(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 3 146 859 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
29.03.2017 Bulletin 2017/13

(51) Int Cl.:
A41D 19/015 *(2006.01)* ***A41D 13/04*** *(2006.01)*

(21) Application number: **15186354.5**

(22) Date of filing: **22.09.2015**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
MA

(71) Applicant: **Honeywell International Inc.**
Morris Plains, NJ 07950 (US)

(72) Inventor: **BOILLOT, Xavier**
Morris Plains, NJ New Jersey 07950 (US)

(74) Representative: **Houghton, Mark Phillip**
Patent Outsourcing Limited
1 King Street
Bakewell, Derbyshire DE45 1DZ (GB)

Remarks:
Amended claims in accordance with Rule 137(2) EPC.

(54) METAL MESH GLOVE WITH TWO DIFFERENT MESHES

(57) Embodiments relate generally to a protective mesh garments comprising at least two different types of mesh materials. In some embodiments, the garment may comprise a plurality of mesh materials comprising different ring sizes, which may be determined based on the protection desired on different portions of the garment. In some embodiments, the garment may comprise a glove with a hand portion and an arm portion. In one embodiment, the glove comprises a mesh with smaller rings on the hand portion of the glove and a mesh with larger rings on the arm portion of the glove.

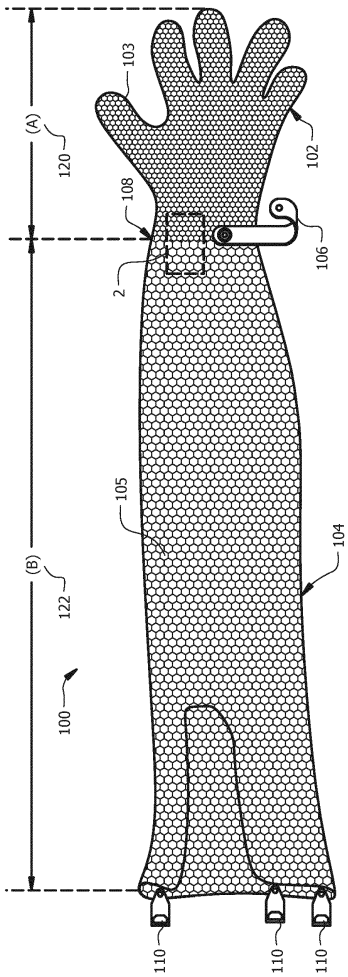

FIG. 1

EP 3 146 859 A1

Description

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not applicable.

REFERENCE TO A MICROFICHE APPENDIX

[0003] Not applicable.

BACKGROUND

[0004] In certain industries, such as butchery, workers may use knives on a regular basis. To provide protection from cuts and punctures, workers may wear metal mesh garments, such as gloves, aprons, suits, sleeves, cuffs, tunics, etc. These metal mesh garments may be made of a plurality of small metal rings, connected to form a mesh material, which may be shaped to fit on a user's body.

SUMMARY

[0005] Aspects of the disclosure may include embodiments of a metal mesh glove comprising: a first mesh material comprising a first ring size, wherein the first mesh material forms a hand portion of the glove; and a second mesh material comprising a second ring size, wherein the second mesh material forms an arm portion of the glove, wherein the first mesh material and second mesh material are attached seamlessly at an attachment line; wherein the first ring size is smaller than the second ring size, and therefore provides increased puncture protection; and wherein the second mesh material is lighter weight than the first mesh material.

[0006] In some embodiments, the rings of the first mesh material comprise an external diameter of approximately 4 mm, and wherein the rings of the first mesh material comprise a wire diameter of approximately 0.5 mm. In some embodiments, the rings of the second mesh material comprise an external diameter of approximately 4.9 mm, and wherein the rings of the second mesh material comprise a wire diameter of approximately 0.46 mm. In some embodiments, the first mesh material and the second mesh material comprise stainless steel rings. In some embodiments, the metal mesh glove may further comprise one or more attachment clips for attaching the glove to another garment at the shoulder of the user. In some embodiments, the metal mesh glove may further comprise a wrist strap for securing the glove at the wrist of the user. In some embodiments, the length of the first mesh material, along the length of the glove, is between approximately 188 millimeters and 250 millimeters.

