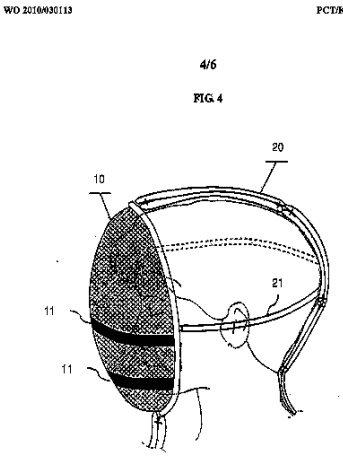
ANTI-VECTOR FIREPROOF TEXTILE FOR MAKING CLOTHING GARMENTS AND IMPREGNATION PROCEDURE

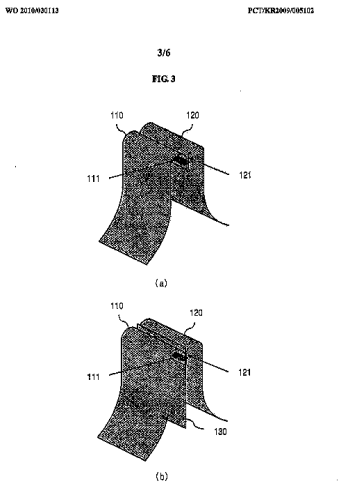
WO2009153376 (A1)

Publication: 2009-12-23

Applicant(s): TAG INNOVACION S A [ES]; PORTA PEREZ ESTHER [ES]; LANUZA INES MIGUEL [ES]; JIMENEZ MAROTO ANTONIO MANUEL [ES]; LATORRE GUALLAR EVA [ES]; DOMENECH CATARINA MARTA [ES]; LLIVIANA SUAREZ JOAN [ES] + (TAG INNOVACION, S. A, ; PORTA PEREZ, ESTHER, ; LANUZA INES, MIGUEL, ; JIMENEZ MAROTO, ANTONIO MANUEL, ; LATORRE GUALLAR, EVA, ; DOMENECH CATARINA, MARTA, ; LLIVIANA SUAREZ, JOAN)

The present invention refers to a textile for making clothing garments which protect the wearer against thermal risks of fire and flame and against the bites of vectors, such as ticks, mosquitoes, lice, fleas or similar, capable of transmitting and propagating illnesses. The textile is essentially configured by fibres of meta-aramid and para-aramid, and is impregnated with a vector-repellent substance





PNEUMATIC COOLING APPAREL SYSTEM

US2010125928 (A1)

Publication: 2010-05-27

Inventor(s): SMITH MICHAEL [US]; TURNER DAVID [US] + (SMITH MICHAEL, ; TURNER DAVID)

A modular air delivery system for supplying treated air to plural individuals wearing ventilation cooling garments. These garments are formed of comfortable and flexible air permeable inner layer and an air impermeable outer layer to define a plurality of air channels therebetween. In one disclosed embodiment, a flexible channel support is disposed between the inner and outer layer to prevent the layers from collapsing together during use.

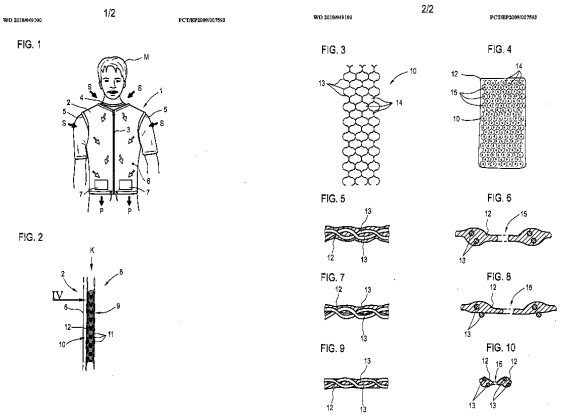
CLOTHING ITEM FOR PERSONAL CLIMATE CONTROL

WO2010049100 (A1)

Publication: 2010-05-06

Applicant(s): ENTRAK EN U ANTRIEBSTECHNIK GM [DE]; POHR SEBASTIAN HEINZ [DE] + (ENTRAK ENERGIE- U. ANTRIEBSTECHNIK GMBH & CO. KG, ; POHR, SEBASTIAN, HEINZ)

The invention relates to a clothing item for personal climate control, which comprises or is provided with, in at least some sections, a three-dimensional air-flow-guiding spacer knitted fabric (8) comprising two cover areas (9, 10) knitted from threads (13) and spaced a distance apart from one another to enable a fluid flow between them via elastic pile threads (11), wherein the cover areas (9, 10) have an open-pored knit structure, and wherein the thread(s) (13) of at least one cover area (10) is or are embedded at least partially, optionally completely, in a permanently elastic compound (12), entailing a reduction in pore size.



