July 10, 1962 V. L. SAWYER 3,042,931

FOUL WEATHER OUTER CAPE

Filed Dec. 9, 1958 2 Sheets-Sheet 1

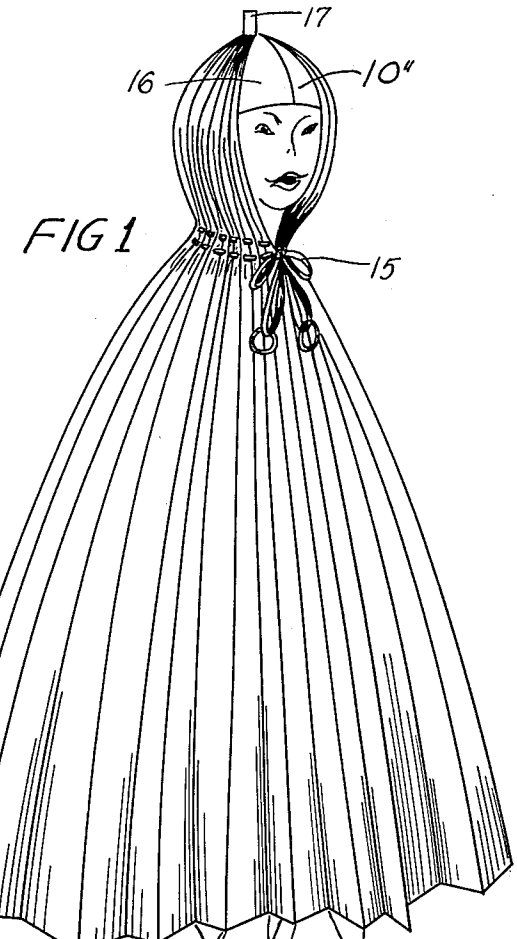


FIG 1

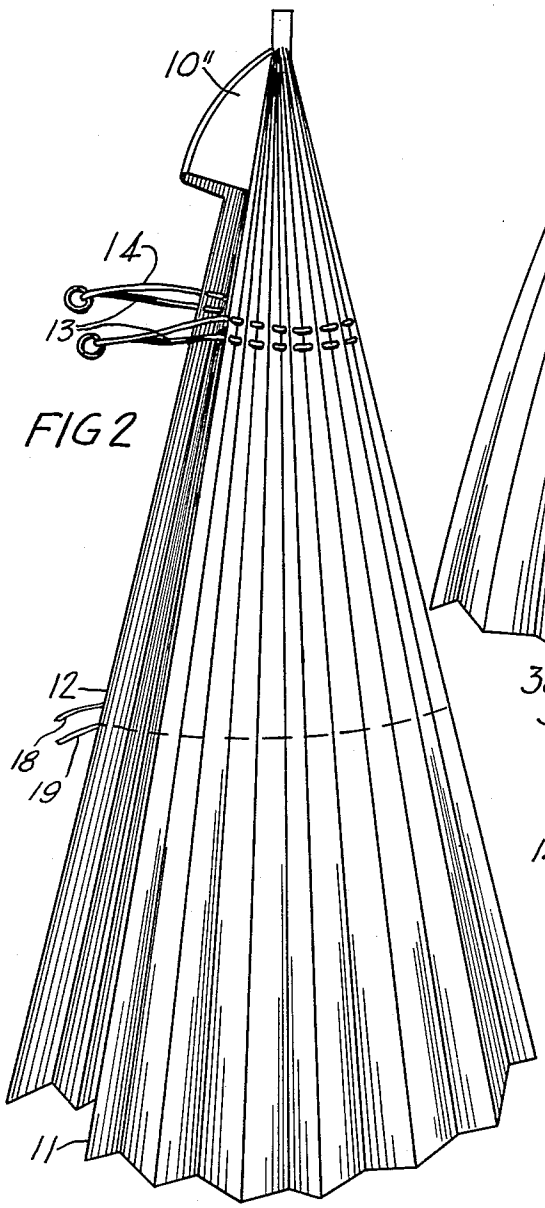


FIG 2

