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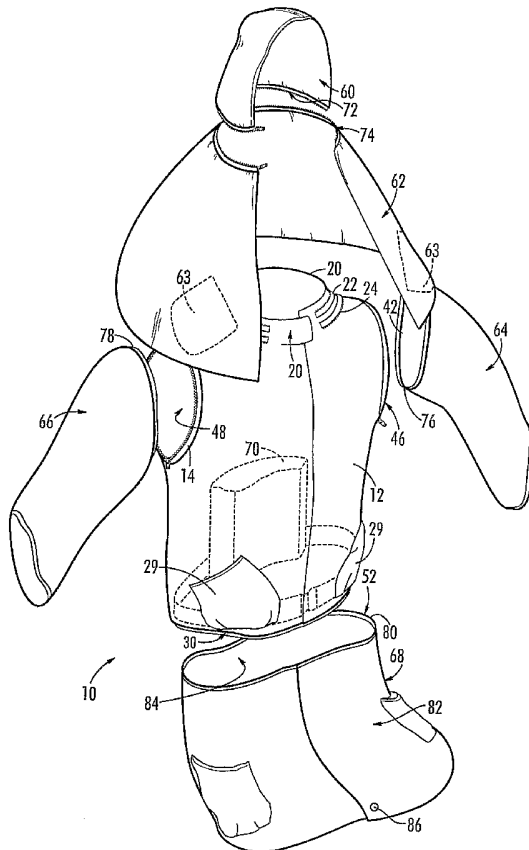
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(54) Title: COLD WEATHER OUTERWEAR



(57) Abstract: An outerwear system (10) for use in cold weather includes a vest (12) to which external components may be attached. These components include sleeves (64, 66), a cape (62), a hood (60), and a vest extension (68). The components may be individually attachable to the vest by slide fasteners and buttons. The vest extension (68) provides additional warmth for the lower torso and thighs of the user. Flaps (214, 216, 218) made of a material colored international orange are stored in pockets (204, 206, 208) carried by the cape (62).

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## TITLE

## COLD WEATHER OUTERWEAR

## BACKGROUND OF THE INVENTION

5 [0001] The present invention relates to clothing generally and specifically to outerwear for use in cold weather.

[0002] On colder days, most people don coats to keep themselves warmer when out of doors for a length of time. On very cold days, and especially when out of doors for extended periods, the choice of what garments to wear to keep warm can be as important from a safety standpoint as for comfort. Without adequate  
10 insulation from outerwear to preserve body heat, a person can suffer hypothermia or freeze to death. A person out of doors on such days will generate more or less body heat depending on the activities engaged in. Furthermore, the type of activity of the wearer may vary greatly, ranging from sitting for extended periods in the cold when hunting or when attending a sports event, to much more rigorous activity such as  
15 hiking over rough terrain. Thus the anticipated outdoor activity of the wearer will have a significant bearing on the choice of outerwear.

[0003] Outerwear, which term refers to garments worn over other clothing typically worn indoors, includes coats, vests, hats, scarves, gloves, hoods, and capes, all of varying sizes and styles. Outerwear may be made of natural or man-  
20 made materials, woven or non-woven fabrics, and combinations of fabrics. Outerwear may use a variety of closures such as slide fasteners, buttons, and hooks and loops. Specialty outerwear for hunting may carry camouflage patterns and textures.

[0004] There is a need for outerwear that can be easily and quickly  
25 adapted for the particular activity level of the individual, not only in advance but at the time of the activity level change. If a hunter has been sitting for an extended period of time in very cold weather and then begins to walk, the increasing activity will at first warm her but may eventually make her uncomfortably warm. Being able to reduce the ability of the outerwear to insulate or alternatively to increase its ability  
30 to vent heat from the outerwear is important in keeping the wearer from becoming too warm and perspiring while at the higher activity level only to may make her even colder when her activity level is again reduced.

[0005] Thus there remains a need for improvement in outerwear garments, particularly in cold weather for extended out of door use.

## SUMMARY OF THE INVENTION

[0006] According to its major aspects and briefly recited, the present invention is an outerwear system to be worn by an individual for extended periods out of doors in cold temperatures. The improved outerwear system includes a vest that serves as a hub to which various components may be attached as needed. These components include a hood, a cape, sleeves, and a vest extension to extend the vest to cover the lower torso and legs. These components are preferably attached and detached easily by the wearer.

[0007] The outerwear according to a preferred embodiment is made of a material that consists of two or more layers: an inner non-woven fabric which provides both warmth and comfort to the wearer, and a woven, breathable layer made of wool or synthetic material but most preferably a synthetic waterproof material. For use of the present outerwear in hunting, a third layer can carry an odor absorber. Also for hunting applications, the outer layer can carry a camouflage pattern.

[0008] The combination of components is a major feature of the present invention. As weather turns colder and the need for preserving body heat increases, the addition of hood, cape, sleeves and vest extension to the vest become more important as a way to extend the outerwear to cover those parts of the body that can also lose heat: the head and arms, the lower abdomen and thighs. In addition, the cape doubles the insulation on the body core and brings the arms within it to keep them warmer.

[0009] The system of individually attachable components is another major feature of the present invention. Each component can be attached or not, as the user wishes. This feature allows the user to select those components needed for the activity engaged in and to shed them one at a time as no longer needed.

[0010] These and other features and their advantages will be apparent to those skilled in the art of apparel design from a careful reading of the Detailed Description of Preferred Embodiments accompanied by the following drawings.

### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0011] In the drawings,

[0012] Fig. 1 is a perspective view of a vest of the proposed outerwear worn by a wearer, according to a first preferred embodiment of the present invention;

[0013] Fig. 2 is an exploded, perspective view of the outerwear showing various components detached and separated from the vest near each respective

point of attachment, according to the first preferred embodiment of the present invention;

[0014] Fig. 3 is a rear view of the turned up collar on the vest according to the first preferred embodiment of the present invention;

5 [0015] Fig. 4 is a side cross-sectional view of the hood attached to the vest, according to the first preferred embodiment of the present invention;

[0016] Fig. 5A is a side cross-sectional view of the collar of the vest in a turned down position, according to the first preferred embodiment of the present invention;

10 [0017] Fig. 5B is a detailed, cross-sectional, perspective view of the turned down collar, according to the first preferred embodiment of the present invention;

[0018] Fig. 5C is a detailed, cross-sectional, perspective view of the turned up collar with hood and cape being attached, according to the first preferred embodiment of the present invention;

15 [0019] Fig. 6 is a perspective view of the outerwear system worn by a wearer, according to the first preferred embodiment of the present invention;

[0020] Fig. 7 is a cross-sectional view of a preferred material for the outerwear, according to the first preferred embodiment of the present invention;

[0021] Fig. 8 is a perspective detailed view of the present outerwear system showing a liner that may be attached therein, according to the first preferred embodiment of the present invention;

[0022] Fig. 9 shows an exploded front view of a cold weather outerwear according to a second preferred embodiment of the present invention; and

[0023] Fig. 10 shows a rear view of the top portion of the cold weather outerwear, according to a preferred embodiment of the present invention.

#### DETAILED DESCRIPTION OF THE INVENTION

[0024] Referring now to Figs. 1-8, there is shown an outerwear system according to a first preferred embodiment of the present invention. The outerwear system, generally indicated by reference number 10 (see Figs. 2 and 6), is for use in cold weather by someone who will remain out of doors for extended periods of time. Outerwear system 10 is characterized by a set of components that individually can be attached to a vest 12 as needed by a user 14.

[0025] Fig. 1 shows vest 12 on user 14. Vest 12 is shown with a collar 20 upturned to reveal a first portion of each of two slide fasteners 22, 24. A first portion of each of three slide fasteners 26, 28, and 30 is located at each of two armholes 46, 48, and at waist 50. Slide fasteners are preferred as closures for the present

outerwear because they are familiar, are easily operated, are compact and can provide a complete seal of the joined components. Other closures, such as buttons and hooks and loops, may also be used. Vest 12 would be worn for minimal warmth, such as on days that are not very cold, when user 14 is active, or when user 14 is not expecting to be out of doors for greatly extended times. Vest 12 covers the chest, back shoulders, lower back and upper abdomen to provide warmth for the core of user 14's body. One or more vest pockets 29 may also be positioned on the exterior surface of vest 12 to provide increased carrying capacity or additional warmth for hands.

10           [0026]    Fig. 2 shows an exploded, perspective view of outerwear system 10. The attachable components of outerwear system are shown: a hood 60, a cape 62, a left sleeve 64, a right sleeve 66, and an extension 68. Each component is individually attachable and detachable; that is, any one component can be attached in any order and without any of the others being attached and any one component  
15           can be detached in any order and without any of the others being detached. When detached, each component can be stored in a pouch 70 formed on the inside back of vest 12.

              [0027]    Hood 60 covers the head and neck of user 14. Preferably hood 60 is generously cut so that user can also wear a hat under it if desired. Hood 60  
20           carries a second portion of a slide fastener 72 along one edge to allow it to be fastened to first portion 22 of slide fastener on collar 20 of vest 12. In order to fasten hood 60 to vest 12, collar 20 is turned up to reveal first portion 22 of slide fastener, whereupon, second portion 72 can be attached to first portion 22, as best seen in Figs. 3, 4, 5A and 5C.

25           [0028]    Cape 62 covers shoulders and upper torso down at least to the waist of user 14. Cape 62 carries a second portion 74 of a slide fastener to allow it to be fastened to first portion 24 of slide fastener on collar 20 of vest 12. In order to fasten cape 62 to vest 12, collar 20 is turned up to reveal first portion 24 of slide fastener, whereupon, second portion 74 can be attached to first portion 24, as best  
30           seen in Figs. 3, 4, 5A and 5C. Cape 62 may also include one or more cape pockets 63 formed on the inside surface of the cape to provide increased carrying capacity or additional warmth for the hands.

              [0029]    Left and right sleeves 64, 66, cover the left and right arms of user 14 from shoulder to wrist and are attachable using second portions 76, 78, respectively, of slide fasteners to second portions 26, 28, respectively, of slide fasteners at arm holes 46, 48, of vest 12.

[0030] Finally, extension 68 covers lower abdomen, buttocks and thighs of user 14 and is attachable to second portion 30 of slide fastener of vest 12 using a second portion 80 of extension. Extension 68 has a button or snap fastener 86 to connect a front 82 of extension 68 to a back 84 of extension 68 so as to partially close the opening in extension 68 between the legs of user 14. Fig. 6 shows outerwear system 10 with all components attached.

[0031] Fig. 7 illustrates a detailed view of a material 90 suitable for outerwear system 10. Material 90 is composed of three layers, as shown, or a different number of layers depending on the intended use and function of the outerwear system. A first layer 92, preferably an inner layer, is made of a non-woven fabric such as a needle felted fabric of a synthetic or man-made fiber or fleece. First layer 92 provides warmth to the wearer of the outerwear and is preferably comfortable against the skin. A second layer provides additional insulation but is optionally also a scent control layer 94 that may be made from an activated-charcoal impregnated fabric of either a woven or non-woven construction. Second layer 94 is useful when outerwear system 10 is to be used for hunting and the scent of the hunter is to be minimized. A third layer 96 may be made of a woven material of either a manmade or synthetic fiber. Third layer 96 may incorporate water-resistant and stain-resistant treatments and may optionally carry camouflaging patterns and textures. Each component may be made of material 90.

