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(54) **ANTI-SLIP SLIP-ON SLIP-OVER ROOF SAFETY SHORTS**

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(57) **ABSTRACT**

Anti-slip slip-on slip-over roof safety shorts comprises an exterior special gripping surface and material combination for use by anyone with a need to be on steep sloped surface such as a roof to increase the sliding friction between the wearer and the steep sloped surface. The safety shorts are fastenable to slip on the body or over other conventional existing articles of clothing. Optionally, the special gripping surface can be applied to the interior surface of the roof safety shorts so that when the inside non-slip surface contacts with the existing wearer's conventional existing clothing it prevents slippage between the roof safety shorts and the wearer's conventional existing clothing. Unlike other articles of clothing with gripping material a special process, material, and techniques have been applied to slow and/or prevent the degradation of the gripping material when a 200 lb. man falls on the roof with the safety shorts.

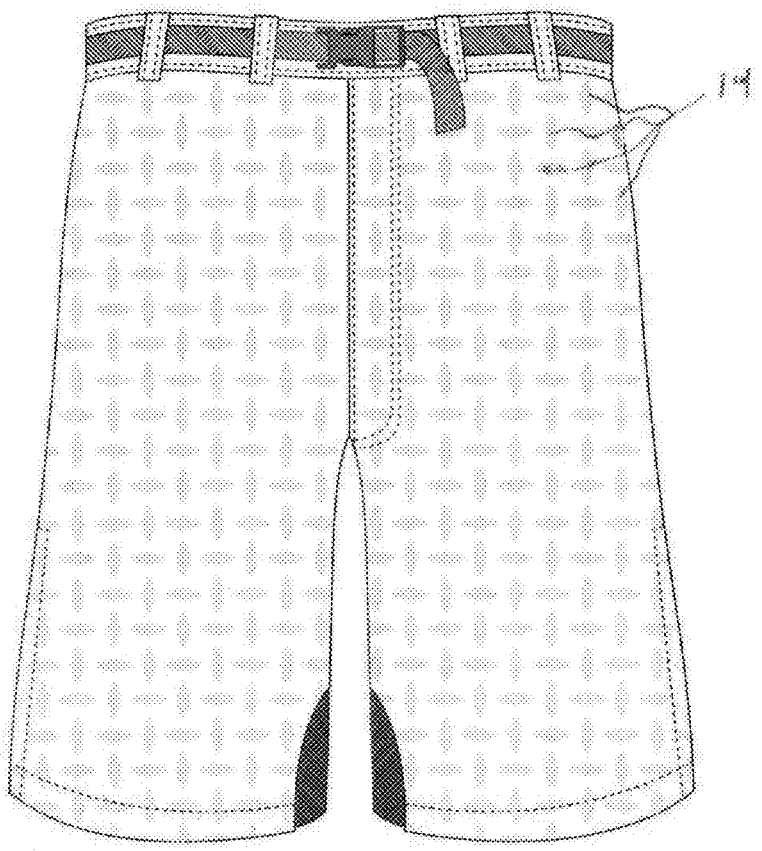


Fig. 1

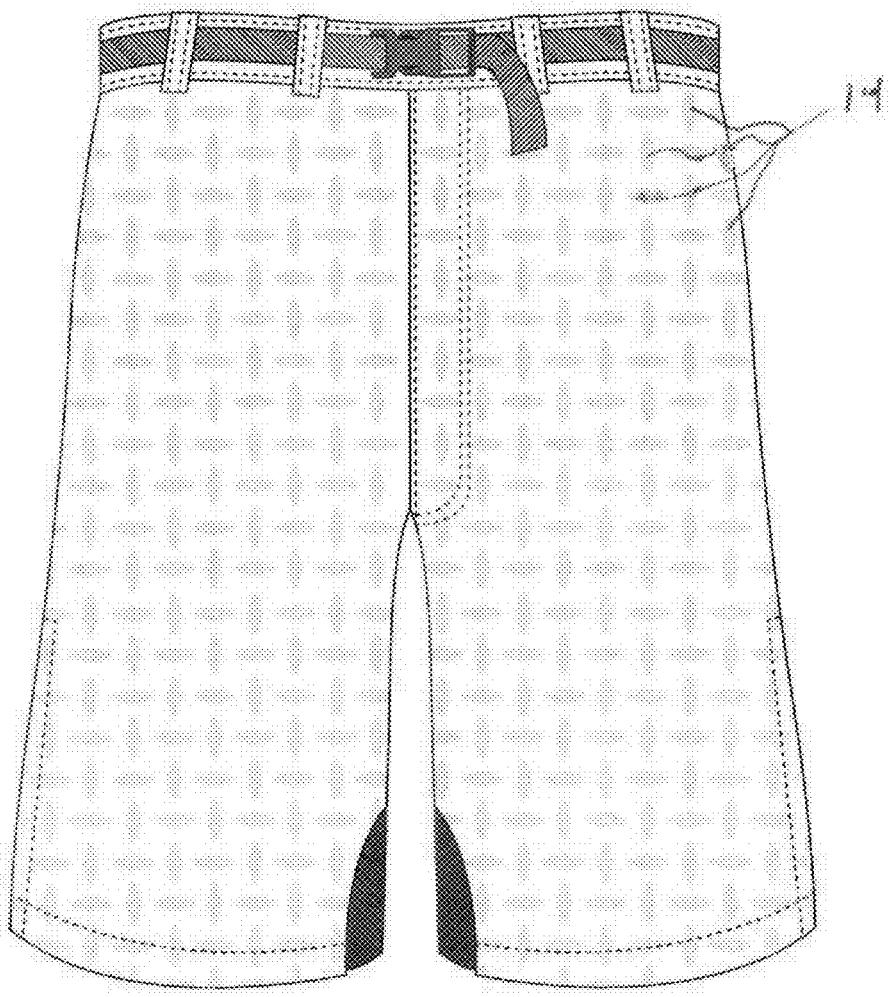


Fig. 2

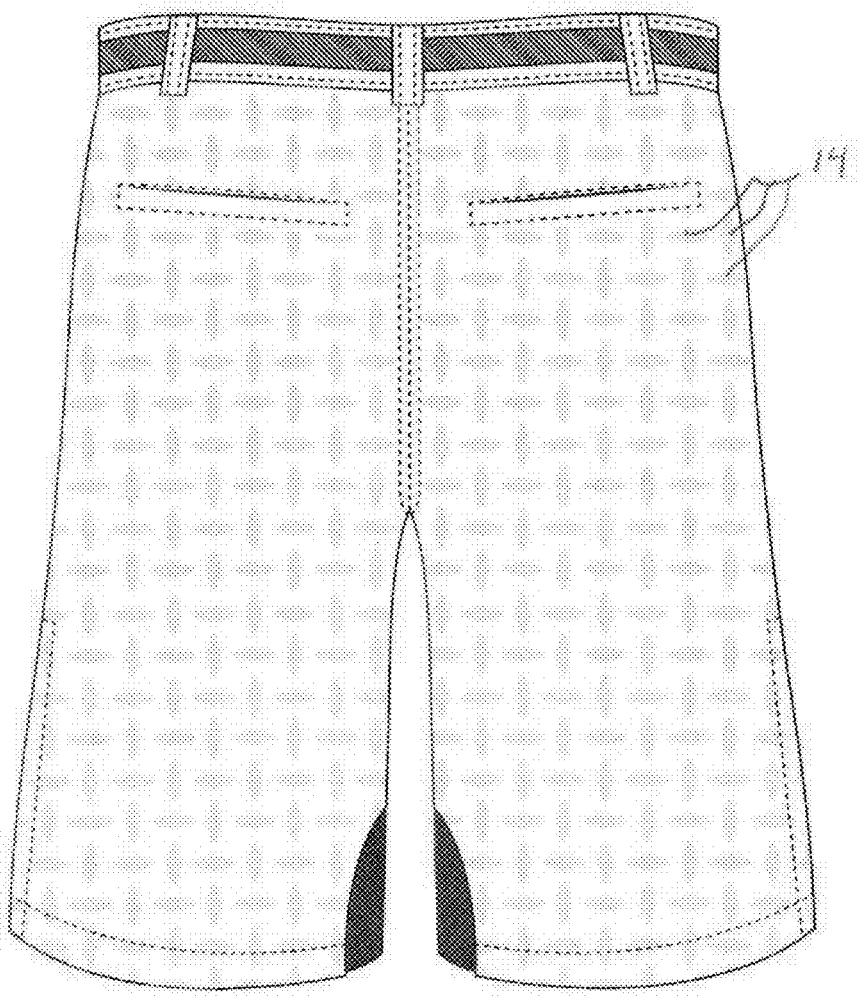


Fig. 3

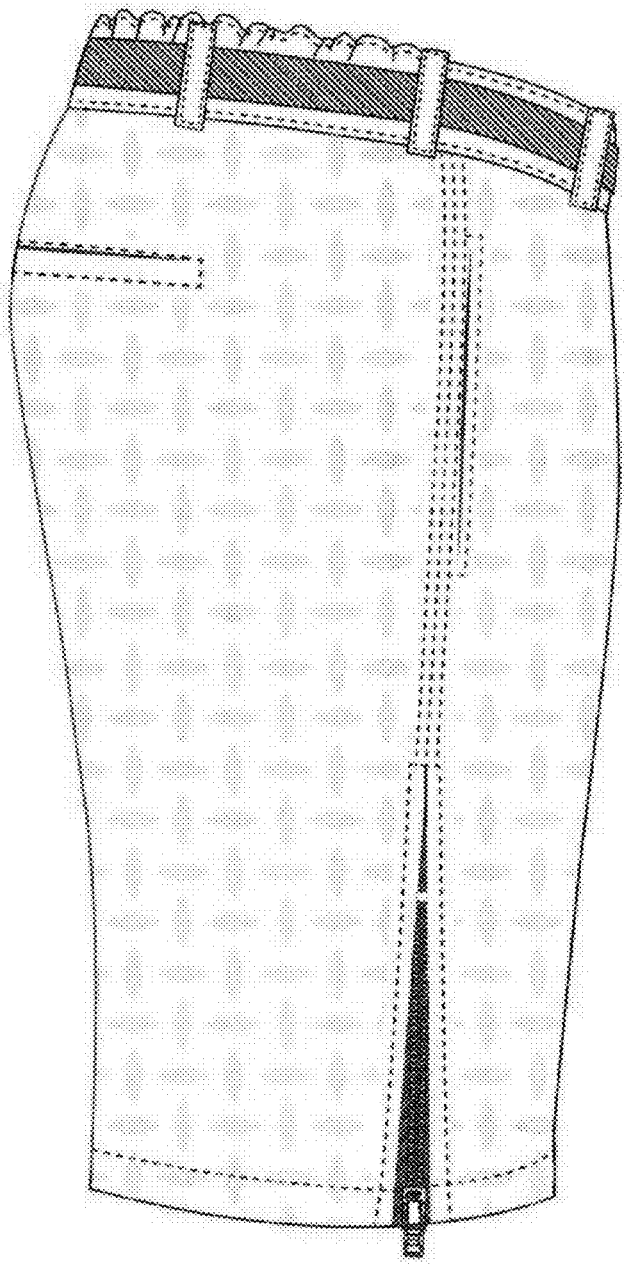
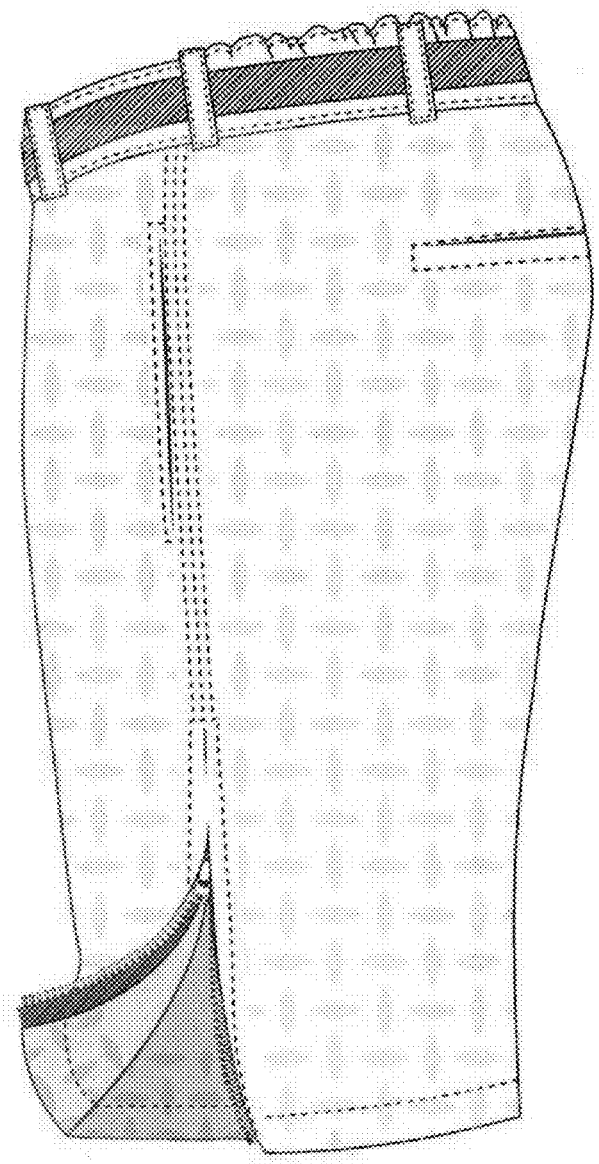