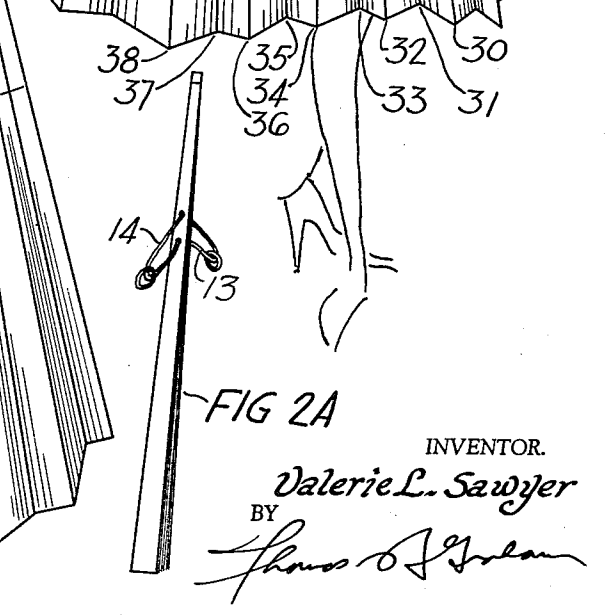


FIG 2A

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FOUL WEATHER OUTER CAPE

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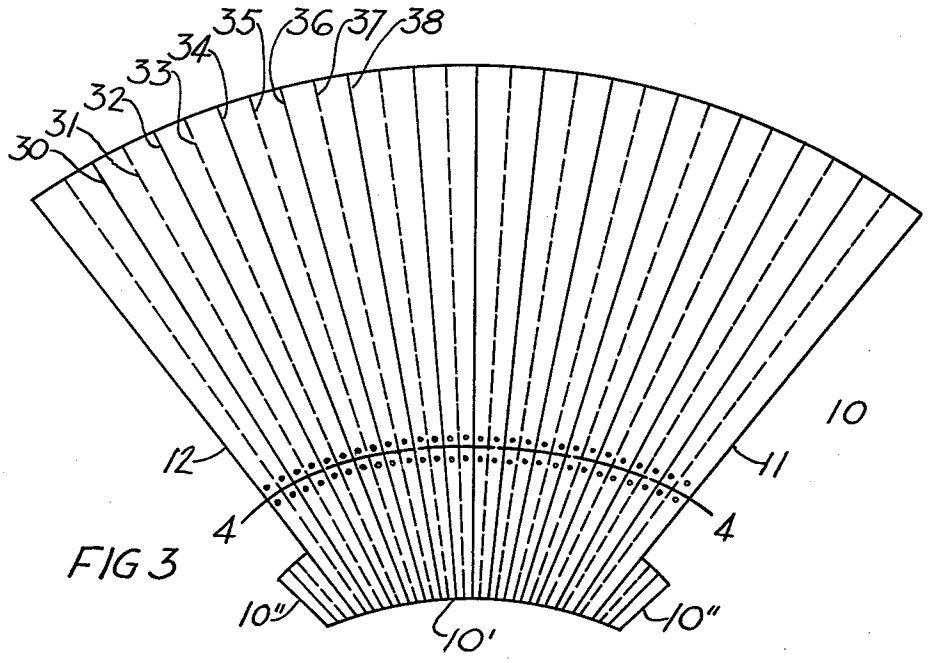