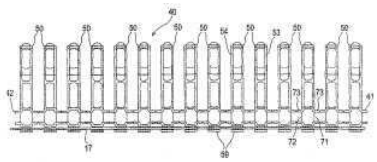
EVAPORATIVE COOLING DEVICE FOR COOLING WATER OR OTHER LIQUIDS AND A COOLING GARMENT INCORPORATING THE SAME

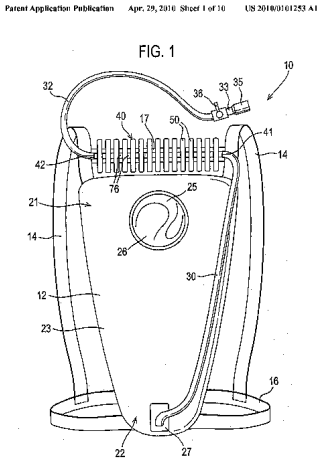
US2010101253 (A1)

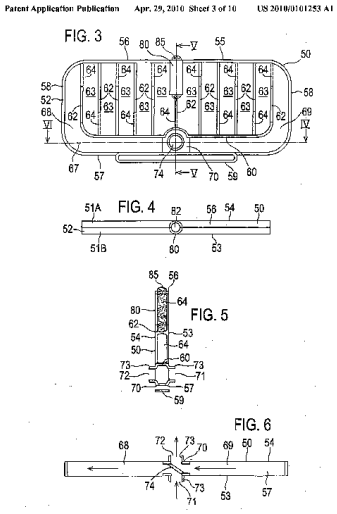
Publication: 2010-04-29

Applicant(s): BCB INTERNAT LTD [GB] + (BCB INTERNATIONAL LTD)

An evaporative cooling device (40) is disclosed for cooling water or other liquids comprising a vessel (50) adapted to receive water or another liquid, said vessel comprising a vessel wall (53, 54, 55), an outer layer (90) of absorbent material and a wick (85) extending through said vessel wall, such that said wick is positioned to contact said water or other liquid within the vessel and is adapted to transport a portion of said water or other liquid through the wall by capillary action to said absorbent material, said wick being substantially impermeable to gas or vapour, so that the cooling device (40) can be connected in-line in an hydration system of the kind comprising a reservoir (12) and a drinking tube (32). Water or other liquid transported from within the vessel to the outer layer by said wick is absorbed by the absorbent material, from which it evaporates, the latent heat required for such evaporation being removed from the water or other liquid disposed within the vessel as sensible heat through the vessel wall, thereby cooling such water or other liquid. In some embodiments, the cooling device (40) may be fan-assisted. Also disclosed is a cooling garment comprising a garment portion that is adapted to be worn by a user and an evaporative cooling device (40) for cooling water or other liquids that are circulated through integrant channels or tubes provided in the garment.







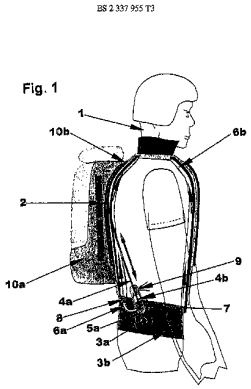
KÖRPERGETRAGENE AKTIVE BELÜFTUNGSVORRICHTUNG

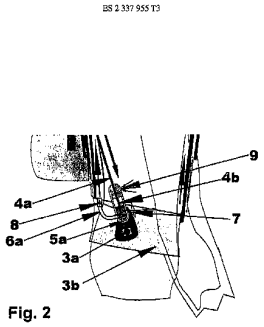
ES2337955 (T3)

Publication: 2010-04-30

Applicant(s): HEXONIA GMBH + (HEXONIA GMBH)

Die Erfindung betrifft eine aktive Belüftungsvorrichtung zur Anordnung am Körper (1) eines Benutzers mit einem ersten Befestigungsmittel (2), das an einem am Körper getragenen Kleidungsstück oder Ausrüstungsgegenstand (10b) angebracht ist, und einem zweiten Befestigungsmittel (3a, 3b), das am Körper angebracht oder abgestützt ist, mit Mitteln zur Erzeugung einer Luftströmung (4a, 4b; 5a, 5b, 6a, 6b), die auf den Körper oder vom Körper weg gerichtet ist. Die Vorrichtung zeichnet sich dadurch aus, dass durch eine bewegungsbedingte Abstandsänderung zwischen dem ersten und zweiten Befestigungsmittel (2; 3a, 3b) die Mittel zur Erzeugung einer Luftströmung (4a, 4b; 5a, 5b, 6a, 6b) mechanisch angetrieben werden.





HEAT REGULATING APPAREL AND METHOD OF FABRICATION THEREOF WO2010035040 (A1)

Publication: 2010-04-01

Applicant(s): BCB INTERNAT LTD [GB]; SEARLE MATTHEW JOHN [GB] + (BCB INTERNATIONAL LTD, ; SEARLE, MATTHEW JOHN)

A flexible substrate (42) is fashioned into the form of a heat regulating jacket (100). Generally, an array of heat regulating channels (74, 76) is formed in an interior surface (72) of the flexible substrate (42). The interior surface (72) of the substrate is closest to a body that is to be cooled or heated by the jacket (100). Adjacent heat regulating channels (74, 76) are separated by bridging material (78). On an opposite, exterior side (44) of the substrate (42), a fluid distribution manifold (46) is formed to include at least one distribution channel (48, 50). The distribution channel (48, 50) is constructed so that it is substantially impermeable to heat regulating fluid, such as cooled or heated air, flowing through the distribution manifold (46). A through-hole (79) between the distribution channel (48, 50) and the heat regulating channel (74, 76) ensures that the heat regulating fluid is communicated across the flexible substrate (42), while the bridging material (78) ensures that the through-hole (79) is both cushioned from and spaced away from an outermost face of the interior surface (72).