Fig. 4



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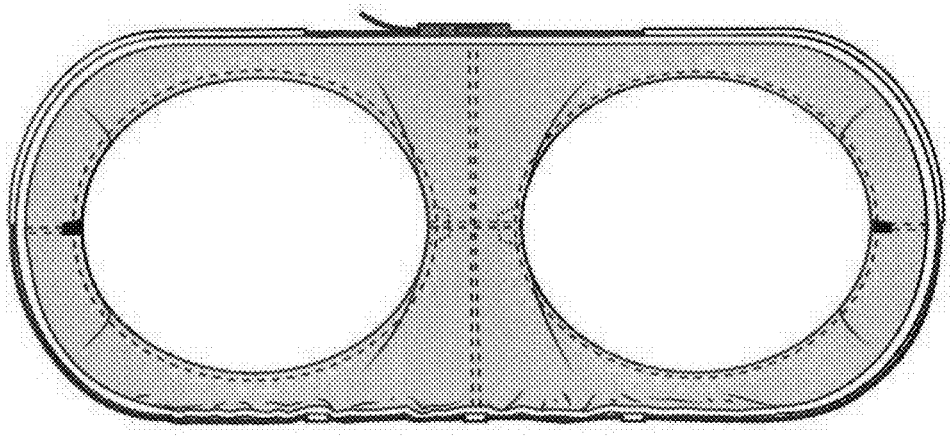

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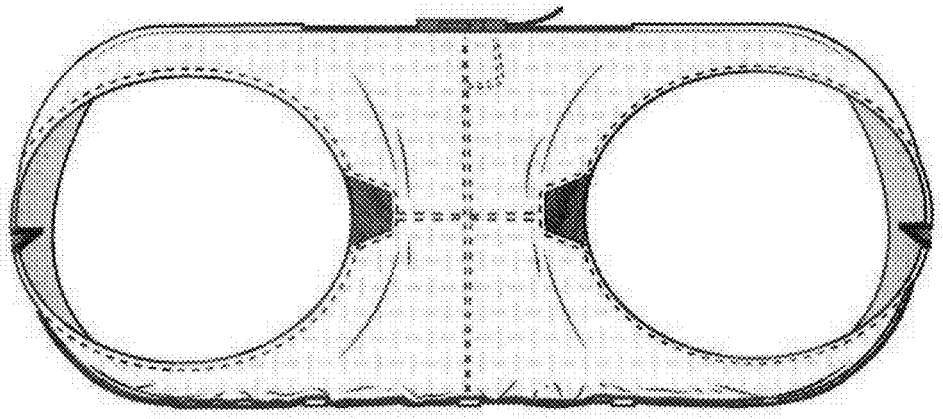
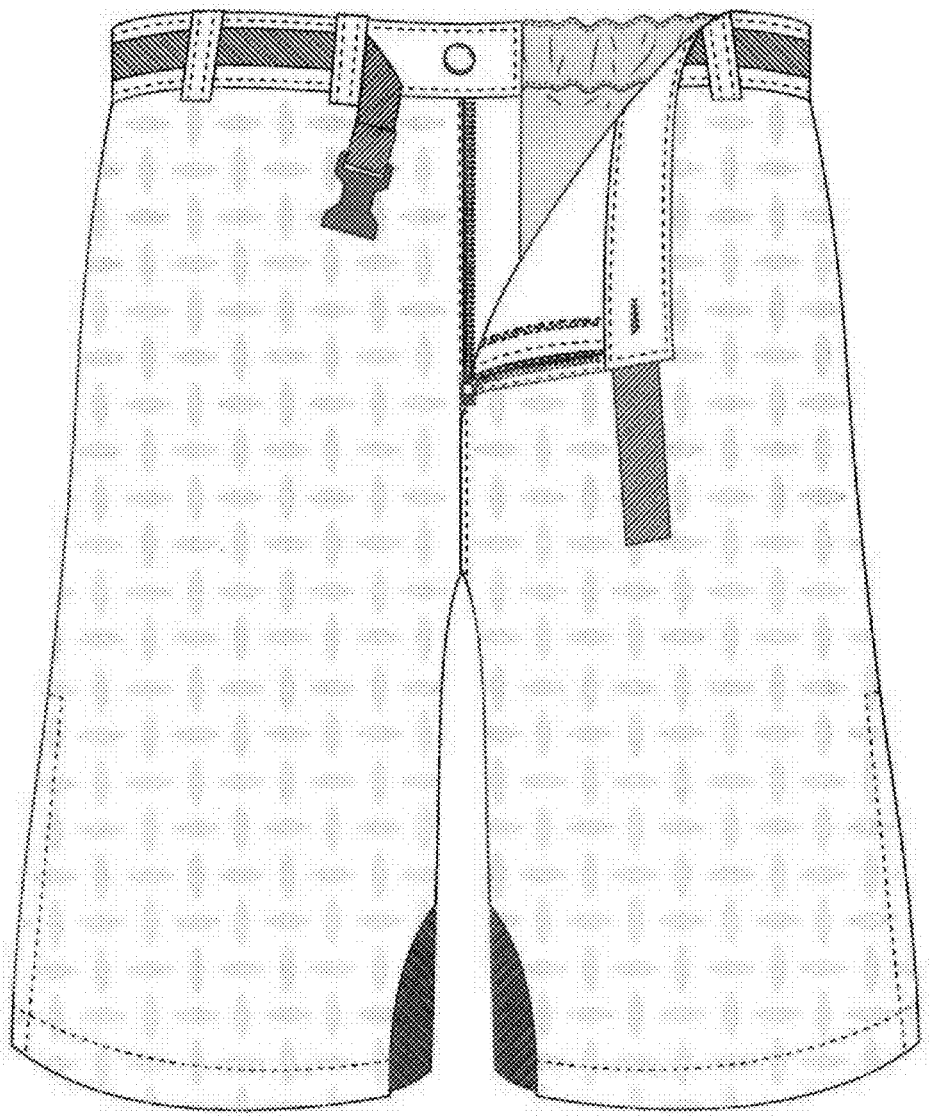


Fig. 7



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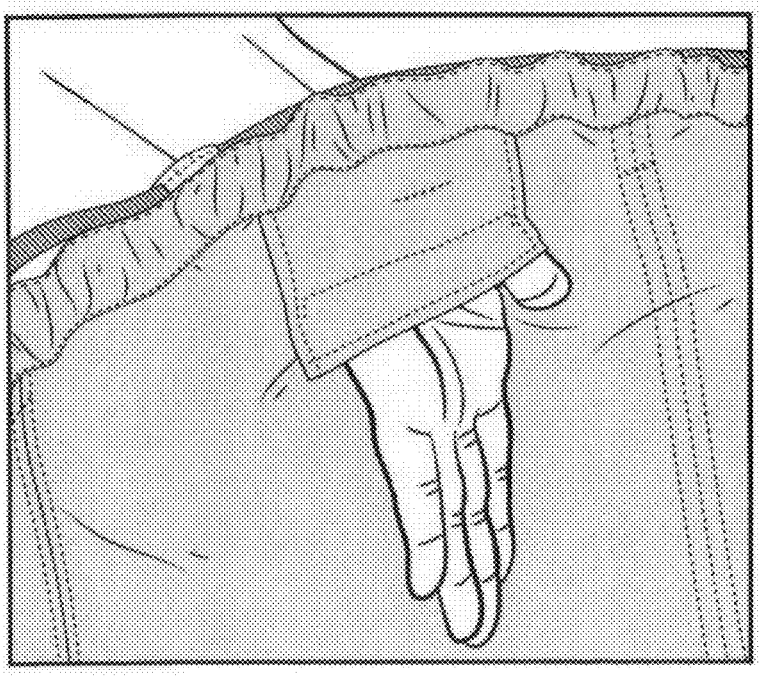