FIG 3

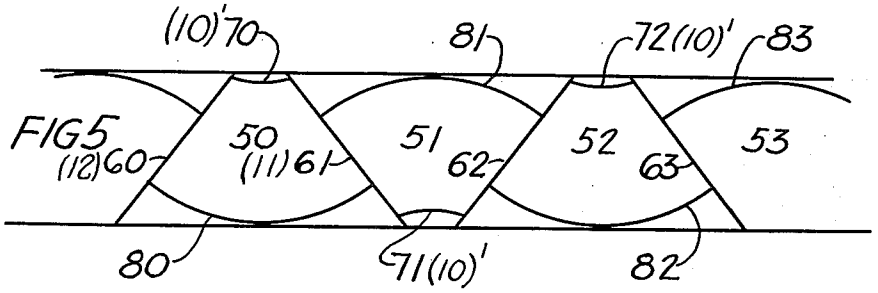


FIG5

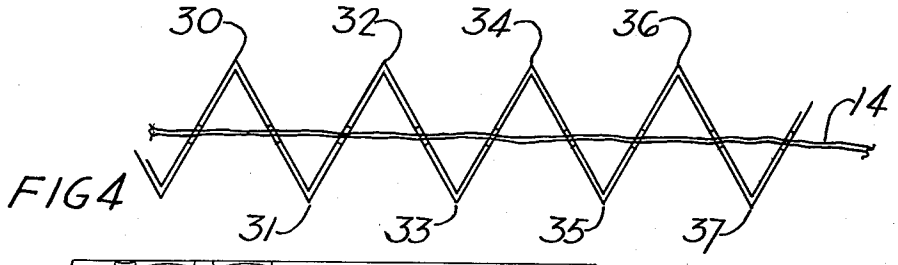


FIG4

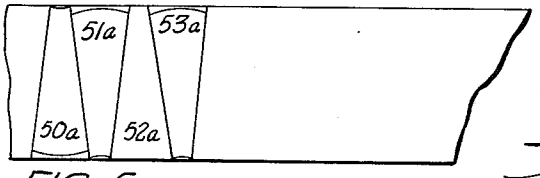


FIG. 5a

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FOUL WEATHER OUTER CAPE

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4 Claims. (Cl. 2—88)

This invention relates to a garment and in particular to a cape suitable for use as a rain cape by ladies, and is characterized by its having a simple unitary form which adapts itself neatly to economical manufacture, particularly from such materials as plastic sheets.

Women generally have difficulty maintaining the desired personal appearance in rainy weather, simply because contact of any part of the outfit with the weather is likely to spoil the effect sought. This applies from the head to the shoes. Furthermore, women are extremely reluctant in foul weather to adopt the use of serviceable rain clothing of more or less conventional material. It is, accordingly, a fundamental object of this invention to provide a garment suitable for use by women, but use by men would also be appropriate, which is characterized by the fact that it is attractive, neat, unitary in form, and made of a light gauge plastic sheet material which will shed rain and yet is light enough to permit folding the garment into a quite small package suitable for storing in a compartment of a purse.

It is another object of the invention to provide the garment in a plaited form arranged to be easily folded into a complete package.

Other objects and features of the invention will in part be obvious and in part appear hereinafter.

The invention, accordingly, is embodied in a garment preferably formed from sheet plastic material of a thermo plastic nature, of thin gauge, which garment when projected and laid out as a flat sheet of material may be defined by a circle of the plastic material, or a sheet covering a substantial sector of a circle as it is not necessary to encompass the entire 360°. The garment is further characterized by its having a sequence of pleats radially arranged in orderly fashion, the pleats being strung together by means of at least a cord which permits gathering the pleats and re-gathering them readily in a reproducible pattern. The garment is further characterized by its having at the central point of the basic sector a structure suitable for serving as a hood, the remainder of the garment flaring out to a substantially complete circle, thereby forming a loose fitting cape over the form a woman, who might be using it.

The invention, therefore, is embodied in the garment having the features, structures, combination of elements and arrangement of parts as indicated, and more fully to be described hereinafter, as well as the method of fabricating the garment, which comprises, the steps of laying it out, cutting and assembling the material.

Referring now to the drawings, FIGURE 1 illustrates the completed garment as it would appear on a model;

FIGURE 2 illustrates the completed garment, as it appears when it is shaken partly open;

FIGURE 2*a* is a sketch of the garment with its pleats completely folded, ready for storage;

FIGURE 3 represents a planar projection of the garment to illustrate the typical form developed which, for purposes of this embodiment, is shown to be a substantial sector of a circle;

FIGURE 4 is a section along the arc 4—4 in FIGURE 2 to show the arrangement of tie cord in the garment as related to the pleats;

FIGURE 5 is a diagrammatic layout of a plan in which a large sheet of the plastic is cut into elementary form for assembly into the garment.

FIGURE 5*a* is a modified showing of the layout of FIGURE 5.

Referring now to FIGURE 1, **10** represents the garment as it would be worn by a user wherein **11** and **12**, respectively, represent front opening edges along the radii defining the sector making the garment. A draw-string, in this instance a double draw-string consisting of cords or tapes **13** and **14**, is shown drawn lightly around the neck of the wearer to form a bow **15**. At the center of the sector, or top of the garment in the sector defined by edges **11** and **12**, there is placed an additional sector **16** of material having a shape to fit the general planar configuration of the entire garment, the whole being brought together, for example, in an ornamental peak **17**.