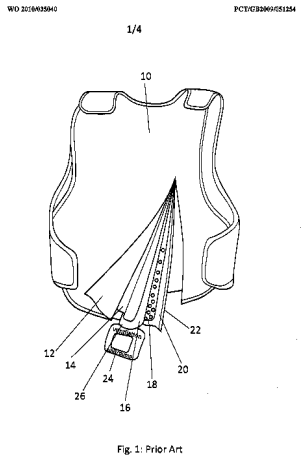


Fig. 1: Prior Art

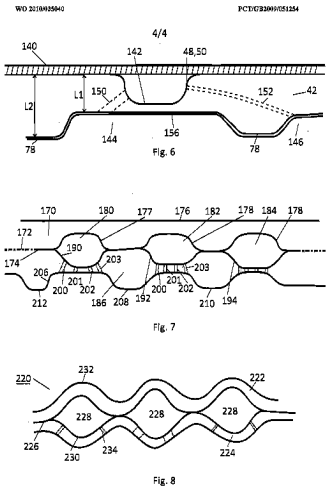


Fig. 6

Fig. 7

Fig. 8

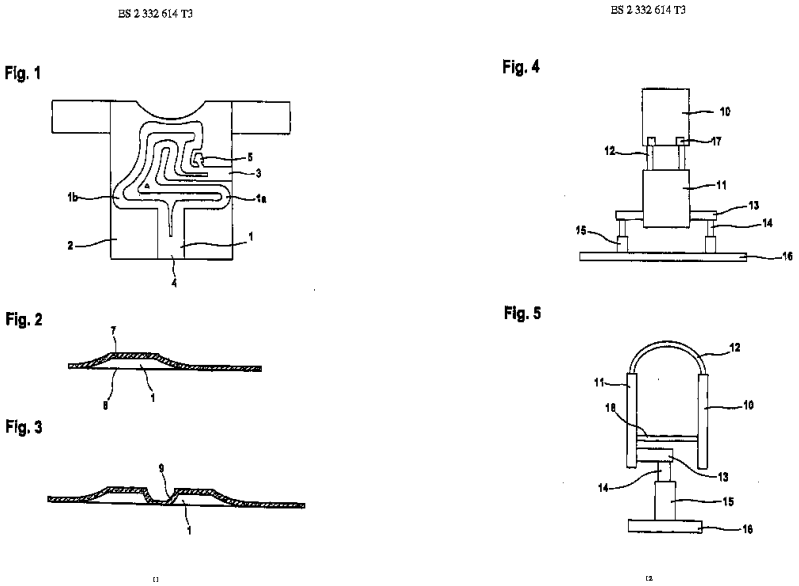
VENTILATION DEVICE FOR HUMAN BODY

ES2332614 (T3)

Publication: 2010-02-09

Applicant(s): HEXONIA GMBH + (HEXONIA GMBH)

The piece of clothing such as outerwear pieces (2) has a ventilation device which channels (1, 5) for the conveyance of air. The channels (1) are arranged on the underside of the garment (2) so that fresh air is directed into the channels and at the top of the garment. An independent claim is included for a carrying frame.



COOLING SYSTEM FOR BODY ARMOUR

AT449947 (T)

Publication: 2009-12-15

Applicant(s): RABINTEX IND LTD [IL]; ARTIM GROUP LTD [IL] + (RABINTEX INDUSTRIES, LTD, ; ARTIM GROUP LTD)

A system for providing streaming air to evaporate perspiration from a wearer of personal armour. The system incorporates a set of voluminous layers for wearing beneath the armour, one of which is enveloped voluminous layer. The envelope is perforated in the direction of said wearer, such that an air blower forces air into the perforation and thence onto the body of the wearer

CONTROLLABLE RIBBED THERMOINSULAT IVE CHAMBER OF CONTINUALLY ADJUSTABLE THICKNESS AND ITS APPLICATION

WO2009115851 (A1)

Publication: 2009-09-24

Applicant(s): ROGALE FIRST SNJEZANA [HR]; ROGALE DUBRAVKO [HR]; NIKOLIC GOJKO [HR]; DRAGCEVIC ZVONKO [HR] + (ROGALE, FIRST SNJEZANA, ; ROGALE, DUBRAVKO, ; NIKOLIC, GOJKO, ; DRAGCEVIC, ZVONKO)

The invention relates to a controllable ribbed thermoinsulative chamber of continually adjustable thickness, which is used to pneumatically determine its thermal conductivity. The invention describes the manned of constructing such a chamber and the manner of controlling it. The abovementioned chamber is used in designing articles of clothing with a self -regulating thermal insulation. One or more chambers are used in the construction, together with adequate devices for controlling and monitoring the workings of thermoinsulative chambers. Special attention is paid to the construction of forced ventilation of the garments designed in the above way. The garments designed in the above way are suitable for police usage, maintenance services, watchmen services, security of the open objects and premises, workers in cold storages, athletes like mountain climbers, alpinists, sailing boaters and the like, wherever the temperature of the environment is radically changed in the course of usage

