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(54) **GARMENT**

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Description

Background

[0001] The solution relates to garments in general. In particular, the solution relates to protective garments. Protective garments may make use of fasteners to keep a garment on its wearer.

[0002] Document US20190357607A1 discloses an adjustable smock that facilitates attachment and detachment from a person with the features of the preamble of claim 1.

[0003] Document US3729747A discloses a hospital gown.

[0004] Document US20020152535A1 discloses a hospital gown.

Brief disclosure

[0005] The object in a new type of garment, such as a protective garment, as well as a fastener and fastening arrangement for keeping the garment on its wearer. The solution according to the invention is characterised by what is stated in the independent claim.

[0006] On its back side, the garment comprises at least one fastener, the fastener being manufactured by forming a band-like part, on a first part of a rear piece of the garment, wherein the band-like part is formed from the same panel as the first part of the rear piece by cutting a band-like part along the vertical side of the first part, and by forming, to a second part of the rear piece, substantially at a height corresponding to a height at which the band-like part is attached to the first part of the rear piece, at least one incision, whose height substantially corresponds to the width of the band-like part. The preferred embodiments are disclosed in the dependent claims.

Brief description of the drawings

[0007] The invention will now be described in closer detail with reference to the accompanying drawings in which:

Figure 1 is a schematic view of a protective garment in which a fastening member is closed.

Figure 2 is a schematic view of a protective garment in which a fastening member is open.

Detailed description

[0008] Garments, in particular protective garments, are used in various kinds of operating environments to protect a person carrying out a task, and their other clothing. On the other hand, in certain environments, such as healthcare, the purpose of protective garments is to protect against the spread of bacteria and other impurities from a person or their clothing to the operating environ-

ment and to protect a wearer against potential pathogens. In healthcare, a sterile environment may even be a requirement for the level of hygiene.

[0009] When operating in a sterile environment or with infectious diseases, it is necessary to avoid all touching that is unnecessary for the task being performed, for example, to surfaces, tools, or utensils. When preparing for a procedure, such as an operation, it is typical that a second person may help the performing person to dress into required sterile protective garments, whereby he need not touch anything unnecessary. It is in such a case advantageous for a protective garment that it is as simple as possible to dress and fasten on a second person. A typical solution is a protective garment open at the back, which an assisting person can easily dress on a person being assisted. After performing the procedure, the requirement for sterility decreases, but touching one's own protective garment, for example, at the back must be avoided even when taking off the protective garment.

[0010] The solution discloses a garment 1 which may be used as a protective garment in healthcare, for example. In the example of Figure 1, the coat-like garment consists of a front piece 8, sleeves 2, and two rear pieces 3, 4. The rear pieces 3, 4 are sewn to the front piece 8 at the shoulders and under the armpits, and by the rear part of the sleeve 2 to the sleeve. At the centre of the back, the rear pieces are open and unsewn together whereby dressing the garment on succeeds from the rear by passing the hands into the sleeves and lifting the garment in place by the shoulders, for example. The rear pieces 3, 4 of the coat-like garment go on top of each other on the back side. Dressing on a second person or assisting in dressing can be done from the back side, because the rear pieces are not sewn together. In addition, there is no need to lift the garment unnecessarily to put it over the head, for example. The simple structure speeds up putting on the protective garment. Dressing up fast is beneficial in an emergency situation, for example. To make sure the garment stays on a person, the rear pieces that go over each other on the back side are fastened with a fastener 5, located at substantially the top part of the garment, near the neck. The location of the fastener behind the neck is of advantage if the protective garment is put on without assistance. The garment may, if needed, comprise more fasteners, such as two, three, four, or more. When the garment comprises several fasteners, they are distributed over the distance of the vertical side of the rear piece as required by each purpose of use.

[0011] The example of Figure 2 shows the garment 1 with the fastener 5 open. The fastener comprises a band-like part 6 cut on a first side of the rear piece, and parallel vertical incisions 9, 10, 11 cut on a second side and substantially corresponding to the width of the band. The fastener is made by cutting a band-like part, conforming to a vertical side of a rear piece of the garment, to a first part of the rear piece, and by forming, to a second part of the rear piece, substantially at a height corresponding

to the band-like part, three parallel incisions whose height substantially corresponds to the width of the band-like part. The incisions may be substantially vertically-running vertical incisions. The length of the incision may also vary in relation to the width of the band, being in some cases shorter than the width of the band and in some cases longer than the width of the band. The incisions are located in the first back member, vertically at essentially the same height as the band-like part comprised by and attached to the second back member. The width of the band-like part may be 20 to 60 cm, for example, and the length 150 to 300 mm, for example. In addition to the incisions, the opening may be formed in the shape of a circle, oval, square, or diamond.