In FIGURE 2 the same parts are shown carrying the same numbers and it will be apparent that the garment has a single unitary form and may be considered to be formed of a large number of radial pleats extending from the center of the sheet of plastic material out to the circumference of the total sheet, with no provision made for shaping the garment to any particular contour. If desired, a second draw-string or set of draw-strings may be placed in the garment at approximately waist height, as indicated by dotted lines **18** and **19** in FIGURE 2, thereby effectively to have a flare effect extending from the waist of the wearer.

Details of the construction of the garment are shown in FIGURES 3 and 4.

In FIGURE 3 the planar projection shows the fabric or garment **10** laid out flat on a surface with the sector defined by edges **11** and **12** which are shown extending to the center **10'** circle of the material. Pleats are defined by radii **30**, **31**, **32**, **33**, **34**, etc., spaced almost arbitrarily at regular intervals to define a uniform sequence. Creases are oppositely oriented at successive segments to define a zigzag effect so that, for example, in the figures, **30** may represent an outside crease and **31** an inside crease with the alternation thus repeated around the total segment. The effect, therefore, is that of an accordion or fan permitting folding of the garment essentially as shown in FIGURES 2 and 2*a*. For convenience in accomplishing this result, the center of the planar sheet of material may be cut out along an arcuate radius as indicated at **10'**, and in the assembly the folds of the pleats are brought together along the considerably smaller circumference **10'**, thereby to make the overall assembly easier. An ornamental piece, for example, a tassel, as indicated at **17**, in FIGURE 1, may be fastened at this point. Hood section **16** is fastened within the angle formed by edges **11** and **12**.

In general use, edges **11** and **12** define an angle corresponding to that shown in FIGURE 3, or if **11** and **12** actually coincide by virtue of the fact that the garment is formed of a complete circle of material, the arc defined by the edge of segment **16** should be approximately 6 inches in length, thus to correspond to the length of arc intercepted along the wearer's forehead to permit clear vision, while obtaining the advantages of full protection of the hair and head.

To complete the fastening of the device and also to assist in wearing it, the draw-strings or draw-cords **13** and **14** are provided. A series of properly spaced openings is placed around the arcuate piece **10** at the appropriate radius. In threading the cords **13** and **14** through the openings thus provided, they are threaded in accordance with the orientation of the particular fold so that the draw-string serves not only to hold the garment approximately shaped around a wearer's head and shoulders, but also serves as a draw guide in aligning the folds of the pleats when the garment is to be worn.

In FIGURE 4 the section taken along the arc 4—4

illustrates the principle of threading the cord through the pleats to permit proper folding and the orientation of the pleats. Therein, it will be seen that where the openings once having been made actual assembly of the device is accomplished by threading the draw-strings through the material as shown.

In FIGURE 5 a planar development is made showing how pieces may be cut from ordinary sheet plastic material economically to provide segments of appropriate shape for assembly into the garment. In general a full circle is not needed; however, it may be used. I have found that the arrangement which defines the angle between edges **11** and **12** of FIGURE 4 at about 60°–90°, is preferable for the purpose. In this fashion sectors large enough to form a cape to be worn by the wearer can be formed. Taking advantage of this fact, FIGURE 5 shows how a planar development of triangles **50**, **51**, **52**, **53**, etc., may be laid out on a plastic sheet of appropriate width. When the triangles are cut along the lines **60**, **61**, **62**, **63**, etc., indicated, trimmed along arcs **70**, **71**, **72**, **73**, etc., and **80**, **81**, **82**, **83**, etc. pieces are obtained suitable for assembly into capes by pleating them along radial lines laid out as indicated in FIGURES 1 and 2.

It is to be understood, that the single triangle is virtually the special case in which the garment may be formed. Smaller triangles using a plurality of sections to approximate a sector large enough to form the cape may be used. By using smaller triangles it becomes possible to cut out straight triangles, to fuse the edges together, and thereby to form the cape from the plurality of triangular segments giving it the ultimate outline and projection of a large many-sided polygon. Of course, the ultimate figure in any case is the sector of a circle, as shown in FIGURE 1. The garment actually can be formed from any number of triangular pieces, it being best for economy of material and simplicity of assembly to balance the number of pieces with efficiency of operation. The layout of a sequence of smaller triangular sections is shown in FIGURE 5*a*, which it will be apparent is a version of the layout shown in FIGURE 5. In forming the garment pieces **50***a*, **51***a*, **52***a* etc., are assembled with the smaller ends together and sealed together.