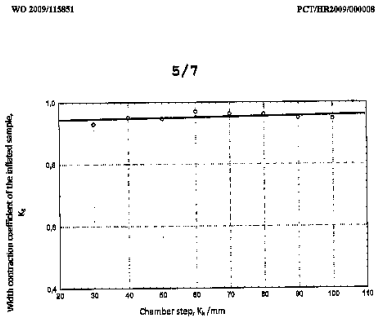


FIGURE 9

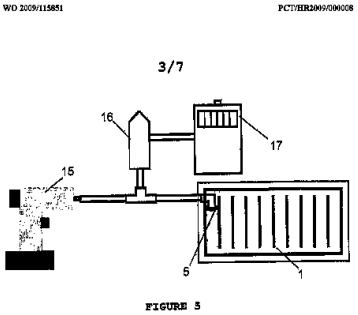


FIGURE 5

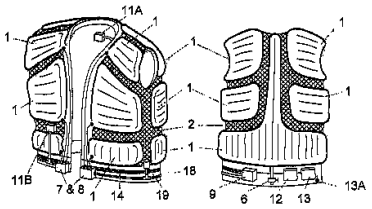


FIGURE 10

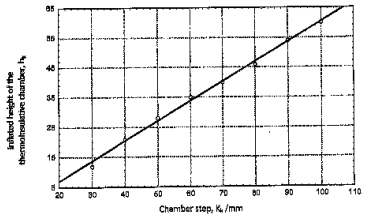


FIGURE 6

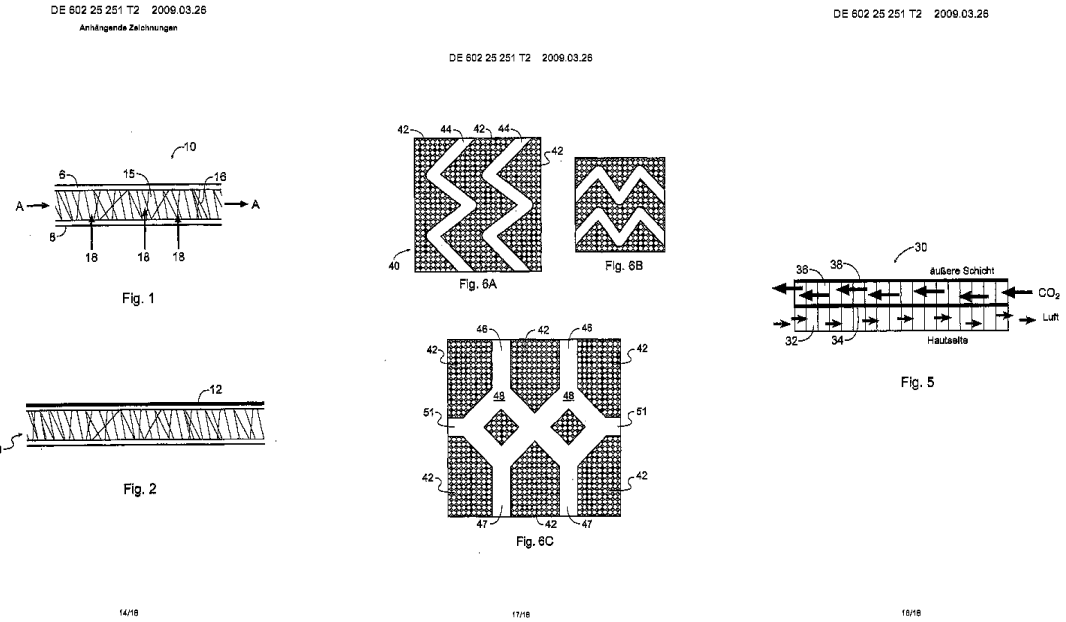
THREE-DIMENSIONAL FABRIC WITH POROUS LAYER

DE60225251 (T2)

Publication: 2009-03-26

Applicant(s): LAMINATION TECHNOLOGIES LTD [GB] + (LAMINATION TECHNOLOGIES LTD)

The invention provides a fabric (10) comprising a porous layer (15) that is porous in the direction along the layer, the porous layer including fibres (16) extending across the layer, whereby, in use, fluid (A) is arranged to be driven along the porous layer in the general extent of the layer. The fabric allows heat from a body in contact with the fabric to be carried along the porous layer, thereby efficiently cooling the body. The invention also provides articles comprising the fabric, such as clothing. Advantageously, the fabric is lightweight, flexible and non-bulky, and provides efficient cooling of the body.



ARTICLE OF APPAREL FOR TEMPERATURE MODERATION

EP2182820 (A1)

Publication: 2010-05-12

Applicant(s): NIKE INTERNATIONAL LTD [US] + (NIKE INTERNATIONAL LTD)

An article of apparel may include a polymer chamber element that defines an interior void for containing a substance in either a liquid or a solid state. Depending upon the substance located within the chamber element, the apparel may be utilized for increasing or decreasing the body temperature of the individual. The chamber element may have a plurality of subchambers, which may have a triangular shape and may be in fluid communication. In some configurations, the subchambers may have different sizes or volumes.

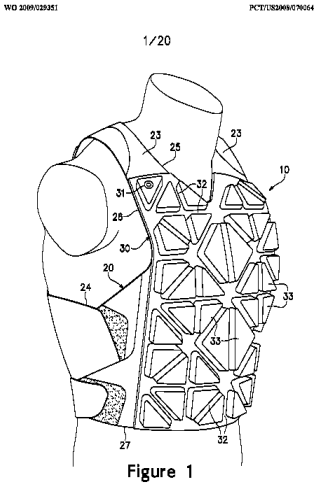


Figure 1

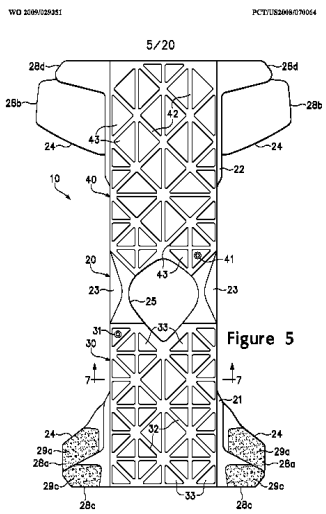


Figure 5

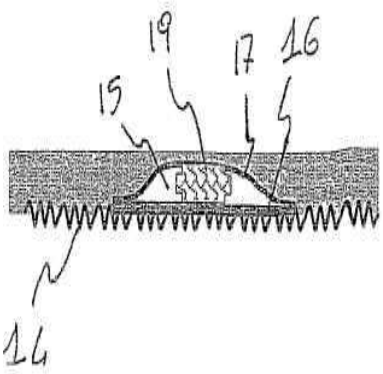
AIR-CONDITIONING SYSTEM FOR TECHNICAL WEAR