[0012] The fastener may be closed by threading the band-like part through at least one incision from inside the garment to outside, or vice versa.

[0013] If there are three or more incisions, the fastener is closed by threading the band from outside the garment through the first incision 11, as seen from the centre part of the back, inside the garment, and then through the last incision 9, as seen from the centre part of the back, back to outside the garment, and then, seen from the exit opening towards the centre of the back, from the next incision 10 inside from outside the garment, and back through the next incision 11, as seen from the centre part of the back, from inside the garment to outside the garment. The threading may also be carried out as a mirror image, beginning from the other side.

[0014] By threading the band in any of the manners described in the above, a fastening is achieved, which keeps the back members attached to each other essentially from the vicinity of the fasteners. The fastenings created by threading are opened by pulling the fastened pieces away from each other. In such a case, when using the fastening in, for example, in a healthcare protective garment in the rear piece of the garment, it is possible to take off the garment without touching the rear piece on the back side by pulling the garment from the front piece to such an extent that the fastening either loosens to remove the garment over the head, or the fastening detaches entirely whereby the garment may be taken off from the front. An advantage of the procedure is that the wearer of the garment need not touch the rear piece of the garment, and that taking it off works out without an assisting person. Furthermore, the garment can also be taken off very fast, which may be of specific advantage in a first aid situation where protective garments have to be replaced fast once they have become dirty.

[0015] The number of incisions may in addition to one, two, and three vary from four to ten, for example. In such a case, the threading may start at any point of the parallel incisions; at the beginning, middle, or end, as seen from the middle of the back. The threading may be started either from the inside or outside of the garment, and the band may be threaded either by making use of adjacent incisions, or by skipping over one or more incisions before threading through an incision from one side of the fabric

to the other. Threading may take place from the middle of the back towards the armpit, and the direction may be changed once or more often.

[0016] When forming a fastening with the use of at least three incisions, the fastening may, in addition to keeping the garment fastened, be utilised to adjust the garment size as needed. The advantage of the chance to adjust the garment size is that the same garment size fits a plurality persons of different sizes, whereby the need for different size garments is reduced, the garments are simpler to handle and require less work.

[0017] In the garments 1 shown as examples in Figures 1 and 2, the fastener parts band 6 and incisions 9, 10, 11 are formed of the same material blank as the rear pieces 3, 4 of the garment. Forming may take place by cutting with a chisel, for example, or a mould. An advantage of the manufacturing method is that all the cuts are performed at the same work stage as cutting the rest of the blank, reducing work time. A further advantage is savings in the material, when the incision parts do not require any material, and the band part, too, is easily formed of the same material. Saving material is also ecologic. In an embodiment not forming part of the present invention, the fastener may also use another material than the garment material. For example, the neckline may be neatened with a band made of another material, one end of which may be left overlong and used as the band for the fastener.

[0018] The garment may be made of various materials. Suitable materials include all the materials applicable to protective clothes, such as fabric materials. The garment may be made of a fabric, such as a nonwoven fabric. The fabric may be, for example, a Fibrella fabric, such as Fibrella 50-55g/m² 100% PP, Thermoembossed, Fibrella 75g/m² 100% PP, Thermoembossed, WALKI Apron 45 PPNW 30/ Thermoplastic Polymer, or nonwoven fabric 15-80g/m². An advantage of making the garment of a fabric is that the garment may be washed after use and therefore be used a plurality of times. Compared to single-use products, a washable garment is an environment-saving option.

[0019] The fastener is suitable for use in other than coat-like garments. For example, it may be used to fasten an apron-like or robe-like garment. The fastener may also be arranged on the front side of the garment.

[0020] Those skilled in the art will find it obvious that, as technology advances, the basic idea of the invention may be implemented in many different ways. The invention and its embodiments are thus not restricted to the examples described above but may vary within the scope of the claims.

Claims

1. A garment (1) comprising at least one fastener (5) on its back side,

the fastener (5) being manufactured by forming a band-like part (6), on a first part (4) of a rear piece of the garment (1), and by forming, on a second part (3) of the rear piece, substantially at a height corresponding to a height at which the band-like part (6) is attached to the first part (4) of the rear piece (4), at least one incision (9, 10, 11),

whose height substantially corresponds with the width of the band-like part (6)

characterised in that the fastener (5) is manufactured by forming a band-like part (6), on a first part (4) of a rear piece of the garment (1), wherein the band-like part (6) is formed from the same panel as the first part (4) of the rear piece by cutting a band-like part along the vertical side of the first part (4) of the rear piece.