[0007] Additional aspects of the disclosure may include embodiments of a metal mesh garment comprising: a first mesh material comprising a first ring size; and a second mesh material comprising a second ring size, wherein the first mesh material and second mesh material are attached seamlessly at an attachment line; wherein the first ring size is smaller than the second ring size, and therefore provides increased puncture protection; and wherein the second mesh material is lighter weight than the first mesh material.

[0008] In some embodiments, the rings of the first mesh material comprise an external diameter of approximately 4 mm, and wherein the rings of the first mesh material comprise a wire diameter of approximately 0.5 mm. In some embodiments, the rings of the second mesh material comprise an external diameter of approximately 4.9 mm, and wherein the rings of the second mesh material comprise a wire diameter of approximately 0.46 mm. In some embodiments, the metal mesh garment comprises a glove. In some embodiments, the first mesh material forms a hand portion of the glove. In some embodiments, the second mesh material forms an arm portion of the glove. In some embodiments, the first mesh material forms one or more finger portions of the glove. In some embodiments, the metal mesh garment comprises one of the following: a glove, a sleeve, an apron, a cuff, a tunic, and a chasuble. In some embodiments, the length of the first mesh material, along the length of the glove, is between approximately 188 millimeters and 250 millimeters.

[0009] Other aspects of the disclosure may include embodiments of a metal mesh glove comprising: a first mesh material comprising a first ring size, wherein the first mesh material forms a hand portion of the glove; and a second mesh material comprising a second ring size, wherein the second mesh material forms an arm portion of the glove, wherein the first mesh material and second mesh material are attached seamlessly at an attachment line; the first ring size is smaller than the second ring size, and therefore provides increased puncture protection; the second mesh material is lighter weight than the first mesh material; the rings of the first mesh material comprise an external diameter of approximately 4 mm, and wherein the rings of the first mesh material comprise a wire diameter of approximately 0.5 mm; and the rings of the second mesh material comprise an external diameter of approximately 4.9 mm, and wherein the rings of the second mesh material comprise a wire diameter of approximately 0.46 mm

[0010] In some embodiments, the weight of the glove is approximately 35% less than a glove using only the first mesh material. In some embodiments, the length of the first mesh material, along the length of the glove, is between approximately 188 millimeters and 250 millimeters. In some embodiments, the length of the second mesh material, along the length of the glove, is between approximately 565 millimeters and 770 millimeters.

[0011] These and other features will be more clearly

understood from the following detailed description taken in conjunction with the accompanying drawings and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] For a more complete understanding of the present disclosure, reference is now made to the following brief description, taken in connection with the accompanying drawings and detailed description, wherein like reference numerals represent like parts.

FIG. 1 illustrates a metal mesh glove according to an embodiment of the disclosure; and

FIG. 2 illustrates a detailed view of two metal mesh materials according to an embodiment of the disclosure.

DETAILED DESCRIPTION

[0013] It should be understood at the outset that although illustrative implementations of one or more embodiments are illustrated below, the disclosed systems and methods may be implemented using any number of techniques, whether currently known or not yet in existence. The disclosure should in no way be limited to the illustrative implementations, drawings, and techniques illustrated below, but may be modified within the scope of the appended claims along with their full scope of equivalents.

[0014] The following brief definition of terms shall apply throughout the application:

[0015] The term "comprising" means including but not limited to, and should be interpreted in the manner it is typically used in the patent context;

[0016] The phrases "in one embodiment," "according to one embodiment," and the like generally mean that the particular feature, structure, or characteristic following the phrase may be included in at least one embodiment of the present invention, and may be included in more than one embodiment of the present invention (importantly, such phrases do not necessarily refer to the same embodiment);

[0017] If the specification describes something as "exemplary" or an "example," it should be understood that refers to a non-exclusive example;

[0018] The terms "about" or approximately" or the like, when used with a number, may mean that specific number, or alternatively, a range in proximity to the specific number, as understood by persons of skill in the art field; and

[0019] If the specification states a component or feature "may," "can," "could," "should," "would," "preferably," "possibly," "typically," "optionally," "for example," "often," or "might" (or other such language) be included or have a characteristic, that particular component or feature is not required to be included or to have the characteristic. Such component or feature may be optionally included in some embodiments, or it may be excluded.

[0020] Embodiments relate generally to a protective mesh garments comprising at least two different types of mesh materials. In some embodiments, the garment may comprise a plurality of mesh materials comprising different ring sizes, which may be determined based on the protection desired on different portions of the garment. In some embodiments, the garment may comprise a glove with a hand portion and an arm portion. In one embodiment, the glove comprises a mesh with smaller rings on the hand portion of the glove and a mesh with larger rings on the arm portion of the glove.