[0032] Fig. 8 shows a component 98 of outerwear system and a liner 100. Liner 100 is preferably attached to the interior of component 98 by a liner slide fastener 102. As indicated above, one of ordinary skill in the art of apparel design can readily envision numerous means of attaching liner 100 to component 96, including heat fusion, adhesives, sewing, hook and loop fasteners and, as illustrated, slide fasteners. In addition, in the present outerwear system, preferably, any layer of any component can be attached to any layer of vest 12 in order to provide the user with complete flexibility and to avoid the need to attach, for example, all layers of cape 62 to vest 12 when the user may only want to attach an outer layer of cape 62 to vest 12.

[0033] Figs. 9 and 10 illustrate an alternate embodiment of the present cold weather outerwear, generally indicated by reference number 150. Fig. 9 illustrates outerwear 150 from the front in an exploded view. Fig. 10 illustrates the upper part of outerwear 150 from the rear.

[0034] Outerwear 150 includes a vest 152 for covering the chest and upper torso of the wearer. Sleeves 156, 158, for covering the arms of the wearer, attach to

vest 152 using slide fasteners 160, as indicated at the cutout portion of sleeve 156 on the right side of vest 152 and the left side of vest 152 near sleeve 158. For colder weather or extended times out of doors, the wearer may wish to add the warmth of a hood 162 and a cape 164. Hood 162 covers the head and may be worn over a hat, such as a watch cap, for added warmth and to keep the hat dry, as outerwear 150 is preferably water-proof or water-resistant. Cape 164 covers the upper back, chest, shoulders and much of the arms of the wearer in addition to the coverage provided by vest 152 and sleeves 156, 158, essentially doubling the body-warmth-retaining material.

10           **[0035]** Hood 162 includes a drawstring 166 to pull the face opening of hood 162 close against the user's face and thereby keep out wind and precipitation.

**[0036]** An extension 168 may be added to provide additional warmth for the lower torso and thighs of the user down to the knees. Extension 168 is preferably attached to the bottom edge 170 of vest 152 using a slide fastener 172, as seen in the cutout portion of vest 152 and vest extension 168. Extension 168 is made to snap front to back between the legs of the wearer without impeding the wearer's ability to walk. It should be noted that extension 168 allows the wearer the ability to add warmth without pulling on an additional pair of pants, which may be difficult if the wearer is wearing boots or snowshoes. Thus a user who is walking cross country can more easily modify his warmth level by adding or removing extension 168.

20           **[0037]** Vest 152 has several pockets 178, 180, for storage and two angled pockets 184, 186, for warmth, in addition to gloves. The user can place his hands in pockets 184, 186, for added warmth both because of the additional layers of insulation the pockets provide and for the position of the arms tucked in and close to the user's chest.

**[0038]** Outerwear 150 is made of two layers, as shown in Figs. 8 and 9, one non-woven, comfortable and heat retaining and an outer layer that is water-proof or water-resistant, woven that acts as a barrier to precipitation and wind.

30           **[0039]** Referring particularly to Fig. 9, hood 162 preferably is removably attached to vest 152 by using buttons 190 and corresponding button holes 192. Buttons 190 are shown attached to vest 152. Cape is preferably removably attached to vest 152 also by buttons 196 and button holes 198.

**[0040]** For those users who walk in areas where hunters may be hunting, outerwear may be equipped with pockets 204, 206, and 208 that house flaps 212, 214, and 216, respectively made of a material in a color that is easily visible in



wooded areas from a distance such as "international orange." Flaps 214, 216, and 218 are simply sections of material fastened at one end to the inside of pockets 204, 206, 208 so that they can be made to extend outside pockets 204, 206 and 208, to drape over the shoulders and back of cape 164 when needed to alert others of the presence of the wearer, or, alternatively, be stored inside pockets 204, 206, and 208 when not needed. Flaps 214 and 216 are stored when not in use in pockets 204 and 206, one located on each shoulder of cape 164. Flap 218 is stored in pocket 208 on the back of cape 164. Pocket 208 is made to be large enough so that it can serve as a carrying pocket for cape 164 itself by inverting it into itself, and for extension 168.

10           [0041] Many modifications and substitutions will be apparent to those skilled in the art of clothing manufacture from the foregoing description of the preferred embodiments without departing from the spirit or scope of the present invention. It is intended that the scope of the present invention includes all modifications that incorporate its principal design features, and that the scope and  
15 limitations of the present invention are to be determined by the appended claims.

## WHAT IS CLAIMED IS:

1. An outerwear system to be worn by a user, said outerwear system comprising:  
a vest covering the chest, back, and shoulders of a user; and  
5 a vest extension removably attachable to said vest, said vest extension covering the thighs of the user.
2. The outerwear system as recited in claim 1, wherein said vest extension has a front and a back and carries means for connecting said front to said back between the thighs of the user.
- 10 3. The outerwear system as recited in claim 1, further comprising a cape removably attachable to said vest.
4. The outerwear system as recited in claim 3, wherein said cape buttons to said vest.
5. The outerwear system as recited in claim 4, wherein said cape has a pocket  
15 that carries a flap inside that is attached at one end to said pocket and can be extended from said pocket to drape over said cape.
6. The outerwear system as recited in claim 4, wherein said cape has three pockets, each pocket of said three pockets having a flap inside attached at one end of said pocket and that can be extended from said each pocket to drape over said  
20 cape.
7. The outerwear system as recited in claim 1, further comprising a hood removably attachable to said vest.
8. The outerwear system as recited in claim 7, wherein said hood is dimensioned to permit the user to wear a hat under said hood.
- 25 9. The outerwear system as recited in claim 7, wherein said hood buttons to said vest.
10. The outerwear system as recited in claim 1, further comprising a left sleeve and a right sleeve, said left and said right sleeves covering said left and said right arms, respectively, of the user and being removably attachable to said vest.
- 30 11. The outerwear system as recited in claim 1, further comprising a left sleeve, a right sleeve, a cape and a hood, said left sleeve, said right sleeve, said cape and said hood each being removably attachable to said vest in any combination.
12. The outerwear system as recited in claim 1, wherein said cape carries a pocket dimensioned for carrying said vest extension.
- 35 13. The outerwear system as recited in claim 11, wherein said cape carries a pouch dimensioned to be inverted to carry said cape.