2. A garment (1) as claimed in claim 1, **characterised in that** the garment (1) comprises, in the second part (3) of the rear piece, substantially at a height corresponding to the part fastened to the rear piece of the band-like part (6), at least three incisions (9, 10, 11) whose height substantially corresponds with the width of the band-like part (6).
3. A garment (1) as claimed in claim 1 or 2, **characterised in that** the incisions (9,10,11) are made by cutting from the same blank as the rear pieces (3) of the garment (1).
4. A garment (1) as claimed in any one of claims 1 to 3, **characterised in that** the incisions (9, 10, 11) are vertical incisions.
5. A garment (1) as claimed in any one of claims 1 to 4, **characterised in that** the material is a nonwoven fabric.

Patentansprüche

1. Kleidungsstück (1), das auf seiner Rückseite mindestens ein Befestigungselement (5) umfasst, wobei das Befestigungselement (5) durch Bilden eines bandförmigen Teils (6) in einem ersten Teil (4) eines rückwärtigen Stücks des Kleidungsstücks (1) und durch Bilden in einem zweiten Teil (3) des rückwärtigen Stücks im Wesentlichen in einer Höhe, die einer Höhe entspricht, auf der das bandförmige Teil (6) im ersten Teil (4) des rückwärtigen Stücks (4) angebracht ist, von mindestens einem Einschnitt (9, 10, 11),

dessen Höhe im Wesentlichen der Breite des bandförmigen Teils (6) entspricht, hergestellt wird

dadurch gekennzeichnet, dass das Befesti-

gungselement (5) durch Bilden eines bandförmigen Teils (6) in einem ersten Teil (4) eines rückwärtigen Stücks des Kleidungsstücks (1) hergestellt wird, wobei das bandförmige Teil (6) aus demselben Paneel wie das erste Teil (4) des rückwärtigen Stücks durch Schneiden eines bandförmigen Teils entlang der vertikalen Seite des ersten Teils (4) des rückwärtigen Stücks gebildet wird.

2. Kleidungsstück (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** das Kleidungsstück (1) im zweiten Teil (3) des rückwärtigen Stücks im Wesentlichen in einer Höhe, die dem Teil entspricht, das auf dem rückwärtigen Stück des bandförmigen Teils (6) angebracht ist, mindestens drei Einschnitte (9, 10, 11) umfasst, deren Höhe im Wesentlichen der Breite des bandförmigen Teils (6) entspricht.
3. Kleidungsstück (1) nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** die Einschnitte (9, 10, 11) durch Schneiden aus demselben Rohteil wie die rückwärtigen Stücke (3) des Kleidungsstücks (1) angefertigt werden.
4. Kleidungsstück (1) nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** die Einschnitte (9, 10, 11) vertikale Einschnitte sind.
5. Kleidungsstück (1) nach einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, dass** das Material ein Vliesstoff ist.

Revendications

1. Vêtement (1) comprenant au moins une fixation (5) sur son côté arrière,

la fixation (5) étant fabriquée en formant une partie en forme de bande (6), sur une première partie (4) d'une pièce arrière du vêtement (1) et en formant, sur une seconde partie (3) de la pièce arrière, sensiblement à une hauteur correspondant à une hauteur à laquelle la partie en forme de bande (6) est fixée à la première partie (4) de la pièce arrière (4), au moins une incision (9, 10, 11),

dont la hauteur correspond sensiblement à la largeur de la partie en forme de bande (6),

caractérisé en ce que la fixation (5) est fabriquée en formant une partie en forme de bande (6), sur une première partie (4) d'une pièce arrière du vêtement (1), dans lequel la partie en forme de bande (6) est formée à partir du même panneau que la première partie (4) de la pièce arrière en coupant une partie en forme de bande le long du côté vertical de la première partie (4)

de la pièce arrière.