Fig. 9

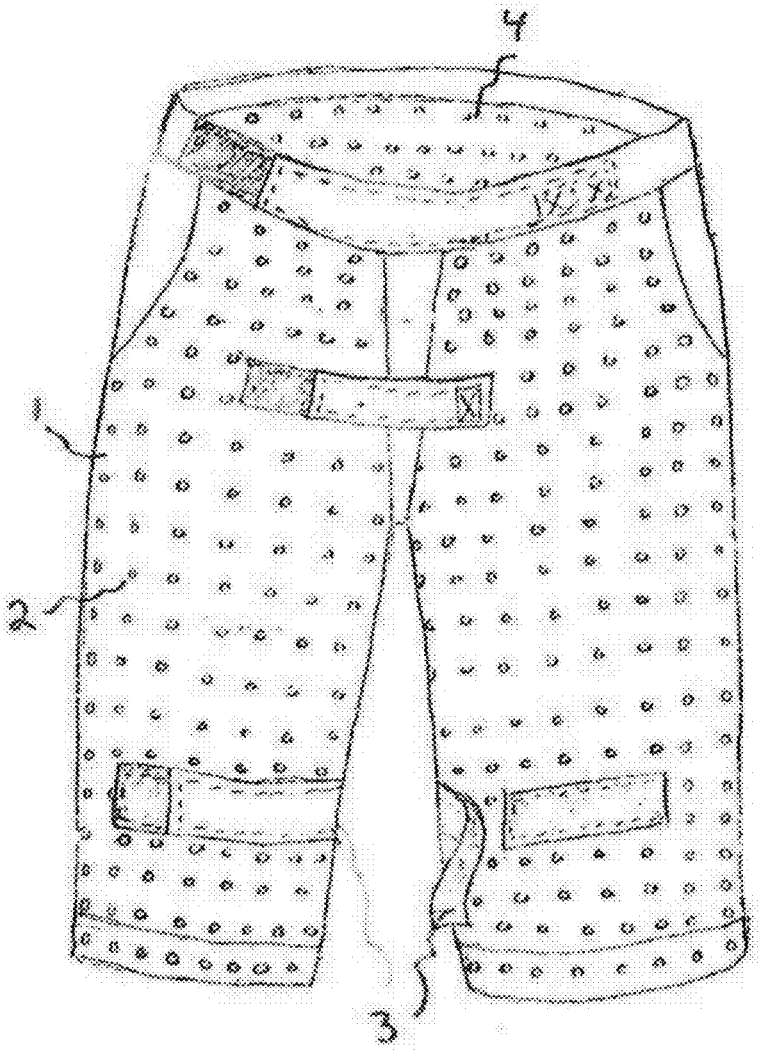


Fig. 10

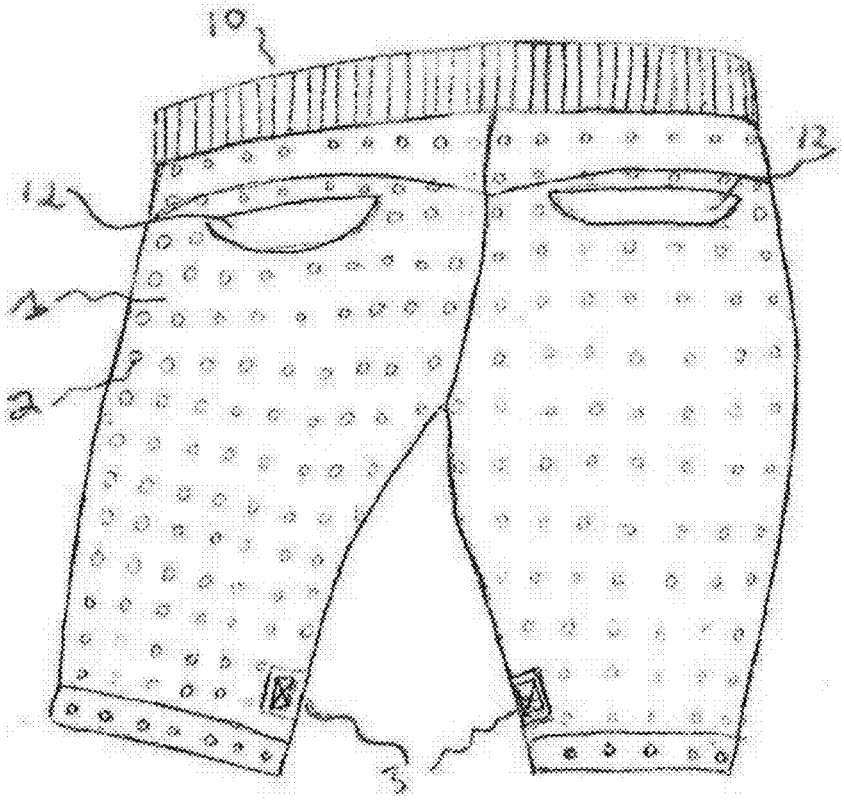


Fig. 11a

Fig. 11b

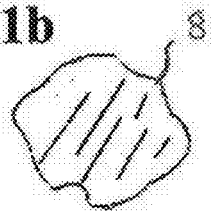


Fig. 11c

Fig. 11d

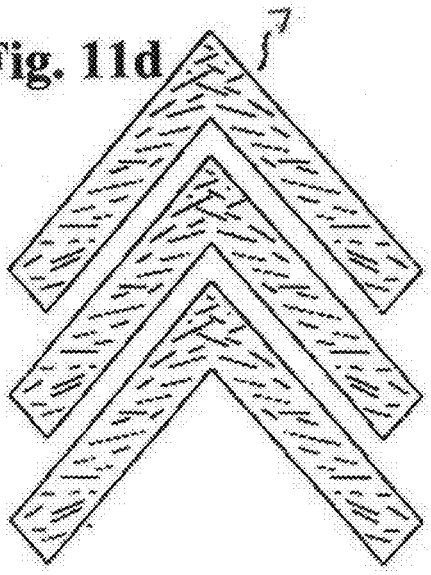


Fig. 11e

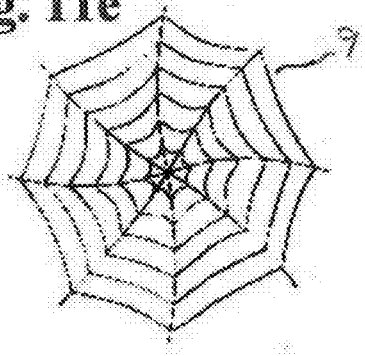
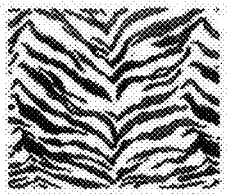