14. The outerwear system as recited in claim 1, wherein said vest and said vest extension are composed of three layers, said three layers including an inner layer, an intermediate layer and an outer layer, said intermediate layer carrying an odor-absorber.
- 5 15. The outerwear system as recited in claim 14, wherein said inner layer is made of a non-woven material.
16. The outerwear system as recited in claim 14, wherein said outer layer is made of a woven material.
- 17 The outerwear system as recited in claim 1, wherein said vest and said vest extension are composed of two layers, including an inner layer and an outer layer,  
10 said outer layer of said vest and vest extension being removably attachable to said inner layer of said vest and said vest extension.
18. The outerwear system as recited in claim 1, wherein said vest and vest extension carry a camouflage pattern.

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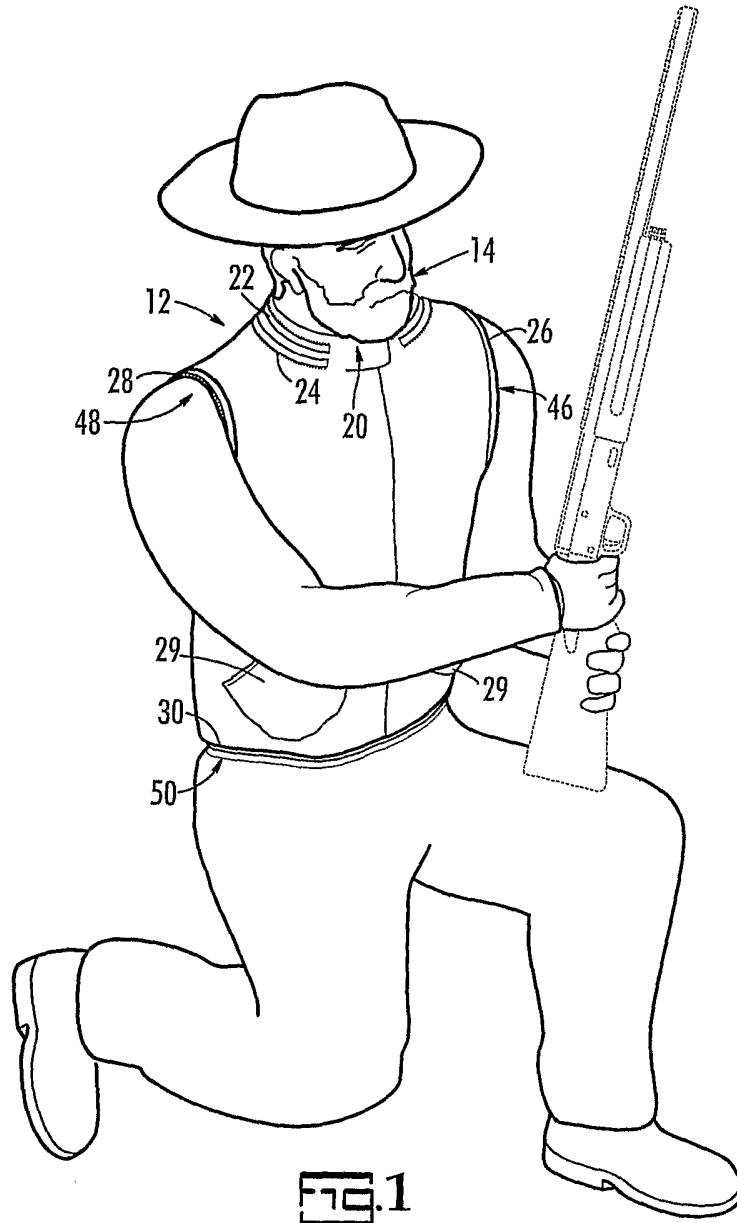
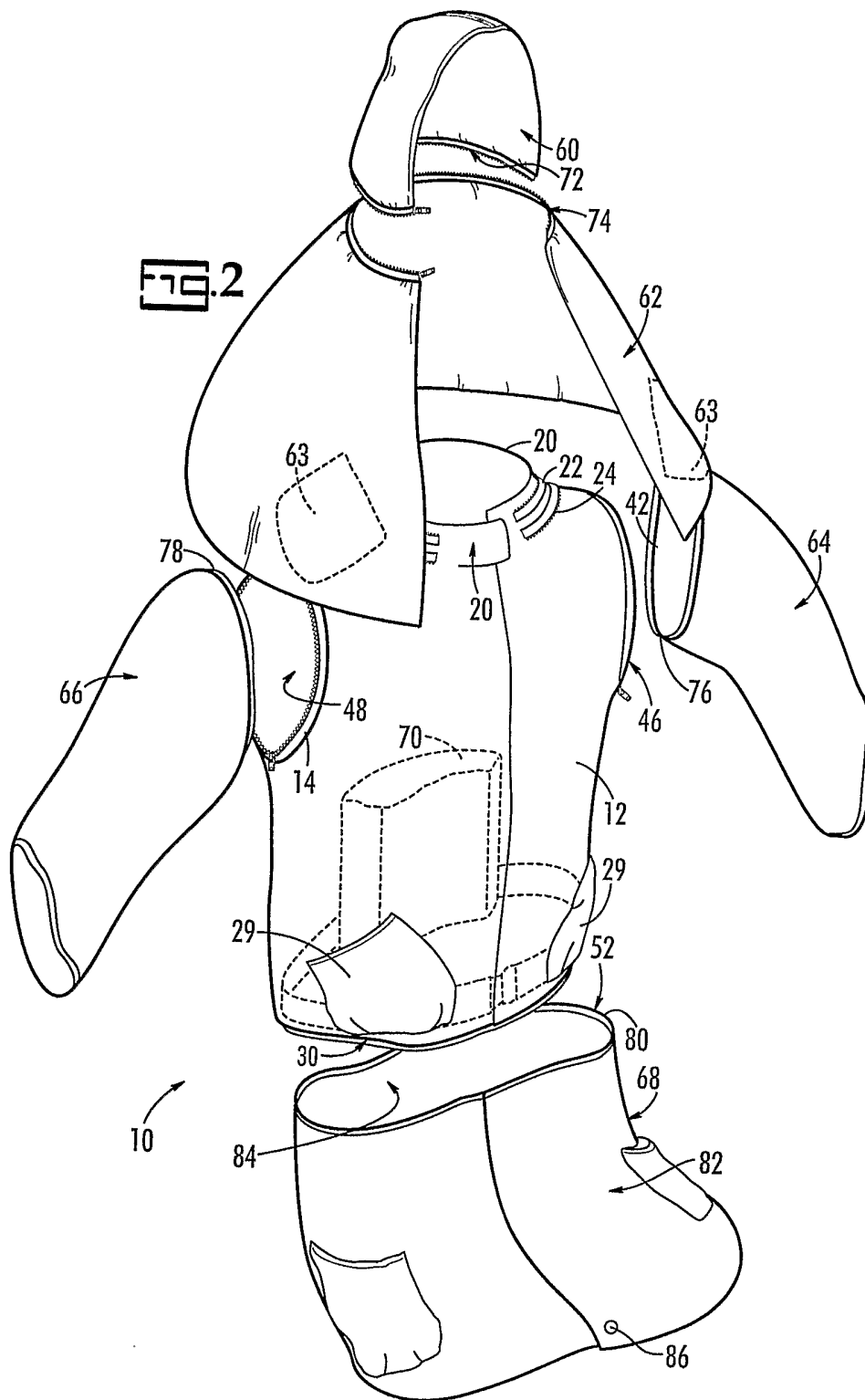