[0021] Referring now to FIG. 1, an exemplary embodiment of a glove 100 is shown, wherein the glove 100 comprises a hand portion 102 and an arm portion 104. The glove 100 may also comprise a wrist strap 106 for securing the glove 100 about the wrist of a user. In some embodiments, the glove 100 may comprise one or more attachment clips 110 for attaching the glove 100 to another garment, such as a suit or apron, at the shoulder of the user. In some embodiments, the glove 100 may comprise a mesh material comprising metal rings connected to form the mesh material. The mesh material may protect a wearer from stabs or cuts. Typically, the clips 110 could be configured to provide a sufficiently strong attachment (to the other garment) so as to effectively support the weight of the metal mesh glove.

[0022] In the embodiment shown in FIG. 1, the glove 100 may comprise at least two different mesh materials. In one embodiment, the glove 100 may comprise a first mesh material 103 that forms the hand portion 102 of the glove 100, and the glove 100 may comprise a second mesh material 105 that forms the arm portion 104 of the glove 100. In some embodiments, the first mesh material 103 may comprise rings with a smaller external diameter than the rings of the second mesh material 105. Therefore, the first mesh material 103 may provide a higher cut protection and a higher protection from puncture or piercing wounds than the second mesh material 105. In many embodiments, the use of smaller rings for the first mesh material may be selected in particular to make an area (of the glove, for example) more puncture resistant. It may be desirable to have a higher cut protection for the hand portion 102 of the glove 100, because a user's hands may be more susceptible to cuts or punctures, (and perhaps particularly puncture wounds,) than for the arm portion 104 of the glove 100. Additionally, using a larger diameter ring for the arm portion 104 may decrease the overall weight of the glove 100 and or improve bendability/flexibility, for example improving the comfort of the user. Thus, such larger rings might be used for parts/areas (of the glove, for example) where puncture wounds are less likely and/or where comfort concerns may have a higher priority.

[0023] In the embodiment of FIG. 1, the two mesh materials 103 and 105 may attach at an attachment line 108, wherein the attachment may be continuous between the rings of the two mesh materials 103 and 105. FIG. 2 il-

lustrates a detailed view of the attachment line 108 between the two mesh materials. As shown in FIG. 2, the attachment line 108 may exist where the rings of the first mesh material 103 (that forms the hand portion 102) attach to the rings of the second mesh material 105 (that forms the arm portion 104). As shown in FIG. 2, the attachment line 108 comprises a continuous attachment between the first mesh material 103 and the second mesh material 105, where there are no gaps, holes, openings, breaks or other possible weak points at the attachment line 108 which may reduce the protection at the attachment line 108. The continuous attachment between the two mesh materials maintains the integrity and protection of the glove 100 (shown in FIG. 1). In some embodiments, the two mesh materials may be attached to one another using methods as would be understood by those skilled in the art.

[0024] In the embodiment of FIG. 1, the attachment line 108 may be located near the wrist of a user. However, in other embodiments, the attachment line 108 may be located at another position on the glove. For example, in an alternative embodiment, the mesh material 103 comprising the smaller rings may be located only on the fingers of the glove. Additionally, the mesh material 103 comprising the smaller rings may be located on other portions of the glove 100 to provided additional protection to that portion of the glove 100 (for example, if multiple attachment/transition lines at different positions on the glove).

[0025] In the embodiment of FIG. 1, the length 120 of the hand portion 102, or Length A 120, may comprise the length of the first mesh material 103. Also, the length 122 of the arm portion 104, or Length B 122, may comprise the length of the second mesh material 105. In some embodiments, Length A120 and Length B 122 may vary depending on the size of the glove 100. As an example, Table 1 below illustrates possible measurements for Length A 120 and Length B 122 based on the size of the glove 100. The measurements are in millimeters (mm).

Table 1

Size	Length A (mm)	Length B (mm)
XXS	188	565
XS	200	610
S	212	610
M	225	750
L	237	750
XL	250	770

[0026] In some embodiments, the rings of the first mesh material 103 may comprise an external diameter of approximately 4 mm. In some embodiments, the rings of the first mesh material 103 may comprise a wire diameter of approximately 0.5 mm. This may maintain an internal diameter of less than approximately 4 mm, which complies with standard requirements for mesh material. In this particular embodiment, for example, the internal diameter of the rings of the first mesh material 103 might be approximately 3mm.

