curtain or article of clothing woven from a conventional textile yarn simply because a different weave pattern or colour scheme was wanted. Similarly, to attempt to unravel a special-effect curtain or a fireplace screen, for example, that is sometimes made from interconnected coils of wire would virtually never be attempted by a homeowner or apartment dweller.

It will also be recognized that where special-effect curtains are used on apartment balconies and terraces for privacy; providing shade from the sun, or the like, such curtains are prone to discolouring and deterioration due to corrosive elements in the atmosphere. This discolouring is frequently caused by ultraviolet light derived from sunlight.

Additional difficulties can often arise if the surroundings are of a slightly irregular shape, or larger or smaller than the fabric or curtain material originally planned for use in that location. Such a problem is accentuated whenever a person moves from one home to another and wishes to keep the same curtains, for instance, for reuse. For all practical purposes it is usually impossible to find a new

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cloth which has the same colour and consistency as the fabric already being used and hence in those instances when the area to be "covered" is larger in a new place, it becomes extremely difficult to reuse the old fabric.

It will further be recognized that where children's clothing or doll's clothing is involved, the children sometimes amuse themselves by creating articles of clothing of their own shape and design. The use of scissors, needles and pins, or the like, is at best dangerous for young children and hence the inability to change the colouring or pattern is a significant deterrent to the creative efforts of the child. This is especially so when various fabrics are joined together, say by gluing or some other technique which does not allow for the easy and quick replacement or repair of parts of the fabric, when and where desired.

SUMMARY OF THE INVENTION

In contrast to the foregoing, the present invention provides an improved fabric material which overcomes any of the problems and deficiencies just mentioned. Contrary to prior art arrangements, the present invention provides a fabric which can readily be altered to provide a wide variety of patterns, colour schemes, shapes and sizes for the area to be covered, and so on. The improved fabric to be described below utilizes modular units in the form of discs or platelets of any desired shape and in a wide variety of colours. These platelets or discs are releasably coupled together to form a fabric which has a selected pattern incorporated therein either by virtue of using platelets of different shapes and/or colours joined together in a preselected format. The platelets are coupled together for easy removal or separation of individual platelets by means of connecting links, that are preferably in the form of U-shaped bars which usually have an enlarged end section. Each platelet is provided with apertures or perforations which are of a size to allow passage of the enlarged portions through the same, thus permitting the platelets or discs to be releasably coupled together. It will be recognized that especially when children are attempting to make up articles of clothing either for themselves or for dolls, for instance, a fabric made up from platelets that are releasably coupled together will have particular appeal. The children can satisfy their creative inclinations by simply replacing platelets at will by uncoupling those platelets which they seek to change and substitute other platelets instead.

There is accordingly provided a fabric for use as a curtain panel, wall hanging, wearing apparel or the like comprising in combination a multiplicity of disc-like platelets of any one of a variety of geometric shapes, said platelets being of a laminated plastic; a plurality of perforations provided in each of the platelets at a position adjacent the periphery of the same; and connecting linking elements in the form of bars, said bars having two enlarged end portions that are resiliently deformable to enable passage of the same through said perforations, thereby releasably interconnecting the platelets together to form said fabric.

There is also provided a method of manufacturing a fabric that is adapted for use in garments and wearing apparel, decorative curtain panels and the like, characterized in that there is provided a multiplicity of disc-like platelets, said platelets having perforations therein; inserting connecting linking elements through said perforations in the platelets for releasably joining the same together; and joining together the platelets to form the fabric to a selected format.

It is therefore an object of this invention to provide a fabric which can be altered or repaired very easily and in a manner not possible using prior art constructions.

It is also an object herein to provide a method of producing such an improved fabric, especially for use in

applications where pattern or colour changes are frequently desirable.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects and features of this invention will become apparent from the detailed description below, especially when read in conjunction with the accompanying, illustrative drawings. In those drawings:

FIG. 1 is a perspective view showing schematically platelets or discs of various shapes intended for use in the fabric described herein;

FIGS. 2, 3 and 4 illustrate schematically different applications for a fabric manufactured from the platelets of FIG. 1;

FIGS. 5 and 6 illustrate schematically two patterns that would be formed by joining together square or circular platelets of the type to be described herein; and,

FIGS. 7 and 8 are side elevation views showing schematically two types of connecting links which can be used to releasably couple together a series of the platelets shown in FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Turning now to the drawings, FIG. 1 shows a variety of modular units in the form of discs or platelets 10 each having a plurality of apertures 12 provided therein. The platelets or discs 10 can be any one of the regular geometric shapes shown in FIG. 1, or alternatively, any other geometric shape that might be desired. Shapes that are of a regular geometric form would be preferred especially from a manufacturer's point of view since they would be easier and cheaper to produce. The discs or platelets 10 can be made from a variety of materials. Steel or aluminum metal coated with an enamel that has been baked thereon can be used in some instances. On the other hand, the platelets 10 could be manufactured from a wide variety of polymeric matrix materials which are well known in the plastics art. Depending upon the intended use of the fabric ultimately to be made from the platelets 10, the polymeric matrix material could have a variety of additives incorporated therein. Such additives could be for purposes of colour, opacity to light, for providing special qualities of strength and stability, for preventing atmospheric corrosion or deterioration due to ultraviolet light or oxidizing agents in the atmosphere, or the like. It will also be preferable to use a non-toxic material to make up platelets 10 that are intended for use by children in making fabrics for articles of clothing either for themselves or for dolls or the like. Colouring can be the same or different on opposite sides of each platelet.