FIG. 1



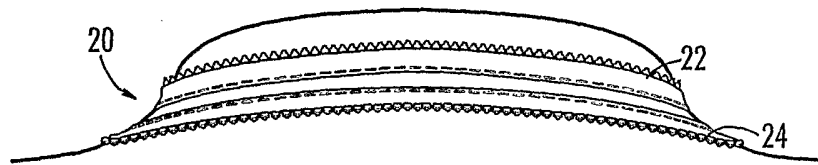


FIG. 3

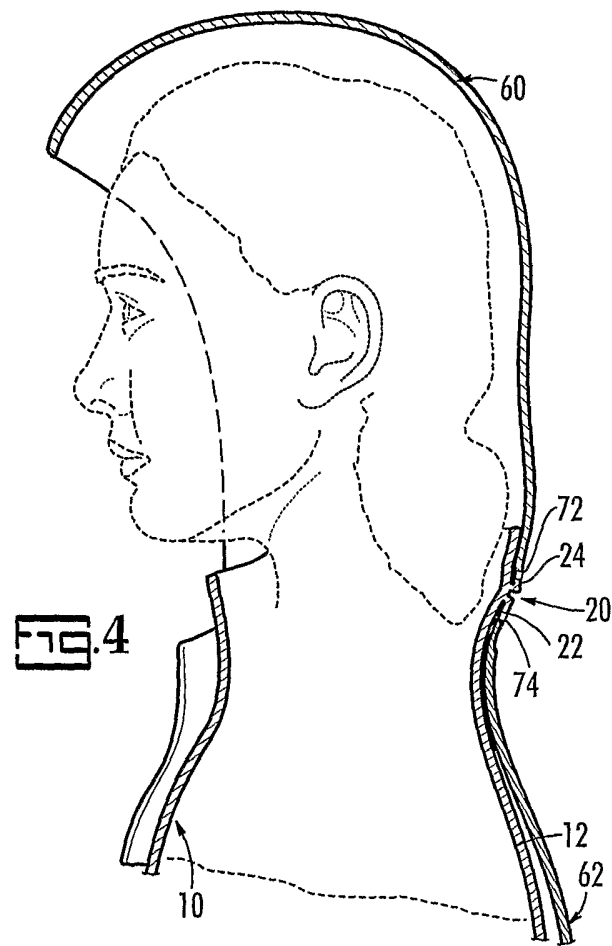


FIG. 4

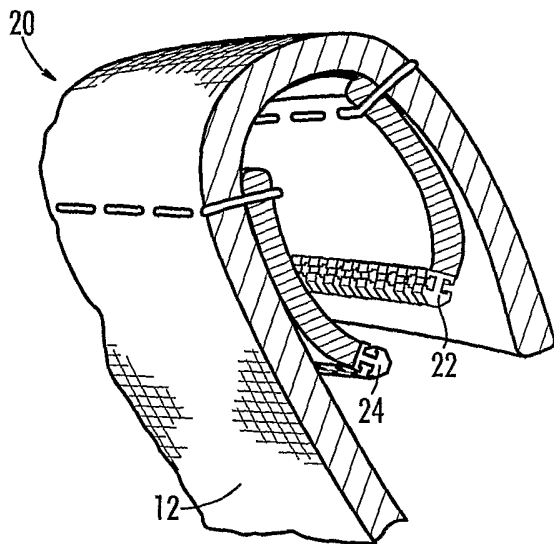
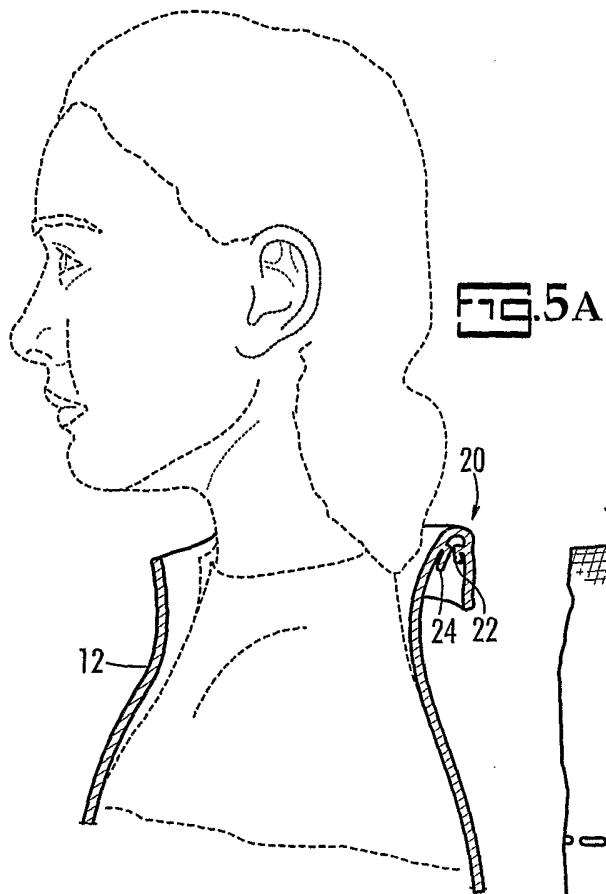