US2010071385 (A1)

Publication: 2010-03-25

Applicant(s): MILANO POLITECNICO [IT] + (POLITECNICO DI MILANO)

The present invention relates to a thermoelectric motor (3) in which a material is interposed between the external plate (12) of a thermoelectric module and an external heat exchanger (4), to reduce heat resistance therebetween; the present invention further relates to a thermoelectric motor (3) in which the heat-carrying fluid flows directly over the internal plate (13) of a thermoelectric module, a temperature controlled garment with an inner metal layer and a convex heat exchanger.



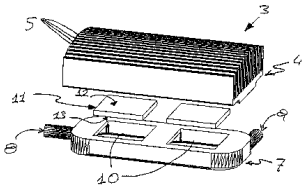
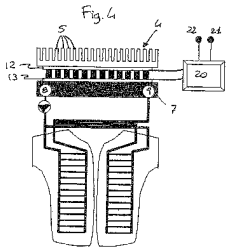
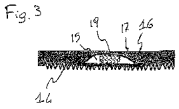


Fig. 2





CONDITIONING
AT458415 (T)

Publication: 2010-03-15

Applicant(s): SURVITEC GROUP LTD [GB] + (SURVITEC GROUP LIMITED)

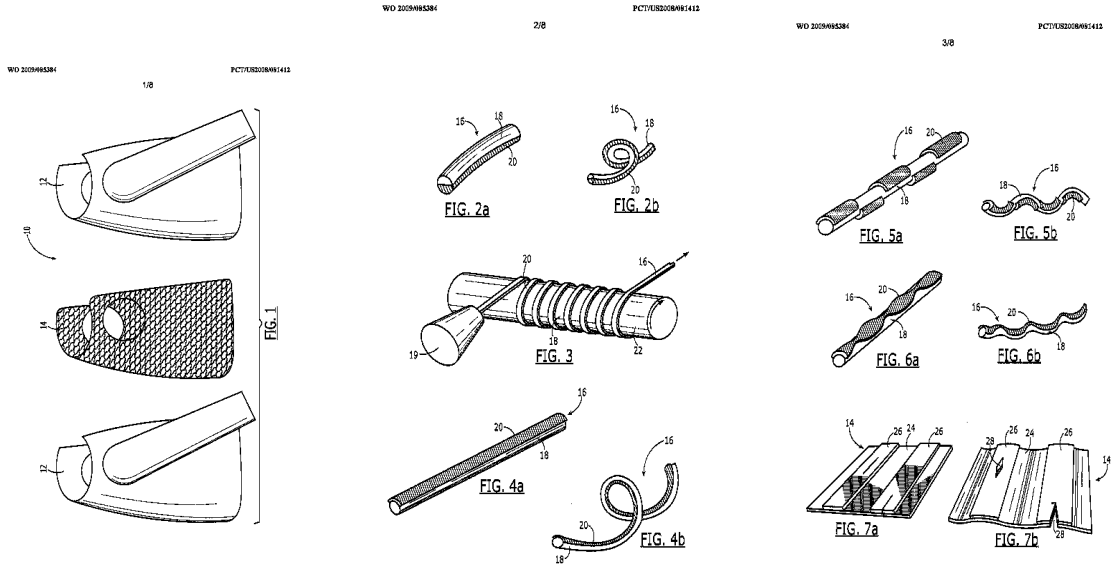
A conditioning garment has front and rear panels (11, 12) with a neck opening (13) between them. A manifold (17) extends along the lower edge of the front (11) panel and a manifold (24) extends along the lower edge of the rear panel (12). Tubes (27) extend between the manifolds (17, 24) and carry conditioned liquid over the torso of a wearer to heat/cool the torso. The tubes (27) are equally spaced and generally the same length to provide even heating/cooling. The garment (10) is easy to don and remove. The garment (10) can be modified by the addition of various chest compression devices, a neck support and a harness tensioning device. All these are designed to encounter increased +G-forces on the body of a wearer.

INSULATIVE MATERIAL AND ASSOCIATED METHOD OF FORMING
WO2009085384 (A1)

Publication: 2009-07-09

Applicant(s): BOEING CO [US]; LAIB TREVER M [US]; FLETCHER III HENRY V [US]; MITCHELL BRADLEY J [US] + (THE BOEING COMPANY, ; LAIB, TREVER, M, ; FLETCHER, III, HENRY V, ; MITCHELL, BRADLEY, J)

An insulative material and a method of forming the insulative material are provided. The insulative material is configured to change shape in response to temperature and thus, for example, the insulative material may become more insulative as the temperature decreases. For example, the insulative material may include a plurality of fibers that change shape, such as by curling, in response to decreases in temperature, thereby correspondingly changing the insulative properties



TEXTILE FABRIC

WO2009053118 (A1)