[0027] In some embodiments, the rings of the second mesh material 105 may comprise an external diameter of approximately 4.9 mm. In some embodiments, the rings of the second mesh material 105 may comprise a wire diameter of approximately 0.46 mm. This may maintain an internal diameter of less than approximately 4 mm, which adheres to standard requirements for mesh material. In this particular embodiment, for example, the internal diameter of the rings of the second mesh material 105 might be approximately 3.98mm. So, despite the fact that the second mesh material 105 may have rings of larger diameter than the rings of the first mesh material 103, the internal diameter of both the first mesh material 103 and the second mesh material 105 may be less than approximately 4mm (although the difference between internal diameter at small and large rings might vary up to about 1mm (for example, approximately 0.98mm) and perhaps even more in some embodiment).

[0028] To ensure a smooth transition from the first mesh material 103 (with smaller rings) to the second mesh material 105 (with larger rings) in FIG. 2, the larger rings of the second mesh material (105) might each be connected to (eg. intermeshed or interlinked with) three of the smaller rings of the first mesh material 103 (on one side of each such larger ring of the second mesh material 105) along the attachment/transition line 108. On the other side of each such larger ring of the second mesh material 105, two other larger rings of the second mesh material 105 could be connected to (eg. intermeshed or interlinked with) said larger ring. While other embodiments might have a different ratio of small rings (of the first mesh material) interlinked to each larger ring (of the second mesh material 105), the ratio shown in FIG. 2 (of three small rings per each larger ring) often makes for an effective transition. This ratio may be particularly effective when the first mesh material 103 and the second mesh material 105 are sized as described above. The size of the smaller and larger rings, the wire diameter of the smaller and larger rings, and/or the ratio of smaller rings for each larger ring may be selected to ensure a smooth transition at the attachment/transition line 108, for example, without bunching, bending, and/or gaps.

[0029] In some embodiments, using the first mesh material 103 and second mesh material 105 as described above may reduce the weight of the glove 100 by approximately 35% as compared to a glove using only one mesh material (for example, the first mesh material). In some embodiments, the metal mesh materials may comprise stainless steel.

[0030] In some embodiments, the sleeve/arm portion 104 may also have one ore more cut-outs. For example, there may be a cut-out which would correspond to a wearer's underarm area, to improve mobility and/or comfort

at an area which may not need protection.

[0031] In some embodiments, similar mesh materials may be used in other metal mesh garments, such as aprons, sleeves, cuffs, chasubles, tunics, etc. It may be useful to have more than one metal mesh material on metal mesh garments, having the smaller metal mesh material located at locations of increased risk for puncture, and having the larger metal mesh material located at location of lower risk for puncture. This may allow for reducing the weight of the metal mesh garment, while maintaining the protection properties of the garment (especially with respect to cuts).

[0032] While various embodiments in accordance with the principles disclosed herein have been shown and described above, modifications thereof may be made by one skilled in the art without departing from the spirit and the teachings of the disclosure. The embodiments described herein are representative only and are not intended to be limiting. Many variations, combinations, and modifications are possible and are within the scope of the disclosure. Alternative embodiments that result from combining, integrating, and/or omitting features of the embodiment(s) are also within the scope of the disclosure. Accordingly, the scope of protection is not limited by the description set out above, but is defined by the claims which follow, that scope including all equivalents of the subject matter of the claims. Each and every claim is incorporated as further disclosure into the specification and the claims are embodiment(s) of the present invention(s). Furthermore, any advantages and features described above may relate to specific embodiments, but shall not limit the application of such issued claims to processes and structures accomplishing any or all of the above advantages or having any or all of the above features.

[0033] Additionally, the section headings used herein are provided for consistency with the suggestions under 37 C.F.R. 1.77 or to otherwise provide organizational cues. These headings shall not limit or characterize the invention(s) set out in any claims that may issue from this disclosure. Specifically and by way of example, although the headings might refer to a "Field," the claims should not be limited by the language chosen under this heading to describe the so-called field. Further, a description of a technology in the "Background" is not to be construed as an admission that certain technology is prior art to any invention(s) in this disclosure. Neither is the "Summary" to be considered as a limiting characterization of the invention(s) set forth in issued claims. Furthermore, any reference in this disclosure to "invention" in the singular should not be used to argue that there is only a single point of novelty in this disclosure. Multiple inventions may be set forth according to the limitations of the multiple claims issuing from this disclosure, and such claims accordingly define the invention(s), and their equivalents, that are protected thereby. In all instances, the scope of the claims shall be considered on their own merits in light of this disclosure, but should not be constrained by the headings set forth herein.