FIG. 5B

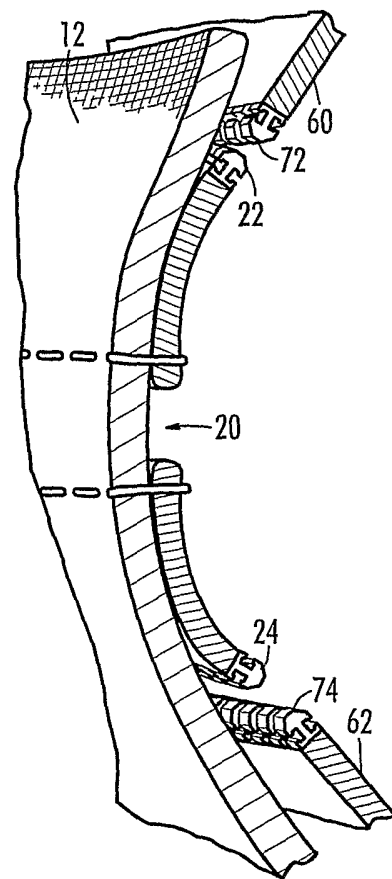


FIG. 5C

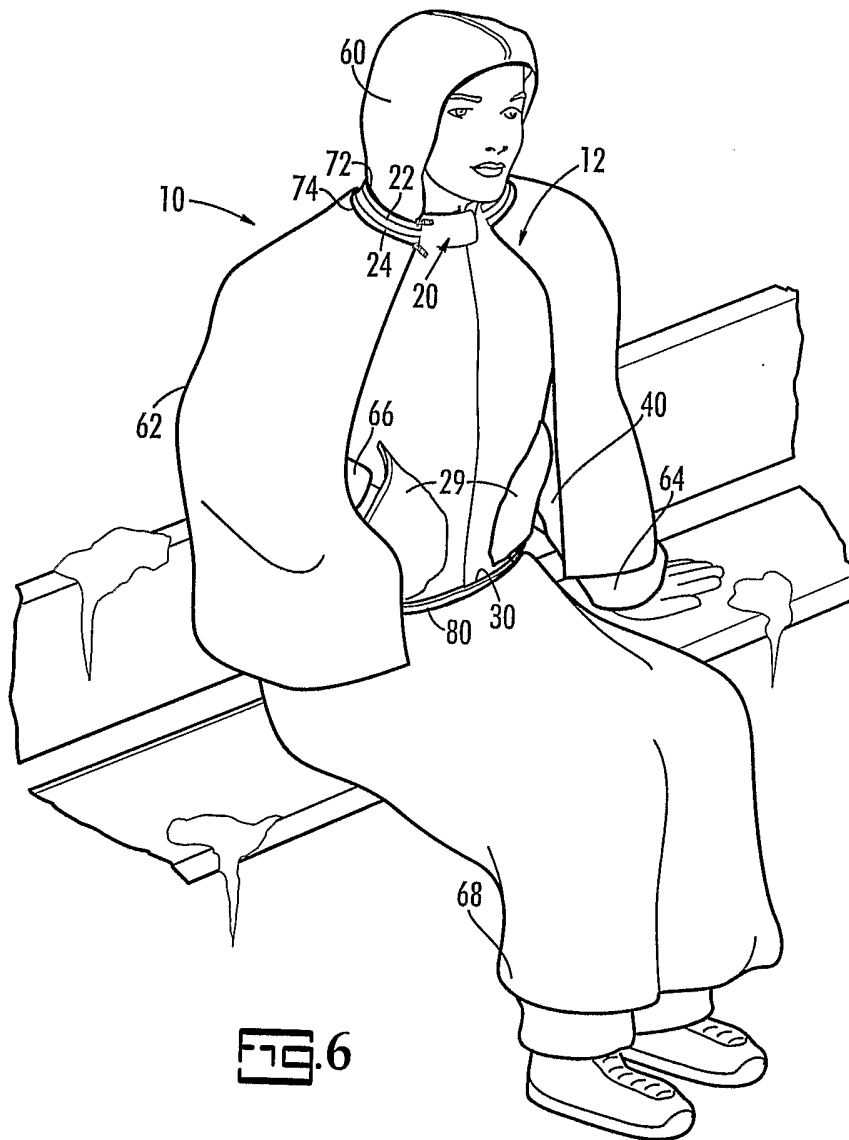