Publication: 2009-04-30

Applicant(s): HAENSEL TEXTIL GMBH [DE]; ENGELKING SVENN [DE] + (HAENSEL TEXTIL GMBH, ; ENGELKING, SVENN)

The invention relates to a textile fabric, particularly a textile inlay material made of a textile fabric, having an antistatic effect, made of fibers crossing diagonally or at right angles, such as woven material, knitted fabrics with weft, knotted fabrics with weft, multiaxial knitted fabrics, meshwork, yarn layer stitch-knotted fabrics, wherein an additional core jacket yarn having particularly at least one winding yarn made of wound filaments of electrically non-conductive material is additionally disposed in the warp and weft system with a globally electrically conductive core filament such that the yarns cross and the distance between such adjacent core jacket yarns in the warp and weft directions is at least 4 mm and no more than 100 mm, and such that the mass proportion of the electrically conductive components relative to the entire mass of the textile inlay material is 1 to 10%.

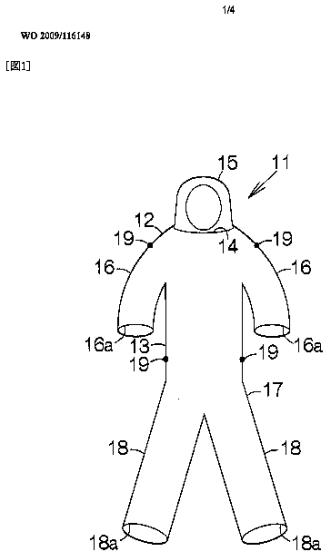
CLEAN SUIT AND CLEAN SUIT SET

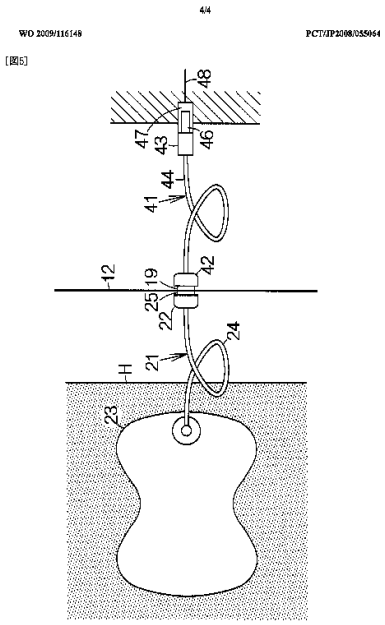
WO2009116148 (A1)

Publication: 2009-09-24

Applicant(s): FUJITSU LTD [JP]; NAKAJIMA TOMOHIDE [JP] + (FUJITSU LIMITED, ; NAKAJIMA, TOMOHIDE)

A clean suit is formed of a given cloth (12). A conductive obverse-side coupler (19) is fixed to the obverse side of the cloth (12). A conductive reverse-side coupler (25) is fixed to the reverse side of the cloth (12). The reverse-side coupler (25) is electrically connected to the obverse-side coupler (19). The human body (H) of a clean suit wearer and an outside ground wire (48) can be connected to each other via the obverse-side coupler (19) and reverse-side coupler (25). Thus, any static electricity generated on the human body (H) of the wearer can escape to the ground wire (48). It is not needed for the wearer to have a wristband on his arm. As a result, the danger of dropping of parts and products can be cast aside.





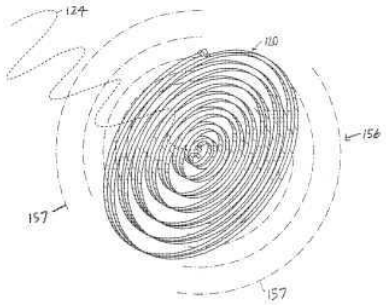
SYSTEM AND METHOD FOR EXCLUDING ELECTROMAGNETIC WAVES FROM A PROTECTED REGION

US2009001297 (A1)

Publication: 2009-01-01

Inventor(s): MALECKI ZBIGNIEW [CA] + (MALECKI ZBIGNIEW)

A module for receiving one or more electromagnetic waves moving along a path in a direction of propagation. The module includes a first electrically conductive strip disposed in a first pattern and a second substantially electrically conductive strip disposed in a second pattern. The first and second strips are positioned substantially parallel to each other and spaced apart, and are electrically connected to each other. The first and second patterns are substantially opposite to each other, so that current passing through the first and second strips generates respective electromagnetic fields which are substantially opposed to each other. The first strip is positionable in the path of the electromagnetic wave and substantially transverse to the direction of propagation, to provide a protected region from which said at least one electromagnetic wave is substantially excluded.



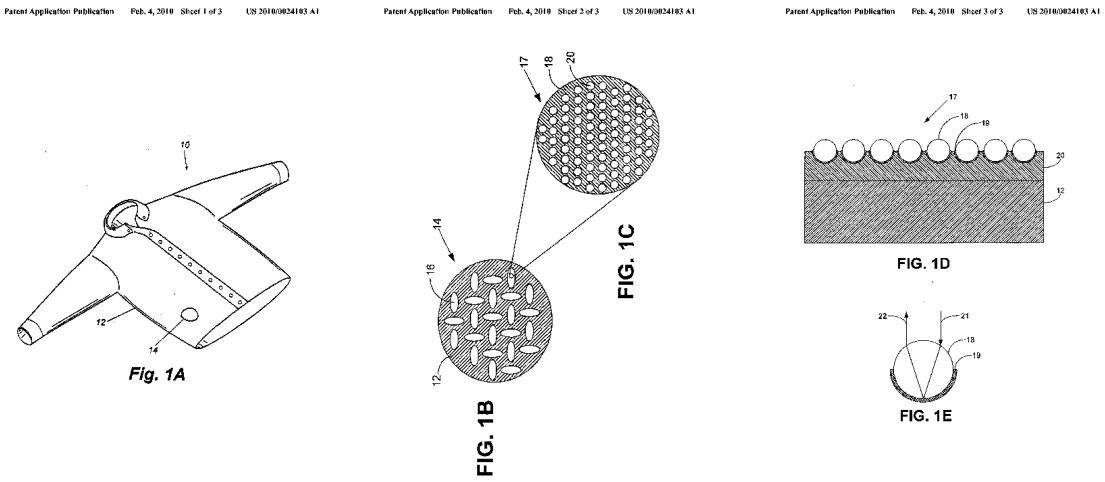
REFLECTIVE PRINTING ON FLAME RESISTANT FABRICS