Fig. 11f



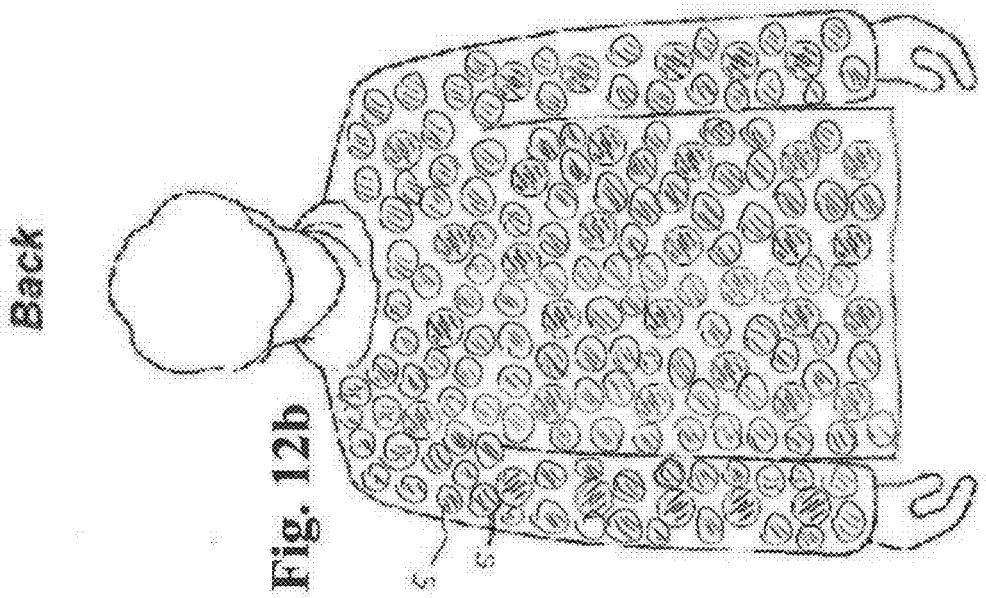


Fig. 12b

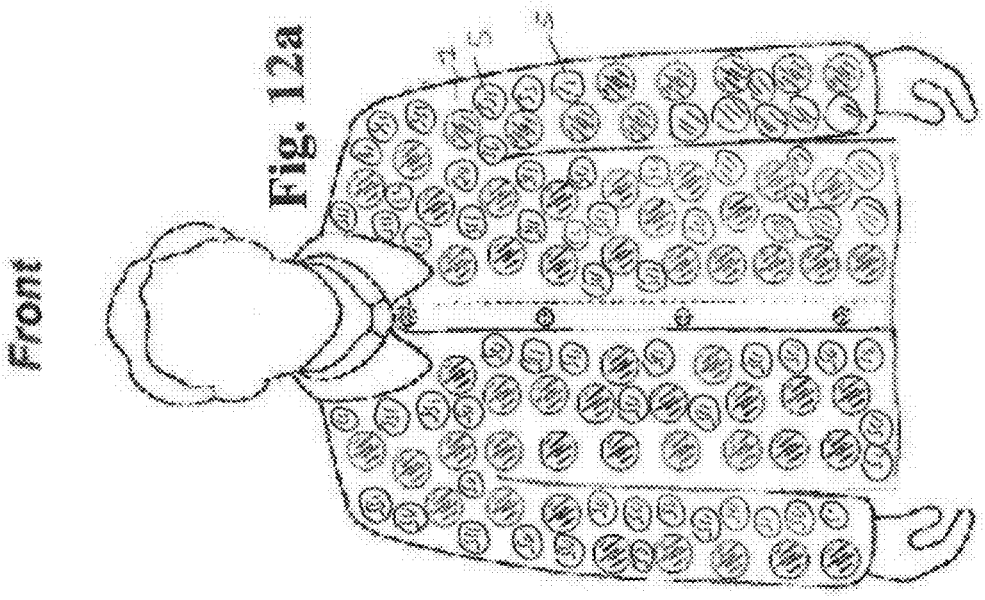


Fig. 12a

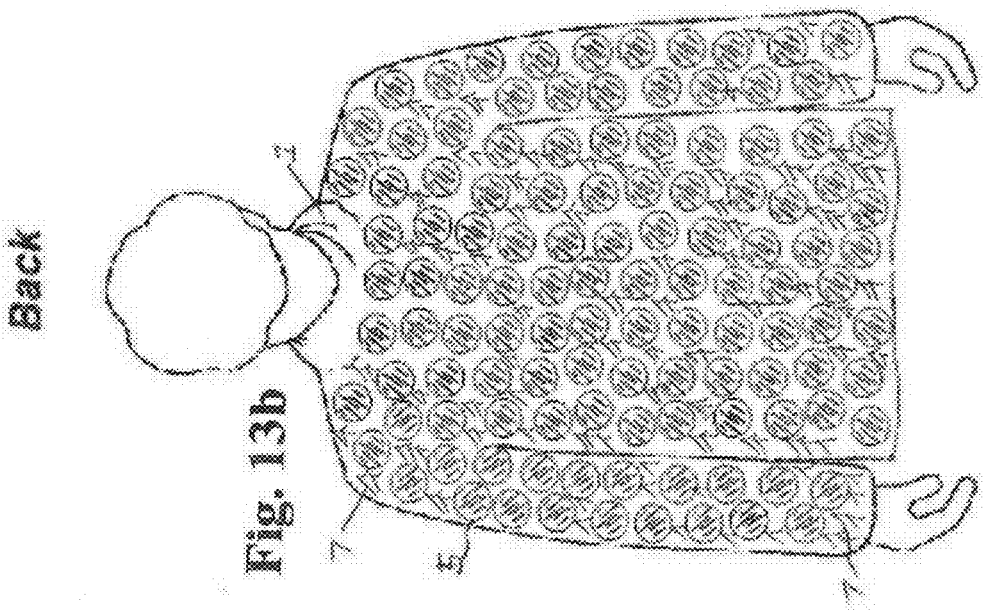
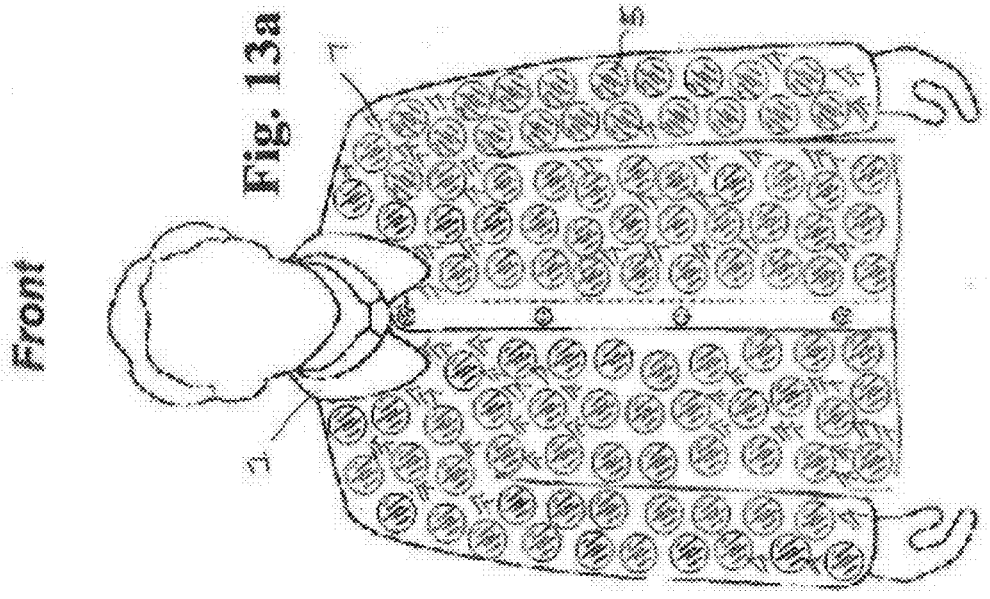


Fig. 13b



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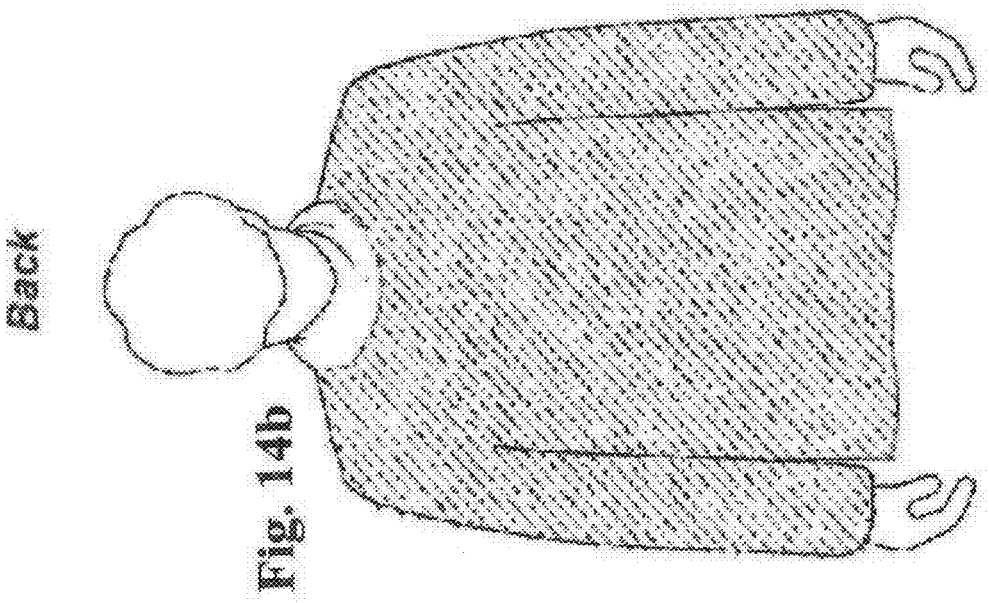


Fig. 14b

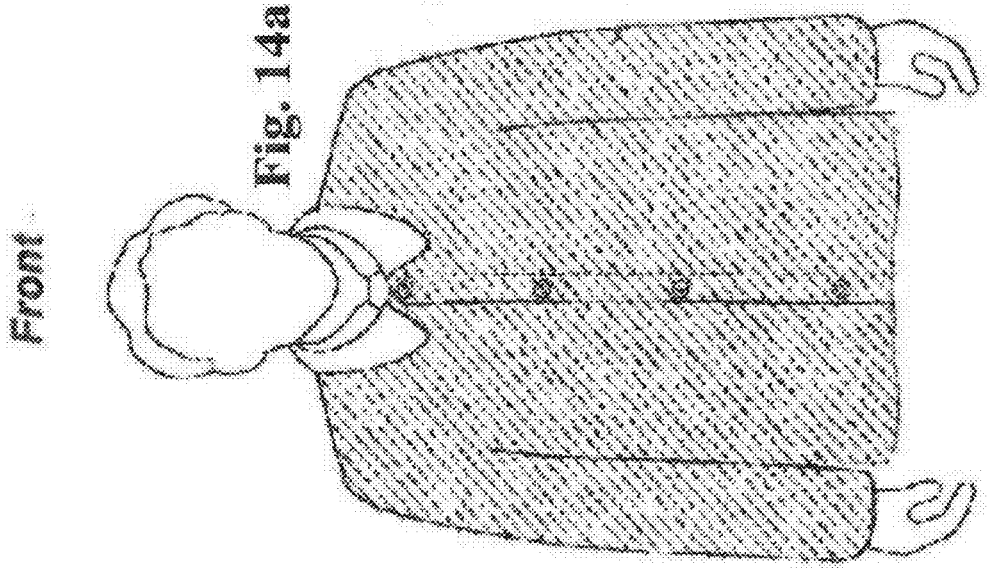


Fig. 14a

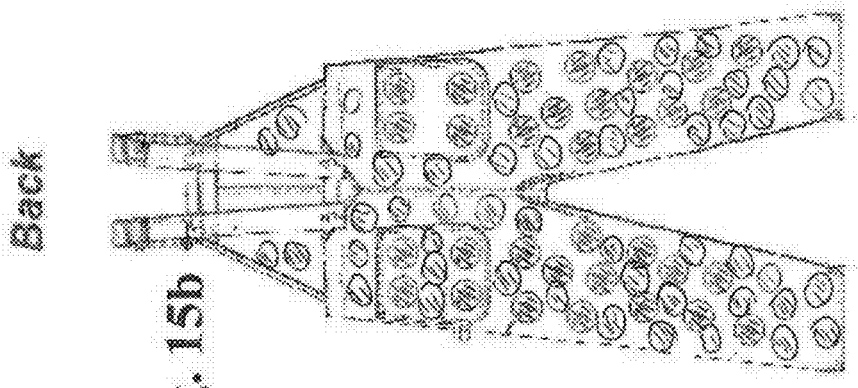


Fig. 15b

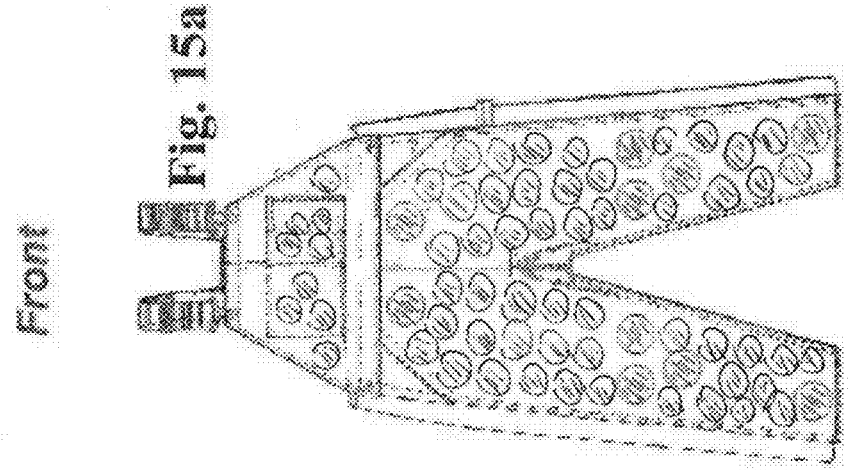


Fig. 15a

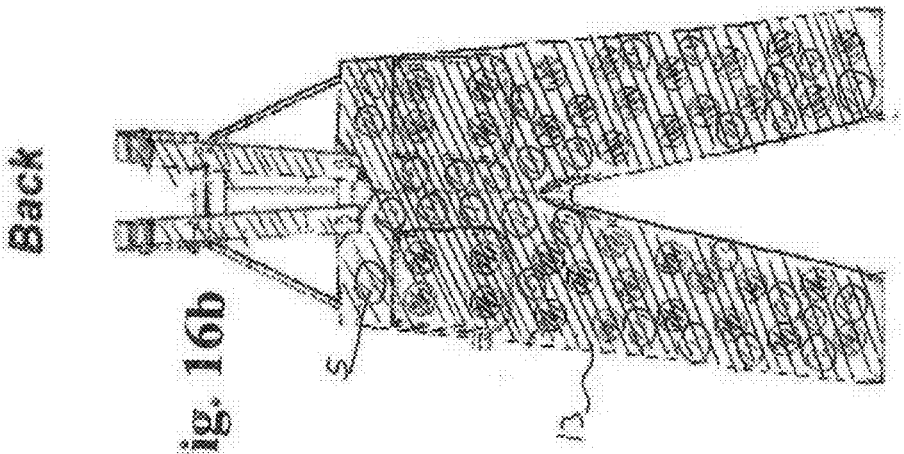
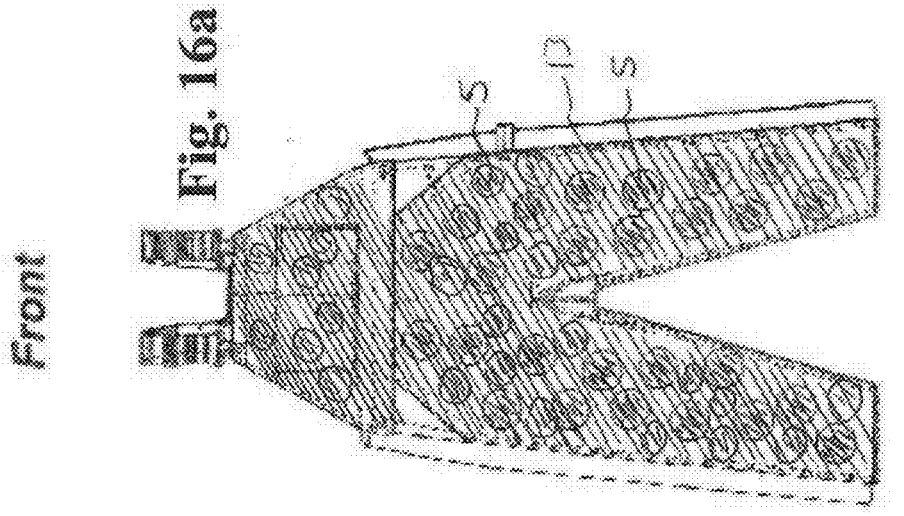


