Abstract:
Title:  GARMEN TS WITH REMOVABLE ATTACHMENTS

Disclosed herein are garments with removable attachments. The removable attachments can be attached to the garment and comprise at least a front and a back panel that can be connected at a location below the shoulders of a user wearing the garment.
GARMENTS WITH REMOVABLE ATTACHMENTS

FIELD

[0001] The present invention relates to garments with removable attachments. The removable attachments can be attached to the garment near the shoulders and comprise at least a front and a back panel that can be connected at a location or point below the shoulders of a user wearing the garment.

BACKGROUND

[0002] There are many instances where individuals are required, or it would be helpful, to carry an additional garment layer in the general form of a vest. By way of non-limiting example, when working near roadways, police officers and road crews are often required to wear reflective vests over their uniforms to provide visibility protection from traffic. Carrying these reflective vests is often not convenient and they can be frequently lost or forgotten. Lost or forgotten reflective vests add operational costs and can decrease individual and group safety.

Accordingly, there exists a need for a garment that includes a removable attachment that can be deployed when needed without the user having to bring it separately and/or carry it.

[0003] In keeping with this general benefit, U.S. Patent No. 5,077,838 relates to a jacket with an attached rain poncho. The jacket of this patent has a pocket defined in the back of the jacket with a poncho contained therein. In the event of rain, the poncho can be withdrawn and placed over the head and body of the user. While the jacket described in this patent addresses a need to be protected from rain, ponchos limit movement, especially of the arms, and as a result do not allow free use of the user's arms. Further, loose clothing such as a poncho may become entangled in moving parts of apparatus such as machinery, car doors, and cables/wires and thus may not be suitable in many situations.

[0004] Based on the foregoing, there exists a need for a garment with a removable attachment that can be deployed as desired while still allowing free use of the arms when deployed. The present invention addresses this need, among others.
SUMMARY

[0005] The present invention provides a garment with a removable attachment that can be deployed from an opening in the garment, preferably near the shoulders. The removable attachment comprises at least two panels and in most embodiments, will comprise three panels. When two panels are provided, the first panel is positioned in the front of the user and the second panel is positioned in the back of the user and the two panels can be attached at one or more locations below the shoulders of the user. When three panels are provided, two "half" panels are positioned in the front of the user, each over an opposite shoulder and the third panel is positioned in the back of the user. Each front panel is connected to the back panel at one or more locations below the respective shoulder of the user. These garments allow the creation of, in one embodiment, a vest-type structure that can allow free use of the arms.

[0006] Specifically, one embodiment of a garment according to the present invention comprises (or defines) an opening and a removable attachment attached to the garment near the opening, wherein the removable attachment comprises at least two panels and wherein the removable attachment can be inserted through the opening and hidden from view or can be withdrawn through the opening and deployed over the garment. In an embodiment with at least two panels, the two panels can comprise a front panel with an opening through which the head of a user can pass and a back panel. In this embodiment, after being withdrawn through the opening the front panel can be brought over the head of the user so that the head would pass through the opening and the front panel would be positioned across the front of the user and after being withdrawn through the opening the back panel can be dropped into position across the back of the user. In one such embodiment, each of the front panel and the back panel can comprise complementary connecting elements whereby the front panel and the back panel can be connected, preferably in at least one location under the shoulders of the user.

[0007] Another embodiment of the removable attachment according to the present invention comprises three panels including one back panel and two front panels. In this embodiment, after being withdrawn through the opening of the garment, one front panel can be brought over one shoulder to the front of a user, the second front
panel can be brought over the other shoulder to the front of the user, and the back panel can be dropped into position across the back of the user. In one such embodiment, each of the front panels and the back panel can comprise complementary connecting elements whereby each of the two front panels can be connected to the back panel, preferably in at least one location under the shoulders of the user. In one three panel embodiment of the present invention, the two front panels can comprise complementary connecting elements whereby the two front panels can be connected together.

[0008] Panels according to the present invention can comprise a feature selected from the group consisting of a reflective portion, a pouch, a pocket, a clip and combinations thereof.

[0009] In one embodiment according to the present invention, the removable attachment comprises a vest or a bib. In another embodiment, the garment is an article of clothing selected from the group consisting of a jacket, a shirt, a sweater, a sweatshirt, a coat, a onesy, and a dress. In a certain embodiment, the garment is a jacket and the removable attachment is a reflective vest.

[0010] Garments according to the present invention include garments manufactured to be worn by one or more of, without limitation, a police officer, a sheriff, a deputy, a fireman, a construction worker, a road crew worker, a ski patrol member, a crossing guard, an airport employee, a baby, a toddler, a hunter, a boater, a biker, a soldier, a runner and a member of a team.