Each of the platelets 10 has a peripheral side edge shown at 14. The apertures 12 are located on each of the platelets 10 generally adjacent the edge 14 so as to enable a multiplicity of the platelets to be coupled together, for example, in any one of the forms illustrated schematically in FIGS. 2, 3 or 4. Many other variations in the application of the fabric made up from such platelets 10 will become apparent to the reader.

The platelets 10 can be releasably coupled together in the manner suggested in FIGS. 5 and 6. There, it will be seen that a connecting link 16 extends through one of the apertures 12 in the platelets 10 to releasably secure such platelets together. Two types of connecting means are shown in FIGS. 7 and 8. In FIG. 7, the linking element or bar 16 is initially U-shaped with an enlarged end portion 18 being provided on the free ends of the arms of the U. These enlarged end portions 18 may be resiliently deformable and preferably have a maximum cross-sectional area that is equal to the area of the perforations 12. It will be seen from FIG. 7 that platelets 10 can be coupled together by inserting the enlarged end portions 18 through the perforations 12 and if desired in some instances, bending such ends over to secure the platelets together more

firmly. In that latter instance, the linking element 16 will of course have to be of a bendable or flexible material. These elements or bars 16 are preferably made of a plastic. In coupling various platelets 10 together, it is usual to insert an enlarged end portion 18 of each linking element 16 through perforations 12 by applying a force or pressure that is coaxial with the perforations 12. After passage of the enlarged end portion 18 through perforations 12, the former can be bent over.

It will also be apparent that the linking element 16 can still be U-shaped but not provided with the enlarged end portions 18. Such an arrangement is shown in FIG. 8 where it is also to be noted the free ends of the U have been bent over to securely couple two platelets 10 together.

It will be apparent from the foregoing description that numerous platelets 10 that are of any selected pattern as regards colour, shape or material can readily be joined together quickly and with a minimum of effort. Indeed, repairs, variations in the pattern design, alterations in the shape of the area being covered by the fabric made up from platelets 10, or the like, can be effected in a manner which can satisfy the creative tendencies of a child or even an older person. Hence, it will be appreciated that use of the fabric made up from interconnecting a multiplicity of platelets 10 together in the form of particles of clothing for, say, young children or dolls will have considerable appeal to children. Even more importantly, the changes and modifications mentioned above can be easily effected even by a young child and without the necessity of scissors, pins and the like being provided for the child. Accordingly, the fabrics and cloths obtained by utilizing different modular elements such as the platelets 10 can readily be accomplished merely by providing hooking or linking elements such as the bars 16 which are inserted through the perforations 12, and if necessary, suitably bent back. The ends of these bars 16 can be bent by exerting manual pressure. It is therefore possible to link or join together numerous platelets 10 in such a way as, for instance, to form a garment or article of clothing endowed with a shape corresponding to the body of the person or doll that is intended to wear it. Due to the elasticity, bendability, or resiliently deformable nature of the material from which the connecting elements 16 are made, individual platelets 10 can be quickly and easily uncoupled and again connected together so as to form a fabric or article of clothing having a different shape or pattern. This operation can of course be carried out an indefinite number of times. Moreover, it is important to note that accidental disengagement of individual platelets is virtually impossible.

The foregoing has described some preferred embodiments of the invention set forth herein. It will be apparent that numerous modifications will be envisaged by the reader. All such modifications as will be obvious to those skilled in this art are contemplated to be encompassed by the spirit of this invention as defined by the claims below.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A fabric comprising

a multiplicity of disc-like platelets, being of a selected geometric shape having a plurality of apertures provided in each platelet adjacent the periphery thereof; and

connecting linking elements linking said platelets together and releasably separable from the platelets to form the fabric the linking elements each being in the form of a bar having two enlarged end portions releasably engaged through said apertures, the enlarged end portions having a maximum cross-sectional area approximately equal to the area of said apertures and being resiliently deformable to enable passage through said apertures, the linking elements

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being bendable to cause said platelets to be connected together substantially in a common plane.

2. The fabric of claim 1, wherein said bars are made of a plastic and are U-shaped, said enlarged end portions being at the free end of each of the arms of the U.

3. The fabric of claim 1, wherein each enlarged end portion has a maximum cross-sectional area that is equal to the area of each of the perforations provided in said platelets.

4. The combination of claim 1, wherein each of said platelets is made of a metal having a coloured coating baked thereon resistant to corrosion caused by atmospheric conditions.

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5. The combination of claim 1, wherein the platelets are each made of a non-toxic plastic material opaque to sunlight.

References Cited

UNITED STATES PATENTS

1,021,804	4/1912	Schneider	-----	2-2.5
3,662,404	5/1972	Schinker	-----	2-243 R

WILLIAM J. VAN BALEN, Primary Examiner

U.S. Cl. X.R.

161-42; 2-51, 74, 75, 243 R