[0034] Use of broader terms such as comprises, includes, and having should be understood to provide support for narrower terms such as consisting of, consisting essentially of, and comprised substantially of. Use of the term "optionally," "may," "might," "possibly," and the like with respect to any element of an embodiment means that the element is not required, or alternatively, the element is required, both alternatives being within the scope of the embodiment(s). Also, references to examples are merely provided for illustrative purposes, and are not intended to be exclusive.

[0035] While several embodiments have been provided in the present disclosure, it should be understood that the disclosed systems and methods may be embodied in many other specific forms without departing from the spirit or scope of the present disclosure. The present examples are to be considered as illustrative and not restrictive, and the intention is not to be limited to the details given herein. For example, the various elements or components may be combined or integrated in another system or certain features may be omitted or not implemented.

[0036] Also, techniques, systems, subsystems, and methods described and illustrated in the various embodiments as discrete or separate may be combined or integrated with other systems, modules, techniques, or methods without departing from the scope of the present disclosure. Other items shown or discussed as directly coupled or communicating with each other may be indirectly coupled or communicating through some interface, device, or intermediate component, whether electrically, mechanically, or otherwise. Other examples of changes, substitutions, and alterations are ascertainable by one skilled in the art and could be made without departing from the spirit and scope disclosed herein.

Claims

1. A metal mesh glove (100) comprising:

a first mesh material (103) comprising a first ring size, wherein the first mesh material (103) forms a hand portion (102) of the glove (100); and
a second mesh material (105) comprising a second ring size, wherein the second mesh material (105) forms a arm portion (104) of the glove (100),

wherein:

the first mesh material (103) and second mesh material (105) are attached seamlessly at an attachment line (108);
wherein the first ring size is smaller than the second ring size, and therefore provides increased puncture protection; and

wherein the second mesh material (105) is lighter weight than the first mesh material (103).

2. The metal mesh glove (100) of claim 1, wherein the rings of the first mesh material (103) comprises an external diameter of approximately 4 mm, and wherein the rings of the first mesh material (103) comprises a wire diameter of approximately 0.5 mm.

3. The metal mesh glove (100) of claim 1 or 2, wherein the rings of the second mesh material (105) comprises an external diameter of approximately 4.9 mm, and wherein the rings of the second mesh material (105) comprises a wire diameter of approximately 0.46 mm.

4. The metal mesh glove (100) of claim 1, wherein the first mesh material (103) and the second mesh material (105) comprise stainless steel rings.

5. The metal mesh glove (100) of claim 1 further comprising one or more attachment clips for attaching the glove (100) to another garment at the shoulder of the user.

6. The metal mesh glove (100) of claim 1 further comprising a wrist strap for securing the glove (100) at the wrist of the user.

7. The metal mesh glove (100) of claim 1, wherein the length of the first mesh material (103), along the length of the glove (100), is between approximately 188 millimeters and 250 millimeters.

8. A metal mesh garment comprising:

a first mesh material (103) comprising a first ring size; and
a second mesh material (105) comprising a second ring size,

wherein

the first mesh material (103) and second mesh material (105) are attached seamlessly at an attachment line (108);
wherein the first ring size is smaller than the second ring size, and therefore provides increased puncture protection; and
wherein the second mesh material (105) is lighter weight than the first mesh material (103).

9. The metal mesh garment of claim 8, wherein the rings of the first mesh material (103) comprises an external diameter of approximately 4 mm, and wherein the rings of the first mesh material (103) comprises a wire diameter of approximately 0.5 mm.

10. The metal mesh garment of claim 8 or 9, wherein the rings of the second mesh material (105) comprises an external diameter of approximately 4.9 mm, and wherein the rings of the second mesh material (105) comprises a wire diameter of approximately 0.46 mm.

11. The metal mesh garment of claim 8, wherein the metal mesh garment comprises a glove (100).

12. The metal mesh garment of claim 11, wherein the first metal material forms a hand portion (102) of the glove (100), and wherein the second mesh material (105) forms a arm portion (104) of the glove (100).