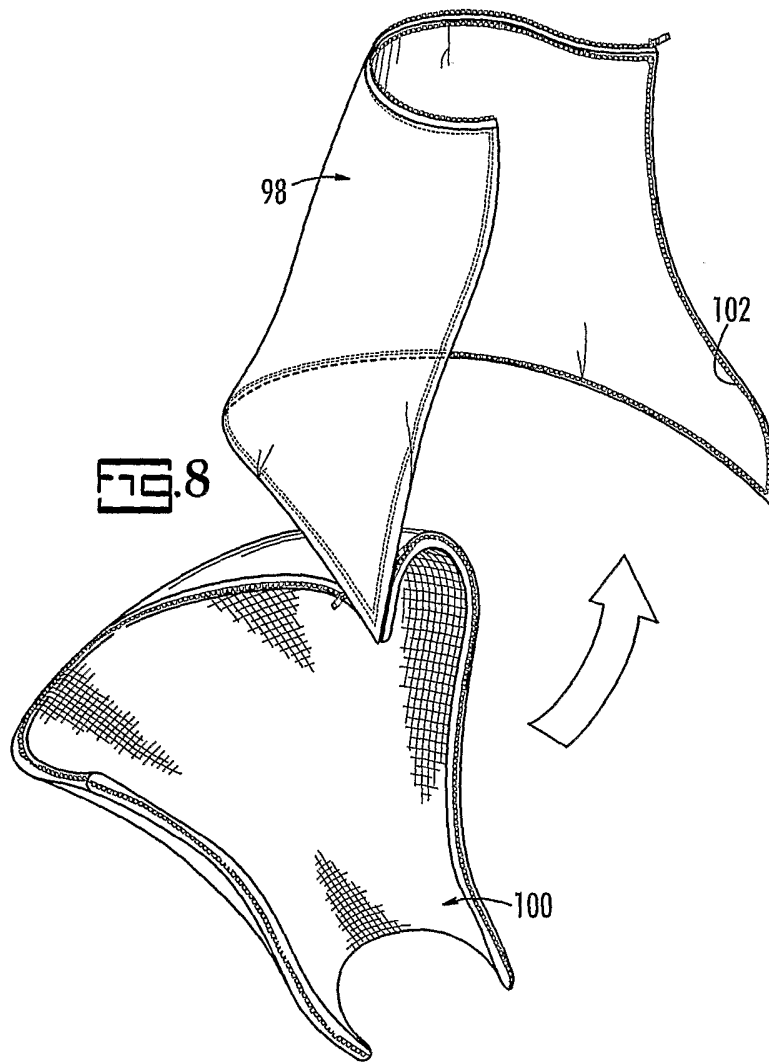
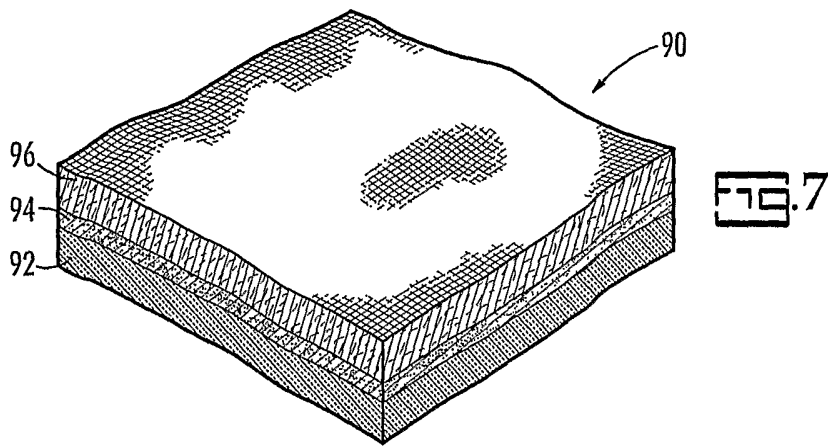