[0011] The present invention also includes methods of manufacturing and using the described garment embodiments. Specifically, the garment of the present invention can be transformed from one configuration to another. More specifically, in a certain embodiment, if the removable attachment is positioned in the interior of the garment, it can be withdrawn through the opening of the garment, and the panels of the removable attachment can be connected to one another. This operation can also be performed in reverse: if the removable attachment is visible on the exterior of the garment, the panels of the removable attachment can be unconnected, and the removable attachment can be inserted through the opening of the garment.
BRIEF DESCRIPTION OF THE FIGURES

[0012] Figure 1 is a front view of one embodiment of a garment according to the present invention.

[0013] Figure 2 is a rear view of the embodiment depicted in Figure 1.

[0014] Figure 3 is another front view of the embodiment depicted in Figure 1 showing the front of a removable attachment.

[0015] Figure 4 is a rear view of the embodiment depicted in Figure 3.

[0016] Figure 5 shows a potential position of a removable attachment when it is not deployed.

[0017] Figures 6 and 7 depict a front view and a back view respectively of a removable attachment separated from a garment of the present invention.

DETAILED DESCRIPTION

[0018] The present invention is described in relation to individuals requiring reflective vests during working hours, however, as will be evident from the following description, the garments of the present invention have a wide range of useful applications.

[0019] Police officers, construction crews and other individuals working near roadways must carry reflective vests to place over their uniforms for visibility purposes. Carrying such reflective vests is not convenient, however, and the vests are often lost or forgotten adding unnecessary costs to such operations and reducing individual and group safety. As such, these individuals could benefit from garments with attached reflective vests where the vests can be deployed as needed without the need to be carried. Because the vest is attached to the garment, the likelihood of it being lost or forgotten is reduced.

[0020] The disclosed embodiments according to the present invention provide a garment with a removable attachment and methods of manufacturing and using such garments. The garments can include, without limitation, jackets, shirts, sweaters, sweatshirts or coats and allow a user to deploy the removable attachment as desired without having to carry it or store it in a nearby location. This feature can drastically
increase the likelihood that the removable attachment will be present when needed thus increasing individual safety and reducing the cost of replacing lost or forgotten vests.

[0021] In one embodiment as shown in Figure 1, a garment such as a jacket 12 is provided. An opening 20 is provided in the rear of the jacket 12 at a location generally near the shoulders of the user wearing the garment (Figure 2). While this opening 20 could be provided in the front of garments of particular embodiments according to the present invention, its location in the back is generally a preferred embodiment. The opening 20 provides access to the removable attachment. In one embodiment the removable attachment can hang freely from one or more connection points to the garment near the opening 20. The connection points can comprise, without limitation, clips, a zipper, stitching, hook and loop type fastener, or a zip-tie, and can be found, without limitation, above or below the opening 20. In another embodiment, the opening can constitute the opening of a pouch or pocket that houses the removable attachment within the garment. Thus, the removable attachment can be found within appropriate pocketing, lining or other methods known to those of ordinary skill in the art. In one embodiment, the opening 20 can be provided with a suitable closure mechanism including, without limitation, hook and loop type fastener 32, a zipper, zip-tie, or snaps.

[0022] Figure 3 depicts a removable attachment in the form of a vest 24 that has been withdrawn through the opening described in relation to Figure 2. Viewed in combination with Figure 4, it can be seen that the vest 24 of this depicted embodiment includes a back panel 28 and two front panels 21, 22. In one embodiment the front panels 21, 22 can comprise complementary connecting elements such as the complementary parts of a zipper, buttons, hook and loop type fasteners, or other appropriate fastening means 35. Using these complementary connecting elements, the two front panels 21, 22 can be joined in the front. At one or more locations below the user's shoulders, each side of the back panel 28 can be attached to the outer side of each front panel 21, 22 to secure the removable attachment into the form of vest 24. To facilitate this attachment, each of the two front panels and the back panel can comprise complementary connecting elements. These complementary connecting elements can be any appropriate fastening means,
however, hook and loop type fastener or magnet panels will generally be preferred due to the ease with which they provide connections. This described vest can provide a number of optional features including, without limitation, reflective areas 50, pockets, holders, pouches or clips for equipment, etc. Further, and as shown in Figure 4, in one embodiment, when withdrawn through the opening in a garment, the removable attachment remains attached to the underlying garment through an attachment such as a zipper 55. This feature allows the removable attachment to be completely removed from the underlying garment for washing or other purposes. In another embodiment, while removable through the described opening, the removable attachment remains fastened to the underlying garment at all times through stitching or other means. While this embodiment does not allow for washing the elements of the garment separately, it provides further security that the garment and removable attachment will remain together (and hence that the removable attachment will be available) at all times when the underlying garment is present.