13. The metal mesh garment of claim 11, wherein the first mesh material (103) forms one or more finger portions of the glove (100).

14. The metal mesh garment of claim 8, wherein the metal mesh garment comprises one of the following: a glove (100), a sleeve, an apron, a cuff, a tunic, and a chasuble.

15. A metal mesh glove (100) comprising:

a first mesh material (103) comprising a first ring size, wherein the first metal material forms a hand portion (102) of the glove (100); and
a second mesh material (105) comprising a second ring size, wherein the second mesh material (105) forms an arm portion (104) of the glove (100),

wherein:

the first mesh material (103) and second mesh material (105) are attached seamlessly at an attachment line (108);
the first ring size is smaller than the second ring size, and therefore provides increased puncture protection;
the second mesh material (105) is lighter weight than the first mesh material (103);
the rings of the first mesh material (103) 103 comprise an external diameter of approximately 4 mm, and wherein the rings of the first mesh material (103) 103 comprise a wire diameter of approximately 0.5 mm; and
the rings of the second mesh material (105) 105 comprise an external diameter of approximately 4.9 mm, and wherein the rings of the second mesh material (105) 105 comprise a wire diameter of approximately 0.46 mm.

Amended claims in accordance with Rule 137(2) EPC.

1. A metal mesh glove (100) comprising:

a first mesh material (103) comprising a first ring size, wherein the first mesh material (103) forms a hand portion (102) of the glove (100); and
a second mesh material (105) comprising a second ring size, wherein the second mesh material (105) forms a arm portion (104) of the glove (100),

wherein:

the first mesh material (103) and second mesh material (105) are attached seamlessly at an attachment line (108);
wherein the first ring size is smaller than the second ring size, and therefore provides increased puncture protection; and
wherein the second mesh material (105) is lighter weight than the first mesh material (103).

2. The metal mesh glove (100) of claim 1, wherein the rings of the first mesh material (103) comprises an external diameter of approximately 4 mm, and wherein the rings of the first mesh material (103) comprises a wire diameter of approximately 0.5 mm.

3. The metal mesh glove (100) of claim 1 or 2, wherein the rings of the second mesh material (105) comprises an external diameter of approximately 4.9 mm, and wherein the rings of the second mesh material (105) comprises a wire diameter of approximately 0.46 mm.

4. The metal mesh glove of claim 3, wherein each of the rings of the second mesh material (105) is connected to three of the rings of the first mesh material (103) along the attachment line (108).

5. The metal mesh glove (100) of claim 1, wherein the first mesh material (103) and the second mesh material (105) comprise stainless steel rings.

6. The metal mesh glove (100) of claim 1 further comprising one or more attachment clips for attaching the glove (100) to another garment at the shoulder of the user.

7. The metal mesh glove (100) of claim 1 further comprising a wrist strap for securing the glove (100) at the wrist of the user.

8. The metal mesh glove (100) of claim 1, wherein the length of the first mesh material (103), along the length of the glove (100), is between approximately 188 millimeters and 250 millimeters.

9. A metal mesh garment comprising:

a first mesh material (103) comprising a first ring size; and
a second mesh material (105) comprising a second ring size,

wherein
the first mesh material (103) and second mesh material (105) are attached seamlessly at an attachment line (108);
wherein the first ring size is smaller than the second ring size, and therefore provides increased puncture protection; and
wherein the second mesh material (105) is lighter weight than the first mesh material (103).

10. The metal mesh garment of claim 9, wherein the rings of the first mesh material (103) comprises an external diameter of approximately 4 mm, and wherein the rings of the first mesh material (103) comprises a wire diameter of approximately 0.5 mm.

11. The metal mesh garment of claim 9 or 10, wherein the rings of the second mesh material (105) comprises an external diameter of approximately 4.9 mm, and wherein the rings of the second mesh material (105) comprises a wire diameter of approximately 0.46 mm.

12. The metal mesh garment of claim 9, wherein the metal mesh garment comprises a glove (100).

13. The metal mesh garment of claim 12, wherein the first metal material forms a hand portion (102) of the glove (100), and wherein the second mesh material (105) forms a arm portion (104) of the glove (100).

14. The metal mesh garment of claim 12, wherein the first mesh material (103) forms one or more finger portions of the glove (100).