Fig. 16b



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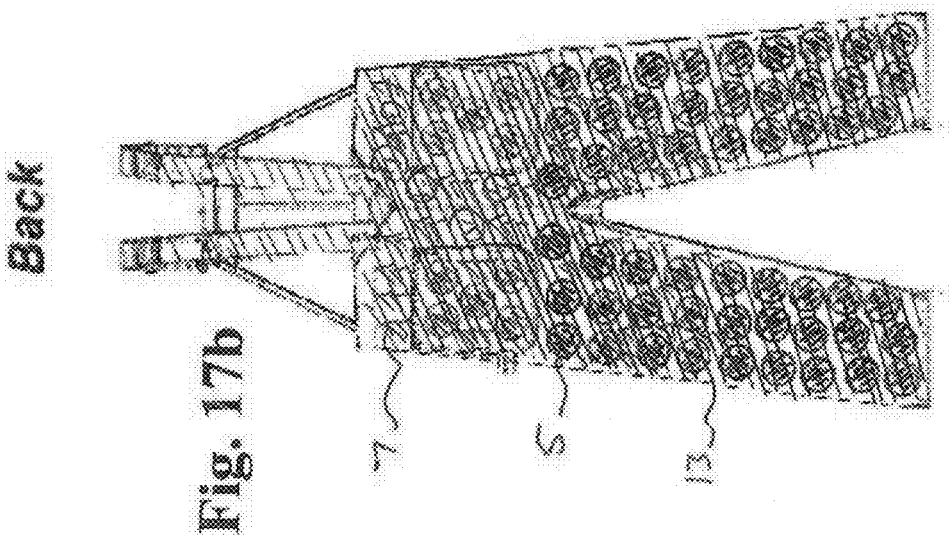

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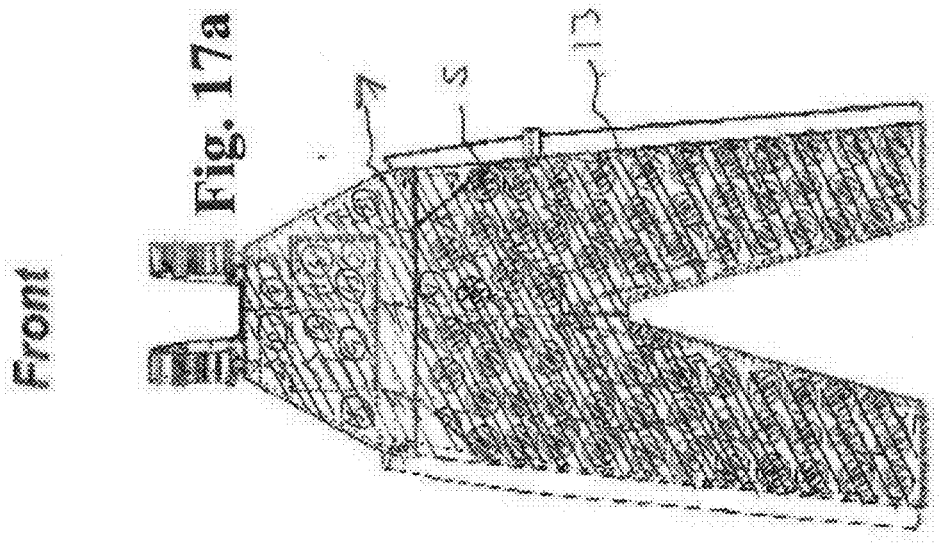
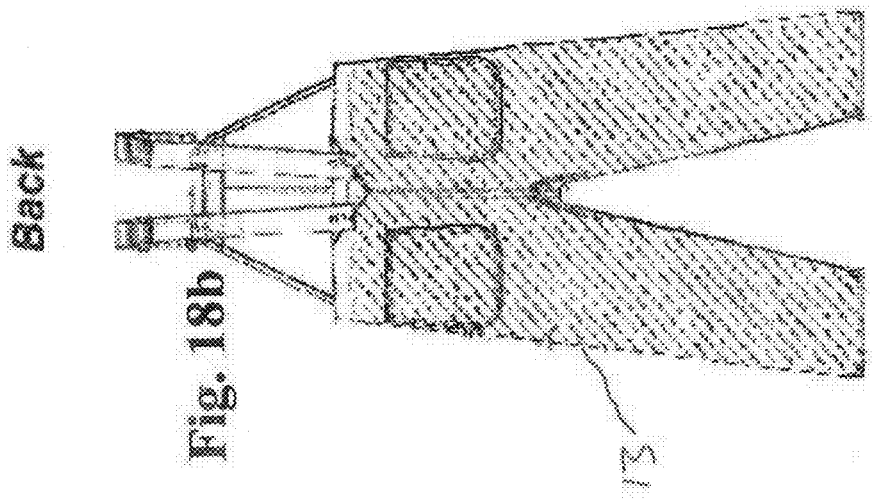


Fig. 17a



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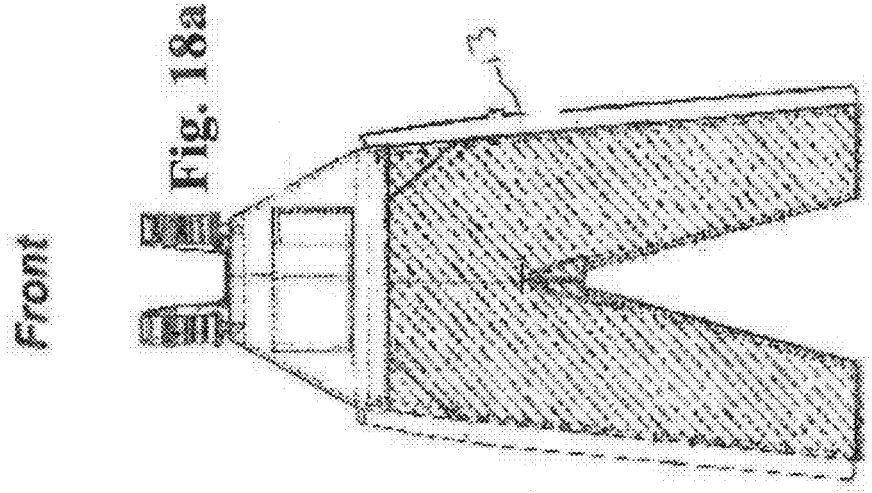


Fig. 18a

Fig. 19

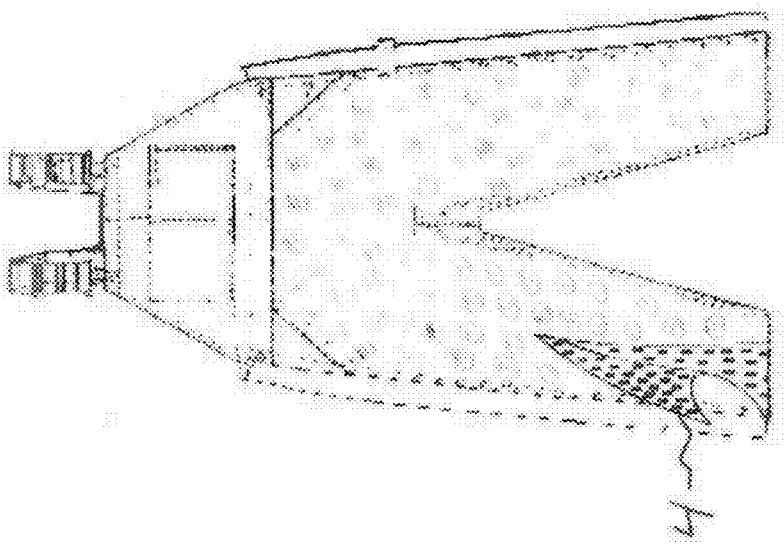


Fig. 20

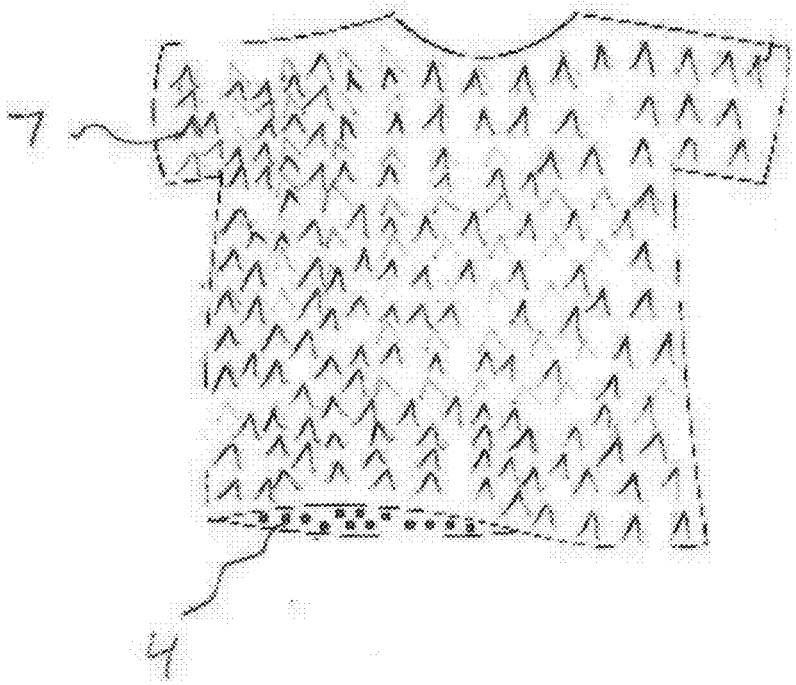
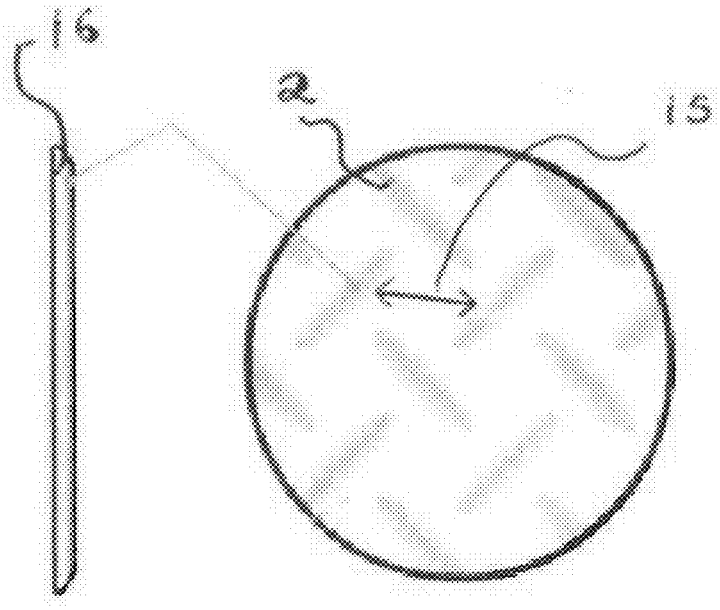


Fig. 21



ANTI-SLIP SLIP-ON SLIP-OVER ROOF SAFETY SHORTS

CROSS-REFERENCE TO RELATED PUBLICATIONS

[0001] This Utility application is a Continuation-in-Part of U.S. Non-Provisional application Ser. No. 14/839,878 with a filing date of Aug. 28, 2015

FIELD OF THE INVENTION

[0002] The field of art to which the invention relates, comprises improvements in protective wear clothing affording enhanced safety and surface grip when worn by anyone traversing upon a pitched roof or sloped surface.