Suitable materials for use in the fabrication of the device may be any of the conventional sheet plastics which have become popular for formation into sheets or wrapping materials. Thus polyvinyl chloride, copolymers of vinyl chloride and vinyl acetate and other vinyl esters are all perfectly suitable. Similarly, polyethylene sheets, polypropylene sheets, and any of the general lines of materials available in plastic sheet form having a degree of strength suitable for the kind of light use intended and thermoplastic so that the edges can be fused together to form seams, may be used in the fabrication of the garment.

In general, I have found that the garment is preferably formed with **2–3** triangular sections placed edge to edge, with apexes gathered together and when so done, it represents a reasonable balance between economical cutting of the sheet plastic and a good approximation to a circular outline so that the garment when worn as shown in FIGURE 1 has a close approximation to a uniform hem line.

In fabrication of the cape, therefore, sheets of appropriate shape are prepared. Thereafter, pleats are formed in said sheet and it is gathered into a folded unit like that shown in FIGURE 2*a*. Thereupon, the package is punched, preferably at two radially spaced points as indicated in FIGURE 1, cord or tape **13—14** is passed through the holes and assembly thereby completed. The cord **13—14** serves to hold the pleats in alignment and, when

the garment is worn, to gather the garment about the neck of the wearer. In addition, the cord is particularly advantageous in that when the garment is removed it holds the pleats in appropriate relationship to be folded into the compact unit shown in FIGURE 2*a*.

When a cord is also used at the waist level, it too aids in aligning the pleats when the garment is to be folded into the small package.

The top of the garment, formed by gathering the small ends of the pleats, is formed preferably by heat sealing, i.e., application of heat to the gathered folds, using conventional heat sealing technique for plastic film will form the necessary union. A mechanical fastener, such as a staple will also serve the purpose.

In FIGURES 1 and 2 the cap portion **16** of the garment has been referred to as a separate piece. As indicated in FIGURE 3, however, the cutting of the garment by allowing for projections **10″** and **10″** will include enough material to form the cap as shown.

Though the invention has been described with reference to only a rather specific form, it is to be understood that variants thereof may be devised without departing from its spirit or scope.

What is claimed is:

1. A garment formed from sheet waterproof material suitable for use an a rain covering for wear by a person comprising, a section of material generally corresponding in outline to a substantial sector of a circle as a basic sector, the radii defining said basic sector being frontal edges, pleats in the said material extending radially from the center of said circle to the circumference thereof, said pleats being gathered and fastened at a point removed radially from the center of said circle to form a peak for said garment, said frontal edges of said peak forming an angle and carrying therein a sector of material having sufficient length to cover the wearer's forehead, means in the said material at a spaced distance from the center thereof to define a line for gathering said pleats and a tie threaded through said means to permit gathering the said material about the neck of the wearer.

2. A garment as defined in claim 1 in which said means is a sequence of openings arcuately arranged around the said center of said circle, said garment also carrying threaded therethrough a cord substantially centered in each pleat in the arc.

3. The garment in accordance with claim 2 wherein the basic sector is formed of a plurality of triangular shaped plastic sheets.

4. A garment in accordance with claim 1 wherein the said gathering means radially spaced from the center of said sector is a double row of openings.

References Cited in the file of this patent

UNITED STATES PATENTS

1,556,390	Woodley	Oct. 6, 1935
2,236,269	Horblit	Mar. 25, 1941
2,444,761	Walston	July 6, 1948
2,532,532	Baldrica	Dec. 5, 1950
2,535,459	Roodner	Dec. 26, 1950
2,546,563	Rodin et al.	Mar. 27, 1951
2,639,431	Spear	May 26, 1953
2,667,641	Moss	Feb. 2, 1954
2,707,284	Artzt	May 3, 1955
2,734,195	Moss	Feb. 14, 1956
2,756,431	De Luca et al.	July 31, 1956
2,865,023	Anderson	Dec. 23, 1958

FOREIGN PATENTS

807,923	Germany	Mar. 15, 1954