US2010024103 (A1)

Publication: 2010-02-04

Applicant(s): SOUTHERN MILLS INC [US] + (SOUTHERN MILLS, INC)

A retroreflective garment constructed of flame resistant fabric. The garment is light-weight and can be single or double layered. Garments that can be constructed of flame resistant fabric with retroreflective elements applied thereon include garments such as, for example, shirts, pants, coveralls, jumpsuits, jackets, gloves, hats, etc. The flame resistant fabric has a coefficient of retroreflection of about 10 to about 500 candelas per lux per square meter. In addition, the retroreflective elements cover at least about 5 percent of the outer surface of the flame resistant fabric.



VAPOR PERMEABLE RETROREFLECTIVE GARMENT

US2009320193 (A1)

Publication: 2009-12-31

Applicant(s): 3M INNOVATIVE PROPERTIES CO + (3M INNOVATIVE PROPERTIES COMPANY)

The disclosure describes vapor permeable retroreflective material for use on protective garments. The material may be formed in a non-continuous pattern that provides a high-level of retroreflective brightness, yet also provides adequate permeability to prevent exposure to trapped thermal energy and heated moisture. The non-continuous retroreflective pattern may include retroreflective regions and non-retroreflective regions arranged such that thermal decay through the protective garment is not substantially decreased in the regions corresponding to the retroreflective material. Rather, vapor permeation and thermal decay through the garment may be substantially the same as if the retroreflective material was not present.

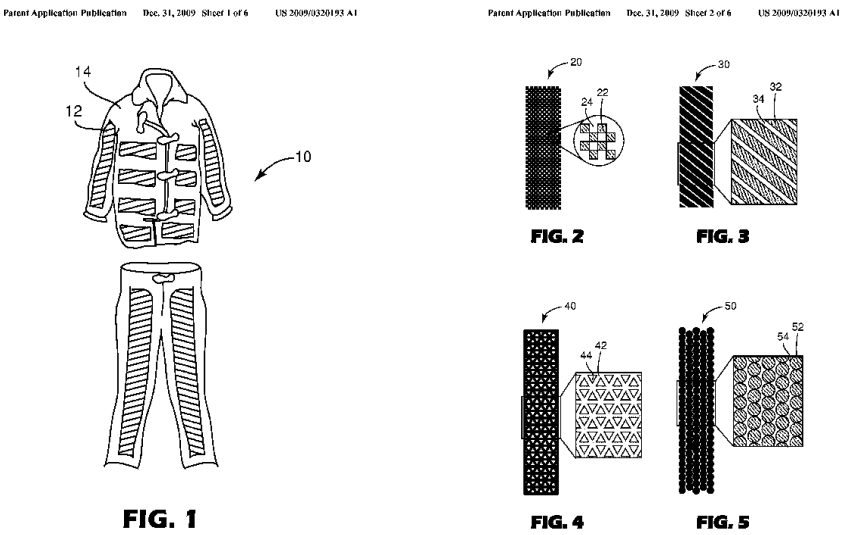


FIG. 1 FIG. 2 FIG. 3 FIG. 4 FIG. 5

RADARREFLEKTIERENDER REFLEKTOR

DE102009021851 (A1)

Publication: 2009-12-24

Applicant(s): DAIMLER CHRYSLER AG [DE] + (DAIMLER AG)

Die Erfindung betrifft einen Reflektor (1) zum Detektieren eines Objektes (2) auf einer Fahrbahn (3), wobei das Objekt (2) ein Fussgänger, ein Radfahrer und/oder ein Kraftradfahrer ist. Erfindungsgemäss ist mindestens ein Reflektor (1) als radarreflektierender Reflektor (1) zum Detektieren des Objektes (2) auf einer Fahrbahn (3) mittels von einem Radarortungsgerät (4) ausgestrahlten Radarstrahlen (6) ausgebildet und in oder an einer Kleidung und/oder Schutzkleidung des Objektes (2) angeordnet