15. A metal mesh glove (100) comprising:

a first mesh material (103) comprising a first ring size, wherein the first metal material forms a hand portion (102) of the glove (100); and
a second mesh material (105) comprising a second ring size, wherein the second mesh material (105) forms an arm portion (104) of the glove (100),

wherein:

the first mesh material (103) and second mesh material (105) are attached seamlessly at an at-

tachment line (108);
the first ring size is smaller than the second ring size, and therefore provides increased puncture protection;
the second mesh material (105) is lighter weight than the first mesh material (103);
the rings of the first mesh material (103) 103 comprise an external diameter of approximately 4 mm, and wherein the rings of the first mesh material (103) 103 comprise a wire diameter of approximately 0.5 mm; and
the rings of the second mesh material (105) 105 comprise an external diameter of approximately 4.9 mm, and wherein the rings of the second mesh material (105) 105 comprise a wire diameter of approximately 0.46 mm.

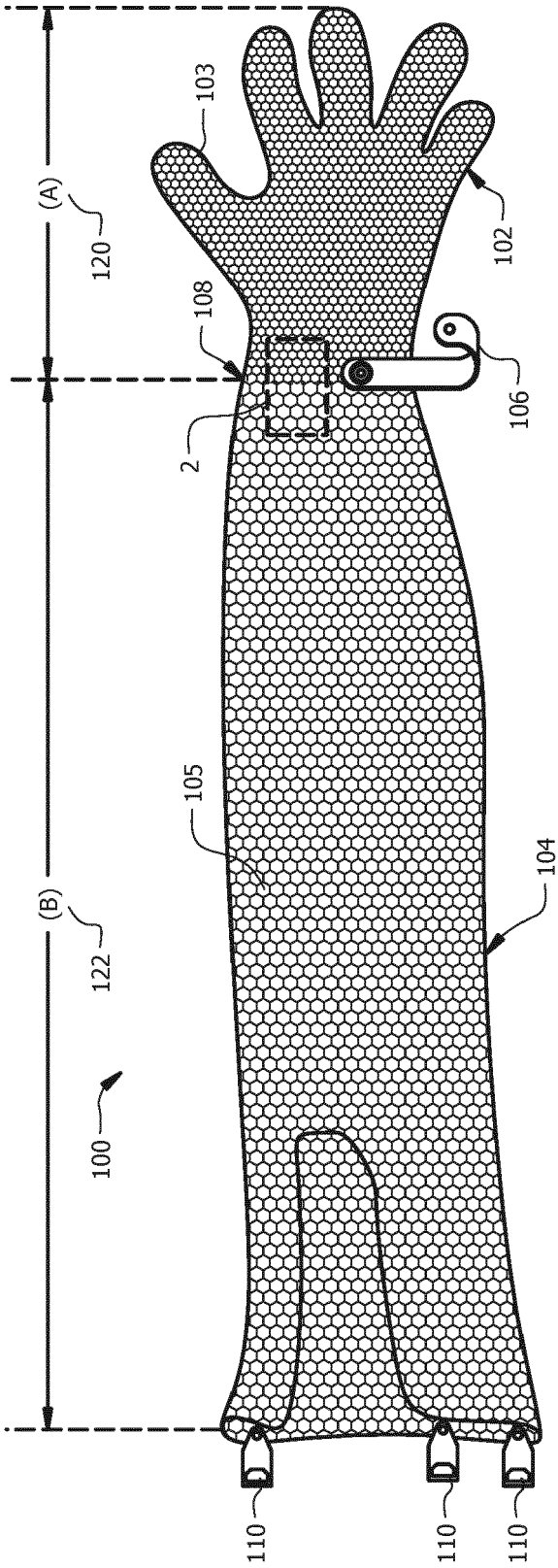

FIG. 1