BACKGROUND OF THE INVENTION

[0003] Homeowners, construction workers, seasonal Christmas lights installers, repairmen, roofers, inspectors, house appraisers, or anyone with a need to be on a roof or sloped surface or a steep sloped surface will benefit from the invention. Year after year, falls remain the leading cause of death in the construction industry, accounting for almost one in every three construction worker deaths. This invention can add an extra factor in injury reduction. Even though those traversing upon the roof may already be using existing safety devices such as cabling or safety roofing shoes, sometimes this is not enough in the face of accidental trips due to miss-steps, unseen obstacles on the roof, or unexpected wind shears, etc.

OBJECTS OF THE INVENTION

[0004] It is an object of the invention to provide novel slip preventive protective wear for anyone with a need to be on a roof or sloped surface or a steep sloped surface to mitigate or protect against fall injuries or deaths.

[0005] It is further an object of the invention to effect the previous object with forms of protective over-clothing that enhances the grip of one that traverses upon a roof or sloped surface or a steep sloped surface.

[0006] Concepts of this invention can be applied to more than one article of protective wear clothing selected from at least one of the following group: shirt, coat, jacket, overalls, coveralls, jumpsuit, shorts, slip-on slip-over shorts, slip-on slip-over shirts, slip-on slip-over pants in which the articles of clothing have a substantial gripping surface.

[0007] It is still further an object of the invention to effect the previous objects with protective wear in which an article of gripping clothing is a variety which is convenient and quickly fastenable so as to dissuade someone in a rush from not accepting the risk of injury because the safety gear or clothing is bulky and time consuming to put on.

[0008] It is still further an object of the invention to effect the previous objects with protective wear in which an article of gripping clothing is a variety that is lightweight, breathable, and rip-resistant which could also be used for roof or sloped surface or a steep sloped surface including typical steep hiking paths and mountain inclines.

[0009] It is still further an object of the invention to effect the previous objects with protective wear in which an article of gripping clothing to be available in attachable sections and combinations for needs of those traversing upon a roof or sloped surface or a steep sloped surface. Examples are shirts attaching to the pants, forearm coverings attaching to the shirts, legging extensions attaching to the shorts.

[0010] It is still even further an object of the invention to effect the previous objects with protective wear in which an article of gripping clothing is to be available in all weather situations.

DESCRIPTION OF PRIOR ART

[0011] There are currently many garments on the market with gripping materials such as infant garments, non-slip slippers and such. However, none found or patented have included all the elements in the inventor's claims of his anti-slip slip-on slip-over roof safety shorts. In examining Bates (S 2014/0259273 filed on Mar. 15, 2013), Bates does not teaching clinching up and fasting the leg holes to prevent the cloth from rolling up on the safety shorts which when that happens this event reduces the gripping surface area that is in contract with the roof and then that gripping garment is made less effective. Bates does not teach applying the inventor's gripping material over all sides of the anti-slip garment including the side of the legs to assist in preventing sliding in the eventuality of a side fall.

[0012] Neither of these roof safety garments teach having at least one interior slip resistant region to inhibit slippage between the worn roof safety garment and the existing clothing that the roof safety garments is worn over, nor do they teach that roof safety to be made out of ripstop and having the gripping material applied to ripstop which allows the roof safety garments to be light, and bulky, more convenient to put on and when upon a trip or fall on the roof the ripstop inhibits the garment from rolling and/or bunching up which when this occurs less gripping surface material is in contact with the roof.

[0013] Moreover, inventor's invention will prevent the degradation of the gripping material when a 200 lb. man falls, trips, mis-steps on the roof for many reasons. The degradation can occur on other gripping garments because of the high heat on the roof surface in the summer time reaching temperatures upwards of 170 degrees Celsius. Many of the current gripping materials on the gripping garments on the market such as infant garments, slippers, and others when tested simply melted and/or cracked and provided insufficient protection to prevent the wearer from sliding off the roof. Moreover, the flimsy material on many existing gripping garments simply roll and bunch up on the leg holes, arm holes, and bottom of shirt, losing and/or reducing contact between the surface gripping area and the roof and cannot function to stop a person on a roof from sliding.

[0014] This invention is distinguished from the other prior art of gripping garments because the gripping material rises above the material of the article of clothing by at least 3/16th of an inch. This is critical because when the wearer of the new roof safety garment invention on the roof trips upon the roof the impact of this potentially heavy 240 lb. plus man forcefully sliding upon the hot surface of the roof will mechanically break the integrity of the gripping pattern or integrity of the homogenous gripping surface area of the previously available article of clothing with applied gripping material. The increase thickness of the gripping material also provides extra cushion for the faller on the roof.

[0015] Testing by the inventor has found that the gripping material needs to be at least 3/16th of an inch thick with each individual gripping member making up a gripping pattern to

be no further than ¼ inch apart, each individual gripping member making up a gripping pattern needs to have a surface area of equivalent to at least ¼ square inch, and using diethyltoluendiamine benzenedicarboxylic acid (a type of urethane rubber) and using garment material at least as strong and rip resistant as ripstop defined as quality woven fabric that is resistant to tearing, ripping, rolling, and/or bunching up and has reinforced threads that are interwoven at regular intervals in a crosshatch pattern with intervals being typically 5 to 8 millimeters.

[0016] The invention to which the gripping material is applied needs to be of a quality of fabric that will not bunch up and roll up the pant legs or arm holes of a gripping shirt when holding the force of a 200 lb. man sliding on a hot or very cold freezing roof. The invention uses ripstop quality woven fabric that is resistant to tearing, ripping and bunching up and has reinforced threads that are interwoven at regular intervals in a crosshatch pattern with intervals being typically 5 to 8 millimeters.

[0017] The gripping patterns applied to the anti-slip slip-on slip-over roof safety shorts have the individual gripping members making up the gripping pattern close enough to provide the gripping action needed which expose less of the gripping garment to prevent the sliding of heavy man falling on a roof. The invention calls for any gripping pattern to have its individual gripping members making up the gripper pattern no further than $\frac{1}{4}^{th}$ of an inch from each other.

[0018] In assisting with the non-slip action each individual gripping member making up a gripping pattern needs to have a surface area of equivalent to at least ¼ square inch.

[0019] Embodiments of the invention will have several different gripping patterns subsequently applied one after the other on the article of clothing. This allows for the accumulation of gripping material to rise to a height of more than 3/16th of an inch above the article of clothing material and further reduces the distance between and individual gripping members within the gripping pattern.

SUMMARY OF THE INVENTION

[0020] This invention relates to novel safety wear to be worn by anyone with a need to be on a roof, sloped surface, or a steep sloped surface. This anti-slip clothing can provide an extra factor of protection upon an unexpected slips and falls upon a roof or sloped surface or a steep sloped surface. The improved gripping clothing could prevent injuries or deaths.

[0021] Within this invention the gripping surface material will be applied upon the clothes themselves and therefore there is a better chance to prevent the fast slide down the roof, sloped surface, or a steep sloped surface in a fall. With the gripping surface material available on all surface areas of the safety clothing this provides for an extra factor of anti-slip protection. It could very well be that someone traversing upon the roof falls backwards or frontwards or sideways and due to the all around gripping surface a slide off the roof can be prevented.

[0022] The gripping surface material to be made out of diethyltoluendiamine benzenedicarboxylic acid (a type of urethane rubber) or flat silicon of at least 3/16th of an inch raised above the garment material. It is crucial that this gripping material be at least 3/16 of an inch raised above the garment material. In testing other existing articles of clothing with gripping material showed a degradation and functional failure of the gripping material on the article of clothing when a 200 lb. man falls, trips or mis-steps on the roof with the safety ware. Some of the reasons are that there is the cracking and mechanical failure of the gripping material when the wearer of the previously available gripping garments falls on the roof with the gripping material on the safety garment.

[0023] Moreover, if the temperature of the roof is extremely heated thicker and a greater mass of gripping material is needed to prevent and/or reduce melting and degradation of the gripping material. The said urethane rubber can withstand a wider temperature variation than many other available gripping compositions. Further, in extreme cold temperatures thicker and increased mass of the gripping material applies more slip resistance than the thinner gripping material that is currently in gripping garments today.

[0024] The Testing

[0025] Testing was performed on a 240 lb. pound man wearing the new anti-slip slip-on slip-over roof safety shorts where the garment was made out of various materials with applied urethane rubber to the new roof safety shorts upon a trip and fall on the roof from a walking position to determine if the roof safety shorts would prevent him from sliding off roof and/or steep sloped surface.

[0026] This testing was performed on an 8/12 roof apparatus on a hot Texas summer time roof with temperatures reaching at least 150 degrees Celsius with different roof surfaces which were comprised of each of the following: shakes, wafer board, composition shingles, asphalt underlayment paper and smooth metal panels.

[0027] The manner the gripping material was applied to the garment of the roof safety shorts was that an integral exterior slip resistant region of gripping surface material was applied of the type of urethane rubber made out of diethyltoluendiamine benzenedicarboxylic acid, the urethane rubber was raised to a height of $\frac{3}{16}^{th}$ of an inch above each garment fabric being tested, the urethane rubber applied was applied in the steel plate gripping pattern and wherein each individual gripping member making up the steel plate gripping pattern were ¼ of an inch apart from each other, and the gripping surface material area was applied to the garment material at eighty five percent of the total outer surface included being applied on the front, back, all around, and on the side of the legs of the anti-slip slip-on slip-over roof safety shorts.

[0028] The roof safety shorts being tested had a cinching means to prevent the end of the leg holes of the roof safety shorts from rolling and/or bunching upward upon a slide or fall, and the roof safety shorts had a cinching and securing means that allowed the roof safety shorts to be securely fastened over existing clothing, and the roof safety shorts had a 1 inch interior slip resistant region on the end of the inside leg holes to inhibit slippage between roof safety shorts and the existing clothing.

[0029] In all testing the close spacing of the individual gripping members making up the gripping pattern of no more than ¼ inch apart, and the height of the gripping material to be at least 3/16th of an inch above the garment material, and the size of at least ¼ square inch of the individual gripping members making up the gripping pattern was critical to prevent sliding when the safety shorts came into contact with the sloped surface.