[0023] Figure 5 depicts a cut-away view of the removable attachment depicted in Figures 3 and 4 when not in use. As shown, when the depicted vest 24 is not in use, it can be placed back through the opening 20 of the jacket 12 where it can hang from the connection that attaches it to the underlying garment. As stated, these connection points or complementary connecting elements can comprise, without limitation, clips, a zipper, stitching, hook and loop type fastener, or a zip-tie, and can be found near the opening 20. In one embodiment the removable attachment will further be housed within a pouch or pocket. In certain embodiments, the opening 20 can be closed by any appropriate means 32 to keep the removable attachment contained therein, clean and/or dry.

[0024] Figures 6 and 7 depict a front and a back view of vest 24 respectively according to one embodiment of the current invention. In this depicted embodiment, the vest is fully detachable from the underlying garment and can be used on its own.

[0025] As indicated earlier, although the foregoing description and figures depict a jacket and a vest, the present invention encompasses many more designs and uses. For example, and as described, garments according to the present invention can include reflective vests within jackets or shirts for use by police officers, firemen,
construction workers and road crew workers. Such embodiments can also be beneficial for crossing guards and airport personnel coming on and off duty.

Regarding jackets, a jacket or shirt could also be made with a camouflage pattern for hunters and comprise a reflective orange vest. The vest could remain out of sight while the hunter is hunting and be withdrawn through the opening when the hunter should be visible to others in the area. In addition to reflective or high visibility features, vests of the present invention could also provide protective features, such as bullet proof features, for use by law enforcement and the military. Jackets according to the present invention could also be constructed for use by ski patrol members. In this embodiment, a ski patrol member could keep a removable attachment hidden within a jacket when the patrol member is skiing off duty. When it is time to go on duty, the ski patrol member could simply withdraw an identifying vest through an opening as presently described. A number of sports enthusiasts could also benefit from garments manufactured with removable attachments according to the present invention. For example, bikers and runners could adopt jerseys with light reflective materials within the presently disclosed openings for use when biking or running at dusk or when the weather creates a less visible atmosphere. Likewise, boaters, including, without limitation, canoers and kayakers could benefit from embodiments according to the present invention when on the water near other larger boats. Another application of the present invention can include practice shirts for sports teams. In this embodiment, the garment can comprise a shirt with a different colored removable attachment. When the team is practicing drills as a team, all removable attachments can remain hidden. If the team decided to scrimmage within its own members, however, half of the team could withdraw the removable attachment to designate the "team within the team." In these embodiments, it should be clear that the panels of the removable attachment of the present invention can adopt many different weights, shapes, colors and sizes in accordance with the particular use. As a final non-limiting example of a use of the garments according to the present invention, the panels of the removable attachments can form a bib for a baby or toddler. In this embodiment, the garment could include any type of clothing appropriate for babies or toddlers including jackets, shirts, sweatshirts, coats, sweaters, onesies, dresses, etc. The foregoing
examples should make clear that the present invention can be put to a wide range of useful applications that relieve a variety of individuals from carrying extra garments. In addition to providing convenience, a number of these garments can increase safety for the individuals that wear them.

[0026] The terms "a" and "an" and "the" and similar references used in the context of describing the invention (especially in the context of the following embodiments) are to be construed to cover both the singular and the plural, unless otherwise indicated herein or clearly contradicted by context. All methods described herein can be performed in any suitable order unless otherwise indicated herein or otherwise clearly contradicted by context. The use of any and all examples, or exemplary language (e.g., "such as") provided herein is intended merely to better illuminate the invention and does not pose a limitation on the scope of the invention otherwise described or claimed. No language in the specification should be construed as indicating any non-claimed element essential to the practice of the invention.

[0027] Groupings of alternative elements or embodiments of the invention disclosed herein are not to be construed as limitations. Each group member can be referred to and claimed individually or in any combination with other members of the group or other elements found herein. It is anticipated that one or more members of a group can be included in, or deleted from, a group for reasons of convenience and/or patentability. When any such inclusion or deletion occurs, the specification is herein deemed to contain the group as modified thus fulfilling the written description of all Markush groups used in the appended embodiments.

[0028] Certain embodiments of this invention are described herein, including the best mode known to the inventors for carrying out the invention. Of course, variations of these embodiments will become apparent to those of ordinary skill in the art upon reading the foregoing description. The inventor expects skilled artisans to employ such variations as appropriate, and the inventors intend for the invention to be practiced otherwise than specifically described herein. Accordingly, this invention includes all modifications and equivalents of the subject matter recited in the embodiments appended hereto as permitted by applicable law. Moreover, any
combination of the above-described elements in all possible variations thereof is encompassed by the invention unless otherwise indicated herein or otherwise clearly contradicted by context.