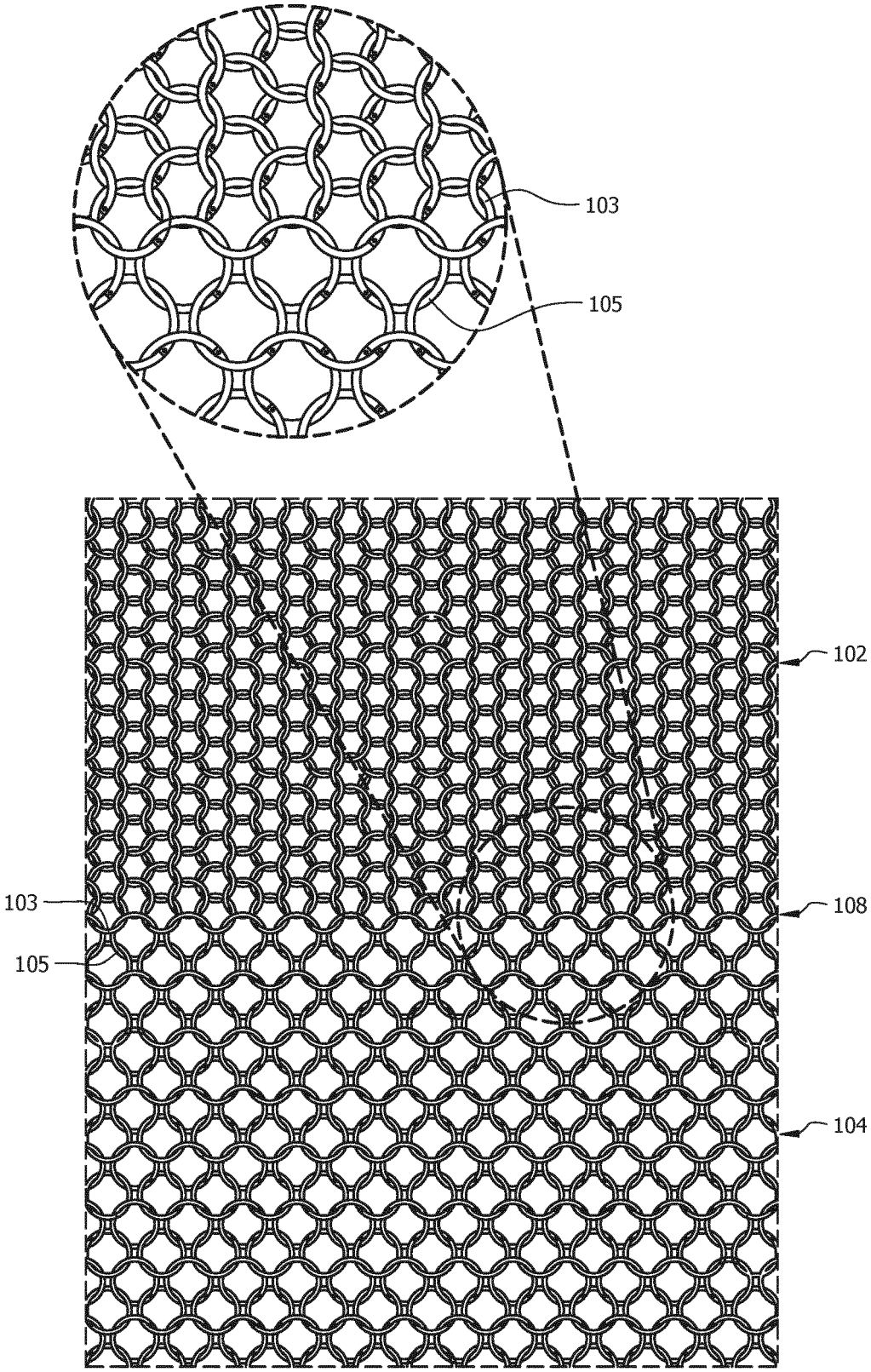

FIG. 2

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 15 18 6354

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X Y	EP 2 891 418 A1 (HONEYWELL INT INC [US]) 8 July 2015 (2015-07-08) * abstract; figures 6-8,10 * * paragraphs [0020] - [0022], [0029] * -----	1-4,6-15 5	INV. A41D19/015 A41D13/04
Y	EP 1 946 660 A2 (ZIEGLER MECHANISCHE WERKSTATT [DE]) 23 July 2008 (2008-07-23) * abstract; figure 1 * -----	5	
A	FR 2 771 260 A1 (MANULATEX FRANCE [FR]) 28 May 1999 (1999-05-28) * abstract; figure 11 * -----	1,8,15	

TECHNICAL FIELDS SEARCHED (IPC)

A41D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	21 March 2016	da Silva, José

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 15 18 6354

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-03-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2891418 A1	08-07-2015	NONE	
EP 1946660 A2	23-07-2008	AT 492177 T	15-01-2011
		DE 102007004032 B3	02-10-2008
		DK 1946660 T3	04-04-2011
		EP 1946660 A2	23-07-2008
		ES 2357787 T3	29-04-2011
FR 2771260 A1	28-05-1999	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82