[0030] Testing Results

[0031] Different garment materials where used and tested by the inventor and the testing results follow:

[0032] Ripstop made from cotton was tested with the urethane rubber applied. The testing showed no tears in the ripstop and it was very durable material and the leg holes did not bunch or roll up on a slide. Nor did the gripping material degrade in anyway. The ripstop version gripped well enough to prevent a 240 lb. pound man wearing the new anti-slip slip-on slip-over roof safety shorts upon a trip and fall on the roof from a walking position not to slide off the roof made out of shakes, wafer board, composition shingles, asphalt underlayment paper. This ripstock material was found to be the best and most durable material for the roof safety clothing of all the materials tested.

[0033] A very durable and tear resistant 100% Cotton Duck Cloth with an 84×28 thread count per inch was tested in the same manner. This version of shorts performed well but the material did tend to gap up on the leg holes a three to 5 inches.

[0034] Khaki Style material with 60% Cotton and 40% Polyester was tested in the same manner. The material was lightweight and shiny. The test shorts had failure in the fabric on several instances. The material is too slick to provide the needed slip resistance and had very little friction when subjected to the roof testing apparatus. This product is not suitable for roof safety wear.

[0035] 100% Nylon with Urethane Rubber version was testing in the same manner. The applied urethane rubber had poor adhesion to the safety short garment material and the cloth was very slick. The test shorts failed by tearing and urethane rubber detaching in several areas. This product is not suitable for roof safety wear.

[0036] A Spandex Synthetic Fiber with Urethane Rubber version was tested. This garment tore upon contact of a 235 lb man simulating a fall on all different roof surfaces. This product is not suitable for roof safety wear.

[0037] Gripping garments on the market such as screen printed clothing and the safety products which prevent slips out of chairs, infant gripping garments etc. are of a thin sprayed on rubber and are not effective for roof contact. Both the rubber adhesion failed and the cloth material failed in these types of products. The spacing of the rubber in most cases allowed too much fabric to touch the test surfaces. These products are not suitable for roof safety wear.

[0038] The new anti-slip slip-on slip-over roof safety shorts are comprised of the following:

[0039] 1) diethyltoluendiamine benzenedicarboxylic acid (a type of urethane rubber);

[0040] 2) the diethyltoluendiamine benzenedicarboxylic acid (a type of urethane rubber) is raised to a height of at least $3/16^{th}$ of an inch above the fabric—see FIG. **21** numbered element **16**;

[0041] 3) The individual gripping members making up the gripping pattern are not further apart from each other the $1/4^{th}$ of an inch. See FIG. **21** numbered element **15**;

[0042] 4) the diethyltoluendiamine benzenedicarboxylic acid (a type of urethane rubber) is applied to the garment in a manual process because when applied by the current machine process the diethyltoluendiamine benzenedicarboxylic acid dries to fast and can't be applied as thickly as needed;

[0043] 5) The garment material that the cited urethane rubber was applied to was made out of ripstop which unlike other current garments with gripping material did not roll or bunch up on the leg holes arm holes upon the 235 lb. wearer of the new anti-slip slip-on slip-over safety shorts. Nor did the embodiments of the anti-slip shirt garments roll up.

[0044] 6). The pattern used was the steel plate as shown in FIG. **1** numbered element **14**.

[0045] 7). The best test results providing the most gripping resistance was with items 1 thru 6 above except before the steel plate gripping pattern was applied a tight diagonal pattern as show in FIG. **14** was applied first. Once that pattern dried a subsequent steel plate gripping pattern was applied on top of the previously applied diagonal pattern applied.

[0046] The gripping patterns can be stripes that are in an angled diagonal orientation, arranged parallel, tight diagonal patterns, steel plate pattern or non-parallel, horizontally, vertically used as chevrons, dot patterns, or herringbone. The stripes can be continuous or on-continuous lines, like dashes, dots can be asymmetrical, non-circular or polygon in shape and uniformly or non-uniformly arranged. The patterns can also be in a spider web pattern, or in the pattern of Bengal tiger stripes.

[0047] The new anti-slip slip-on slip-over roof safety shorts are convenient are quickly fastenable so as to dissuade someone in a rush from accepting the risk of injury rather than taking the time to put on the safety clothing. A plurality of straps, a piece of fabric of small hooks that sticks to a corresponding fabric of small loops hook and loop fasteners, and/or hook and loop fasteners, enables the anti-slip slip-on slip-over roof safety shorts to be quickly secured on or over the conventional clothing. Draw strings may also be employed or other commercially available clothing fasteners used to date.

[0048] An important aspect of the invention has that the anti-slip slip-on slip-over roof safety shorts will be quickly and securely fastenable.

BRIEF DESCRIPTION OF THE DRAWING FIGURES AND THE REFERENCED NUMBERS

[0049] The advantages described herein will be more fully understood by reading an example of an embodiment in which the invention is used to advantage, referred to herein as the Detailed Description with reference to the drawings wherein:

[0050] FIG. **1** is a front plan view of an embodiment of the anti-slip slip-on slip-over roof safety shorts.

[0051] FIG. **2** is a back plan view of an embodiment of the anti-slip slip-on slip-over roof safety shorts.

[0052] FIG. **3** is a right side plan view of an embodiment of the anti-slip slip-on slip-over roof safety shorts.

[0053] FIG. **4** is a left side plan view of an embodiment of the anti-slip slip-on slip-over roof safety shorts.

[0054] FIG. **5** is a top plan view of the anti-slip slip-on slip-over roof safety shorts.

[0055] FIG. **6** is a bottom plan view of the anti-slip slip-on slip-over roof safety shorts.

[0056] FIG. **7** is a front plan view of the anti-slip slip-on slip-over roof safety shorts illustrating the exapanding waistband with belt.

[0057] FIG. **8** is an illustration of an embodiment of anti-slip slip-on slip-over roof safety shorts with an open pocket.

[0058] Referring to FIG. **9** is an illustrative front view of an article of anti-slip slip-on slip-over roof safety shorts

showing a gripping surface material, numbered element **2**, that has a eighty five to ninety five percent amount of gripping surface material upon the anti-slip slip-on slip-over roof safety shorts; FIG. **9** numbered element **1** shows the article of clothing that the gripping material was applied to in this figure slip-on slip-over roof safety short; FIG. **9** numbered element **2** shows an embodiment of a dot gripping pattern option; FIG. **9** numbered element **3** shows hook and loop straps that sticks to a corresponding fabric of small loops hook and loop fasteners used to fasten the anti-slip slip-on slip-over roof safety sorts over the existing conventional clothing; FIG. **9** numbered element **4** shows the gripping material applied to the inside of the safety clothing to prevent the slip-over clothing from easily slipping on the existing clothing;

[0059] Referring to FIG. **10** is an illustrative rear view of an article of safety slip-on slip-over shorts showing a gripping surface material that has a greatly substantial amount of gripping surface material upon the safety slip-on slip-over shorts; FIG. **10** numbered element **1** the article of clothing that the gripping material was applied to; FIG. **10** numbered element **2** shows the dot gripping pattern option; FIG. **10** numbered element **3** shows hook and loop straps that sticks to a corresponding fabric of small loops hook and loop fasteners used to fasten the slip-on slip-over sorts over the existing conventional clothing; FIG. **10** numbered element **4** shows the optionally applied non-slip surface on the inside of the slip-on slip-over shorts: FIG. **10** numbered element **11** shows the optional expandable waist band; FIG. **10** numbered element **12** shows the optional back pockets;

[0060] FIGS. **11***a*, **11***b*, **11***c*, **11***d*, **11***e*, and **11***f* illustrate exemplary patterns of the applied gripping surface material that may be used with embodiments according to the present invention, and, which include a dot gripping pattern, a strip with a pattern of stripes or parallel lines or perpendicular lines, chevron patterns, random shapes or spider patterns, or tiger stripe patterns;

[0061] FIG. **12***a* is an illustrative front view of an article of shirt clothing showing a gripping surface material that has a substantial amount of gripping surface material applied upon the safety clothing; FIG. **12***b* shows the dot gripping pattern applied to the back of a shirt. **5**;

[0062] FIG. **13***a* is an illustrative front view of an article of shirt clothing showing a gripping surface material that has a substantial amount of gripping surface material applied upon the safety clothing in both the dot gripping pattern **5** and the chevron gripping pattern **7**; FIG. **13***b* shows the dot gripping pattern **5** and the chevron pattern **7** applied to the back of a shirt;

[0063] FIGS. **14***a* and **14***b* shows both the front and back view respectively of an article of shirt clothing showing a gripping surface material that has a greatly substantial amount of gripping surface material upon the safety clothing using a tight diagonal line pattern of gripping surface material very substantially applied;

[0064] FIG. **15***a* and FIG. **15***b* shows both the front and back view respectively of an article of overall clothing showing a dot gripping surface material that has been applied upon the safety clothing;

[0065] FIG. **16***a* and FIG. **16***b* shows both the front and back view respectively of an article of overall clothing showing both a dot gripping material pattern followed by an application of a tight diagonal line gripping pattern surface material that has been applied upon the safety clothing;

[0066] FIG. **17***a* and FIG. **17***b* shows both the front and back view respectively of an article of overall clothing showing both a dot gripping material pattern **5** followed by an application of a tight diagonal line gripping pattern **13** and then with a chevron gripping pattern applied surface material that has been applied upon the safety clothing;

[0067] FIG. **18***a* and FIG. **18***b* shows both the front and back view respectively showing a gripping surface material that has a greatly substantial amount of gripping surface material applied upon the safety clothing in a tight diagonal line pattern;

[0068] FIG. **19** is an illustrative view of an article of overall clothing showing a gripping surface material that has a greatly substantial amount of gripping surface material applied upon the safety clothing; FIG. **19** shows the optionally applied non-slip surface on the inside of the article of clothing **4**;

[0069] FIG. **20** is an illustrative view of an article of short-sleeve shirt clothing showing a gripping surface material that has a greatly substantial amount of gripping chevron gripping surface material upon the safety clothing; FIG. **19** shows the optionally applied non-slip surface on the inside of the article of clothing **4**;

[0070] FIG. **21** is an illustrative view showing the side view of the thickness of the gripping material rising above the garment cloth, **16** and illustrates the maximum distance between any gripping members within a gripping pattern, **15**.

REFERENCE LISTING OF THE NUMBERED ELEMENTS

[0071] **1** article of clothing

[0072] **2** gripping surface material

[0073] **3** hook and loop straps

[0074] **4** gripping material applied to the inside of the safety clothing

[0075] **5** dot gripping pattern

[0076] **6** a strip with a pattern of stripes gripping pattern

[0077] **7** chevron gripping patterns

[0078] **8** random shapes gripping pattern

[0079] **9** spider gripping patterns

[0080] **10** tiger strip gripping pattern

[0081] **11** expandable waist band

[0082] **12** pockets

[0083] **13** tight diagonal line gripping pattern

[0084] **14** steel plate gripping pattern

[0085] **15** individual gripping members of a gripping pattern that are not more than $\frac{1}{4}^{th}$ of an inch apart.

[0086] **16** side view of the gripping material rising to a height of at least $\frac{3}{16}^{th}$ of an inch above the garment

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0087] In the description which follows, like parts are marked throughout the specification and drawings with the same reference numerals respectively. The drawing figures are not necessarily to scale and in certain views, parts may have been exaggerated for purposes of clarity. The best embodiment of the gripping safety clothing is for use on a roof, or a sloped surface or a steep sloped surface to prevent or mitigate the injuries or death of a fall.