2. Vêtement (1) selon la revendication 1, **caractérisé en ce que** le vêtement (1) comprend, dans la seconde partie (3) de la pièce arrière, sensiblement à une hauteur correspondant à la partie fixée à la pièce arrière de la partie en forme de bande (6), au moins trois incisions (9, 10, 11), dont la hauteur correspond sensiblement à la largeur de la partie en forme de bande (6). 5 10
3. Vêtement (1) selon la revendication 1 ou 2, **caractérisé en ce que** les incisions (9, 10, 11) sont réalisées en découpant dans la même ébauche que les pièces arrière (3) du vêtement (1). 15
4. Vêtement (1) selon l'une quelconque des revendications 1 à 3, **caractérisé en ce que** les incisions (9, 10, 11) sont des incisions verticales. 20
5. Vêtement (1) selon l'une quelconque des revendications 1 à 4, **caractérisé en ce que** le matériau est un tissu non tissé. 25

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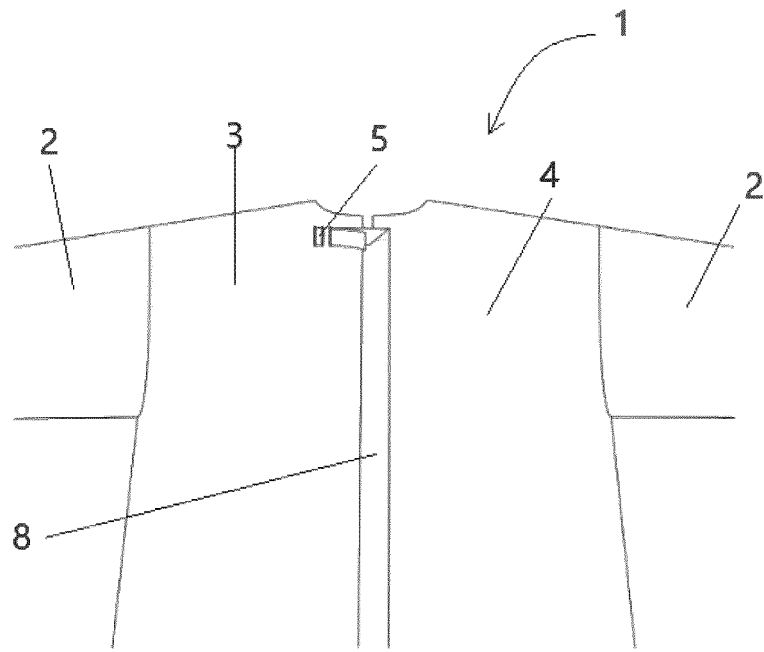


Fig.1

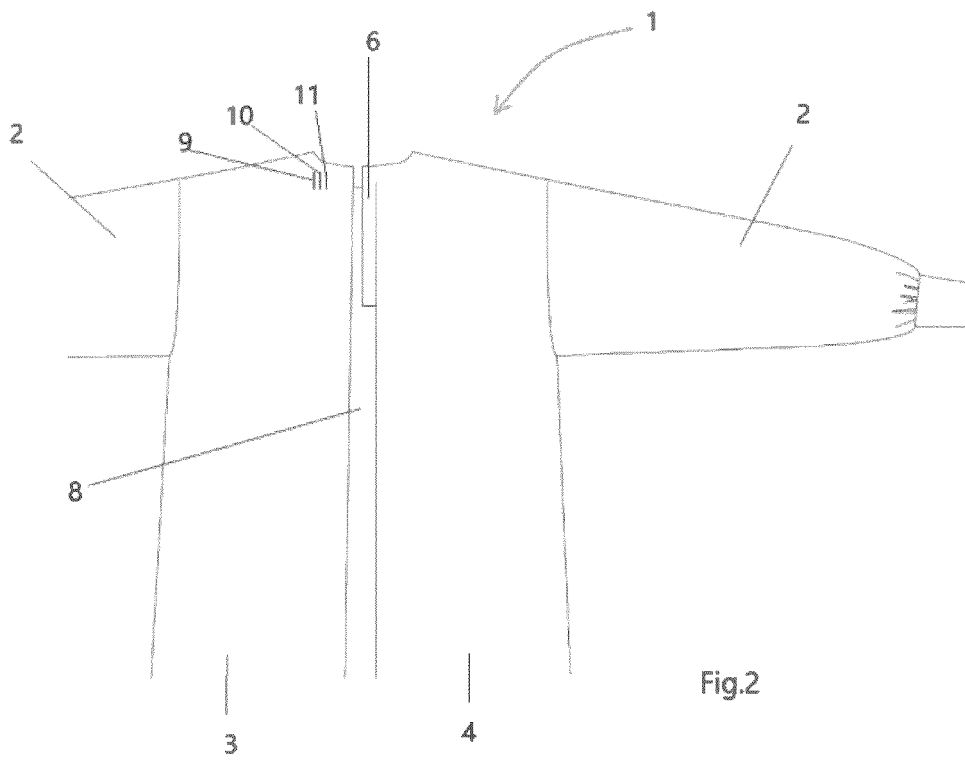


Fig.2

REFERENCES CITED IN THE DESCRIPTION

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