FIG. 6



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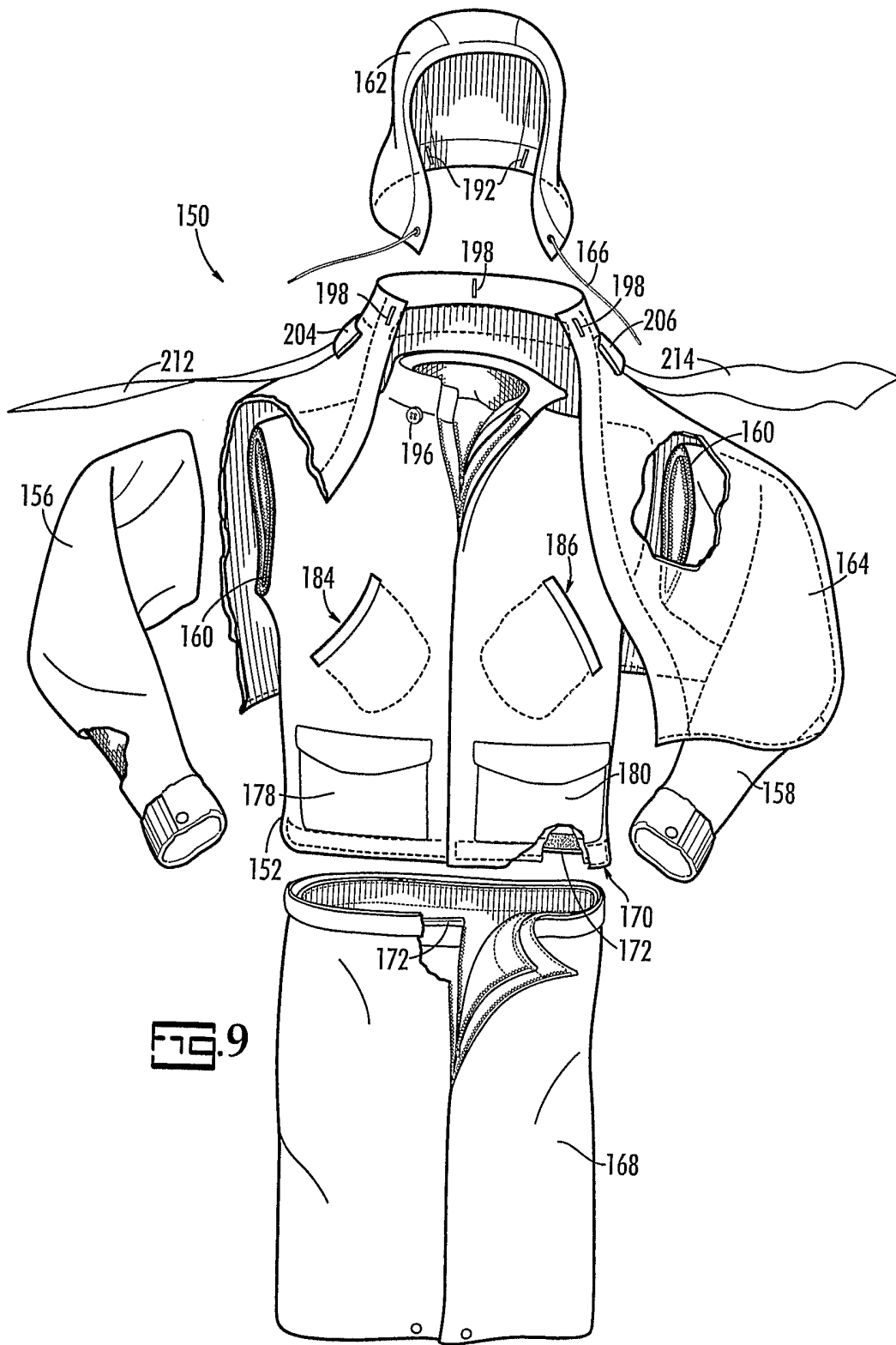
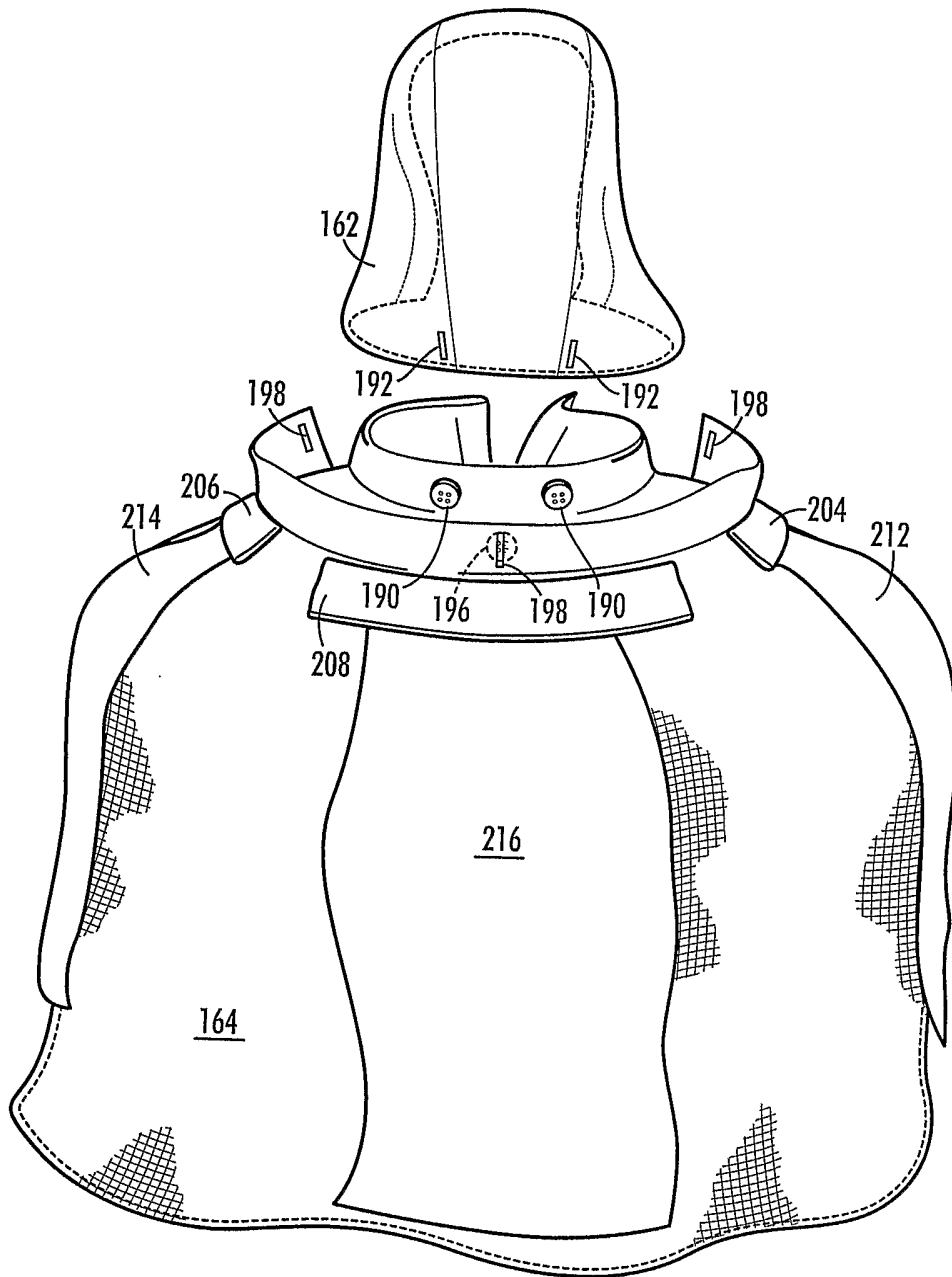


FIG. 9



**FIG. 10**