[0029] In closing, it is to be understood that the embodiments of the invention disclosed herein are illustrative of the principles according to the present invention. Other modifications that can be employed are within the scope of the invention. Thus, by way of example, but not of limitation, alternative configurations according to the present invention can be utilized in accordance with the teachings herein. Accordingly, the present invention is not limited to that precisely as shown and described.
What is claimed is:

1. A garment comprising an opening and a removable attachment attached to the garment near the opening, wherein the removable attachment comprises at least two panels and wherein the removable attachment can be inserted through the opening and hidden from view or can be withdrawn through the opening and deployed over the garment.

2. A garment according to claim 1, wherein the at least two panels of the removable attachment comprise a front panel with an opening through which the head of a user can pass and a back panel.

3. A garment according to claim 2, wherein each of the front panel and the back panel comprise complementary connecting elements whereby the front panel can be connected to the back panel.

4. A garment according to claim 1, wherein the removable attachment comprises three panels, the three panels comprising a back panel and two front panels.

5. A garment according to claim 4, wherein each of the front panels and the back panel comprise complementary connecting elements whereby each of the two front panels can be connected to the back panel.

6. A garment according to claim 4, wherein each of the front panels comprise complementary connecting elements whereby the two front panels can be connected to each other.

7. A garment according to claim 1, wherein the removable attachment is removably attached to the garment.

8. A garment according to any one of claims 1-7, wherein a panel, a front panel, or a back panel comprises a feature selected from the group consisting of a reflective portion, a pouch, a pocket, a clip, and combinations thereof.

9. A garment according to any one of claims 1-8, wherein the removable attachment is a vest or a bib.
10. A garment according to any one of claims 1-9, wherein the garment is an article of clothing selected from the group consisting of a jacket, a shirt, a sweater, a sweatshirt, a coat, a onesy, and a dress.

11. A garment according to any one of claims 1-10, wherein the garment is manufactured to be worn by one or more of the group selected from a police officer, a sheriff, a deputy, a fireman, a construction worker, a road crew worker, a ski patrol member, a crossing guard, an airport employee, a baby, a toddler, a hunter, a biker, a runner, a soldier, and a member of a team.

12. The garment according to any one of claims 1-11, wherein the garment is a jacket and the removable attachment is a vest, wherein the vest comprises at least one reflective portion.

13. A method of manufacturing a garment comprising constructing a garment comprising an opening and a removable attachment attached to the garment near the opening, wherein the removable attachment comprises at least two panels and wherein the removable attachment can be inserted through the opening and hidden from view or can be withdrawn through the opening and deployed over the garment.

14. A method of manufacturing according to claim 13, wherein the at least two panels of the removable attachment comprise a front panel with an opening through which the head of a user can pass and a back panel.

15. A method of manufacturing according to claim 14, wherein each of the front panel and the back panel comprise complementary connecting elements whereby the front panel can be connected to the back panel.

16. A method of manufacturing according to claim 13, wherein the removable attachment comprises three panels, the three panels comprising one back panel and two front panels.

17. A method of manufacturing according to claim 16, wherein each of the front panels and the back panel comprise complementary connecting elements whereby each of the two front panels can be connected to the back panel.
18. A method of manufacturing according to claim 16, wherein each of the front panels comprise complementary connecting elements whereby the two front panels can be connected to each other.

19. A method of manufacturing according to claim 13, wherein a panel, a front panel, or a back panel comprises a feature selected from one or more of the group consisting of a reflective portion, a pouch, a pocket, and a clip.

20. A method of manufacturing according to claim 13, wherein the removable attachment is a vest or a bib.

21. A method of manufacturing according to claim 13, wherein the garment is an article of clothing selected from the group consisting of a jacket, a shirt, a sweater, a sweatshirt, a coat, a onesy, and a dress.

22. A method of manufacturing according to claim 13, wherein the removable attachment is removably attached to the garment.

23. A method of manufacturing according to any one of claims 13-22, wherein the garment is manufactured to be worn by one or more of the group selected from a police officer, a sheriff, a deputy, a fireman, a construction worker, a road crew worker, a ski patrol member, a crossing guard, an airport employee, a baby, a toddler, a hunter, a biker, a runner, a soldier, and a member of a team.

24. A method of manufacturing according to any one of claims 13-23, wherein the garment is a jacket and the removable attachment is a vest and wherein the vest comprises at least one reflective portion.

25. A method of transforming a garment with a removable attachment, the method comprising:

   providing a garment of any one of claims 1-12, wherein the removable attachment is not visible on the exterior of the garment;

   withdrawing through the opening of the garment the removable attachment;

   and

   connecting the panels of the removable attachment.
26. A method of transforming a garment with a removable attachment, the method comprising:

providing a garment of any one of claims 1-12, wherein the removable attachment is visible on the exterior of the garment;

unconnecting the panels of the removable attachment; and

inserting through the opening of the garment the removable attachment.