DEFINITIONS

[0088] 1. In the following description, the term "gripping surface material" as used herein refers to the gripping surface material that is made of urethane rubber of the type that is diethylloluendiamine benzenedicarboxylic acid or flat silicon raised, and in which the gripping surface material is raised to a height of at least 3/16th of an inch above the fabric, the individual gripping members making up any gripping pattern are not further apart from each other the 3/8th of an inch and in which the gripping surface material can employ a homogeneous texture or textures, homogeneous or non-homogeneous patterned or un patterned.

[0089] 2. In the following description, the term "Substantial Gripping Surface Area" as used herein refers to a gripping surface area of eight five percent to one hundred percent of gripping surface.

[0090] 3. In the following description, the term "Slip-on Slip-over Shorts" as used herein refers to shorts that slip-on and slip-over existing conventional clothing with our without fasteners.

[0091] 4. In the following description, the term "slip resistant region" as used herein refers to the region or area in which the gripping material has been applied to.

[0092] 5. In the following description, the term "anti-slip slip-on slip-over roof safety shorts" as used herein refers to are shorts having an integral exterior slip resistant region of gripping surface material comprising gripping surface material that is comprised of the type of urethane rubber or silicone rubber, the said urethane rubber or silicone rubber being accumulated and/or raised to a height of at least $3/16^{th}$ of an inch above the garment ripstop fabric in which the anti-slip slip-on slip-over roof safety shorts are made out of, the said urethane rubber or silicone rubber applied in any of the gripping patterns mentioned in this specification wherein each individual gripping member making up the chosen said gripping pattern are not further apart from each other than ¼ of air inch, the said gripping surface material area is applied to the garment fabric of between ninety and one hundred percent of the total outer surface of the said anti-slip slip-on slip-over roof safety shorts including the front, back, all around, and on the side of the legs, that the said anti-slip slip-on slip-over roof safety short's garment fabric is made out of ripstop quality woven fabric that is resistant to tearing, ripping and bunching up and has reinforced threads that are interwoven at regular intervals in a crosshatch pattern with intervals being typically 5 to 8 millimeters, that the said anti-slip slip-on slip-over roof safety shorts is configured to slip-on and slip-off existing clothing, that the said anti-slip slip-on slip-over roof safety shorts has a cinching means to prevent the end of the leg holes from rolling and/or bunching upward after being worn over the existing clothing, the said anti-slip slip-on slip-over roof safety shorts has a cinching and securing means that allows the said anti-slip slip-on slip-over roof safety shorts to be securely fastened over existing clothing, the said anti-slip slip-on slip-over roof safety shorts comprising at least one interior slip resistant region to inhibit slippage between the said anti-slip slip-on slip-over roof safety shorts and the existing clothing that the said anti-slip slip-on slip-over roof safety shorts are worn over.

[0093] 6. Anti-slip clothing—Anti-slip clothing with a homogeneous gripping surface for use by anyone with a need to be on steep sloped surface such as a roof which increases sliding friction between the wearer and the steep sloped surface and the anti-slip clothing can be an article of clothing such as a shirt, vest, jacket, pancho, coveralls, overalls, pair of shorts, pair of pants, waist-sashes or partial leg coverings, calf and forearm coverings, slip-over clothing such as slip-over shirts and fastenable slip-over shorts worn on the body or over other conventional articles of clothing and which includes a gripping surface applied to an exterior or optionally to the interior surface of the article of clothing so that when the inside non-slip surface contacts with the existing wearers conventional existing clothing it prevents slippage between the anti-slip clothing and the wearers conventional existing clothing. The article of clothing all need a cinching and securing means that allows the said anti-slip slip-on slip-over roof safety shorts to be securely fastened over existing clothing. The article of clothing that the gripping material is applied to is made out of ripstop as defined in definition section of this specification;

[0094] 7. In the following description, the term "ripstop" as used herein refers to a quality woven fabric that is resistant to tearing, ripping and bunching up which has reinforced threads that are interwoven at regular intervals in a crosshatch pattern with intervals being typically 5 to 8 millimeters.

[0095] 8. In the following description, the term "resistant" as used herein means to try to stop or prevent something or to remain strong against the force or effect of something.

What is claimed is:

1. Anti-slip slip-on slip-over roof safety shorts for traversing steep sloped surfaces comprising:

1) an integral exterior slip resistant region of gripping surface material comprising gripping surface material that is comprised of the type of urethane rubber made out of diethyltoluendiamine benzenedicarboxylic acid, the said urethane rubber being accumulated and/or raised to a height of at least $3/16^{th}$ of an inch above the garment fabric in which the anti-slip slip-on slip-over roof safety shorts are made out of, the said urethane rubber applied in any of the gripping patterns mentioned in this specification wherein each individual gripping member making up the chosen said gripping pattern are not further apart from each other than ¼ of an inch, the said gripping surface material area is applied to the garment fabric of between eighty eight and one hundred percent of the total outer surface of the said anti-slip slip-on slip-over roof safety shorts including the front, back, all around, and on the side of the legs;

2) that the said anti-slip slip-on slip-over roof safety short's garment fabric is made out of ripstop quality woven fabric that is resistant to tearing, ripping and bunching up and has reinforced threads that are interwoven at regular intervals in a crosshatch pattern with intervals being typically 5 to 8 millimeters;

3) that the said anti-slip slip-on slip-over roof safety shorts is configured to slip-on and slip-off existing clothing;

4) that the said anti-slip slip-on slip-over roof safety shorts has a cinching means to prevent the end of the leg holes from rolling and/or bunching upward after being worn over the existing clothing;

5) the said anti-slip slip-on slip-over roof safety shorts has a cinching and securing means that allows the said anti-slip slip-on slip-over roof safety shorts to be securely fastened over existing clothing;

6) the said anti-slip slip-on slip-over roof safety shorts comprising at least one interior slip resistant region to inhibit slippage between the said anti-slip slip-on slip-over roof safety shorts and the existing clothing that the said anti-slip slip-on slip-over roof safety shorts are worn over.

2. Anti-slip slip-on slip-over roof safety shorts of claim **1**, further comprising subsequent applications of the said urethane rubber in any of the various gripping patterns mentioned in this specification allowing for the accumulation of the said urethane rubber to buildup to the height of ¼ inch above the ripstop fabric in which the anti-slip slip-on slip-over roof safety shorts are made out of.

3. Anti-slip slip-on slip-over roof safety shorts of claim **1**, further comprising a means for the gripping surface material to effectuate slip resistance by additional protruding ½ inch members that can be fastened upon the anti-slip slip-on slip-over roof safety shorts and made out of today's commercial available material members such as is found on climbing boots, sports cleats, or slip-on ice shoes.

4. Anti-slip slip-on slip-over roof safety shorts for traversing steep sloped surfaces comprising:

1) an integral exterior slip resistant region of gripping surface material comprising gripping surface material that is comprised silicone rubber made out of, the said silicone rubber being accumulated and/or raised to a height of at least $3/16^{th}$ of an inch above the garment fabric in which the anti-slip slip-on slip-over roof safety shorts are made out of, the said silicone rubber applied in any of the gripping patterns mentioned in this specification wherein each individual gripping member making up the chosen said gripping pattern are not further apart from each other than ¼ of an inch, the said gripping surface material area is applied to the garment fabric of between eighty eight and one hundred percent of the total outer surface of the said anti-slip slip-on slip-over roof safety shorts including the front, back, all around, and on the side of the legs;

2) that the said anti-slip slip-on slip-over roof safety short's garment fabric is made out of ripstop quality woven fabric that is resistant to tearing, ripping and bunching up and has reinforced threads that are interwoven at regular intervals in a crosshatch pattern with intervals being typically 5 to 8 millimeters;

3) that the said anti-slip slip-on slip-over roof safety shorts is configured to slip-on and slip-off existing clothing;

4) that the said anti-slip slip-on slip-over roof safety shorts has a cinching means to prevent the end of the leg holes from rolling and/or bunching upward after being worn over the existing clothing;

5) the said anti-slip slip-on slip-over roof safety shorts has a cinching and securing means that allows the said anti-slip slip-on slip-over roof safety shorts to be securely fastened over existing clothing;

6) the said anti-slip slip-on slip-over roof safety shorts comprising at least one interior slip resistant region to inhibit slippage between the said anti-slip slip-on slip-over roof safety shorts and the existing clothing that the said anti-slip slip-on slip-over roof safety shorts are worn over.

5. Anti-slip slip-on slip-over roof safety shorts of claim **4**, further comprising subsequent applications of the said silicone rubber in any of the various gripping patterns mentioned in this specification allowing for the accumulation of the said silicone rubber to build up to the height of ¼ inch above the ripstop fabric in which the anti-slip slip-on slip-over roof safety shorts are made out of.

6. Anti-slip slip-on slip-over roof safety shorts of claim **4**, further comprising a means for the gripping surface material to effectuate slip resistance by additional protruding ½ inch members that can be fastened upon the anti-slip slip-on slip-over roof safety shorts and made out of today's commercial available material members such as is found on climbing boots, sports cleats, or slip-on ice shoes.

7. A method of traversing a roof, comprising the steps of:

1) providing slip-on slip-over shorts having an exterior surface exterior slip resistant region of gripping surface material comprising gripping surface material that is comprised of the type of urethane rubber made out of diethyltoluendiamine benzenedicarboxylic acid or silicone rubber, and wherein the said urethane rubber or silicone rubber being accumulated and/or raised to a height of at least $3/16^{th}$ of an inch above the garment fabric in which the anti-slip slip-on slip-over roof safety shorts are made out of, and wherein the said urethane rubber or silicone rubber applied in any of the gripping patterns mentioned in this specification wherein each individual gripping member making up the chosen said gripping pattern are not further apart from each other than ¼ of an inch, and wherein the said area is applied to the garment fabric between ninety and one hundred percent of the total outer surface of the said slip-on slip-over shorts including the front, back, all around, and on the side of the legs, and wherein the slip-on slip-over short's garment fabric is made out of ripstop quality woven fabric that is resistant to tearing, ripping and bunching up and has reinforced threads that are interwoven at regular intervals in a crosshatch pattern with intervals being typically 5 to 8 millimeters, and wherein the slip-on slip-over shorts is configured to slip-on and slip-off existing clothing, and wherein the slip-on slip-over shorts has a cinching means to prevent the end of the leg holes and arm holes of the slip-on slip-over shorts from rolling upward after being worn over the existing clothing, and wherein the slip-on slip-over shorts contains at least one interior slip resistant region to inhibit slippage between the slip-on slip-over shorts and the existing clothing that the slip-on slip-over shorts are worn over;

2) donning the anti-slip slip-on slip-over roof safety shorts while on a roof, or, prior to traversing a roof;

3) traversing a roof;

4) dismounting from the roof;

5) removing the article of clothing.

8. A method of traversing a roof of claim **7** where in preliminary step before step 1 will be to apply the said urethane rubber manually to the anti-slip slip-on slip-over roof safety shorts.

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