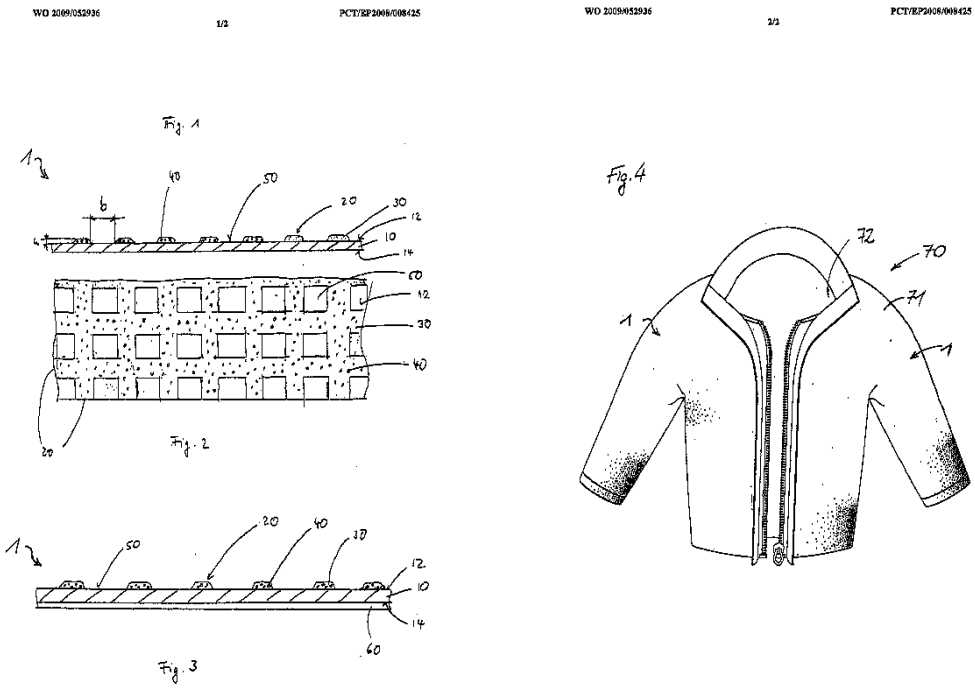
MATERIAL STRUCTURE MADE OF FLAME-RESISTANT MATERIAL, IN PARTICULAR REFLECTIVE CLOTHING

WO2009052936 (A1)

Publication: 2009-04-30

Applicant(s): GORE W L & ASS GMBH [DE]; STUEBIGER WERNER [DE] + (W.L. GORE & ASSOCIATES GMBH, ; STUEBIGER, WERNER)

The invention relates to a material structure (1) comprising a base structure (10) that at least partially contains a flame-resistant material, with a first side (12) and a second side (14). At least the first side (12) of the base structure is printed with a pattern (20) that comprises the open area (50) that makes the surface of the base structure (10) visible. Said pattern (20) is made of a material (30) that contains an luminous dye (40). The visible surface of the first side (12) of the base structure (10), combined with the pattern (20), emits a colour of the material structure that meets the requirements according to european norm Nr. EN 471. Said material structures are used, in particular, for producing reflective and protective clothing.



PROTECTIVE CLOTHING WITH REFLECTION STRIPS

AT431085 (T)

Publication: 2009-05-15

Applicant(s): LION APPAREL DEUTSCHLAND GMBH [DE] + (LION APPAREL DEUTSCHLAND GMBH)

The invention relates to protective clothing with reflection strips. It is the object of the invention to provide for protective clothing with reflection strips in which the protective clothing is breathable even in the region of the reflective strips. This is achieved according to the invention by protective clothing with reflective strips in which the reflective strips have perforations through which vapour and moisture can escape from the protective clothing.

ENERGY ABSORBING MATERIAL

KR20100044252 (A)

Publication: 2010-04-29

Applicant(s): DESIGN BLUE LTD [GB] + (DESIGN BLUE LTD)

There is provided a self-supporting energy absorbing composite comprising: i) a solid foamed synthetic polymer matrix; ii) a polymer-based dilatant, different from i) distributed through the matrix and incorporated therein during manufacture of i); and iii) a fluid distributed through the matrix, the combination of matrix, dilatant and fluid being such that the composite is resiliently compressible. There is also provided a self-supporting energy absorbing composite comprising: iv) a solid, closed cell foam matrix; v) a polymer-based dilatant, different from i), distributed through the matrix; and vi) a fluid distributed through the matrix, the combination of matrix, dilatant and fluid being such that the composite is resiliently compressible.

TEXTILE DEVICE FOR BODY PROTECTION

US2010031706 (A1)

Publication: 2010-02-11

Applicant(s): OLYMPIA [FR] + (OLYMPIA)

The invention relates to a textile device for body protection, that comprises at least one knitted elastic structure including several meshes formed by at least one yarn, the device further including a pad made of a material that is elastic at least according to its thickness, the pad being assembled with said knitted structure. The pad extends along a face of the knitted structure, and some meshes of the knitted structure extending inside the pad and are trapped by the elastic material of the pad, thus forming a composite assembly, characterised in that a portion of the pad is located outside the knitted structure.

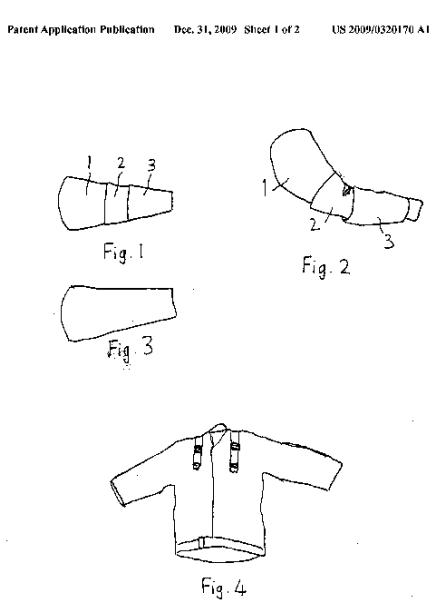
PROTECTIVE GARMENTS

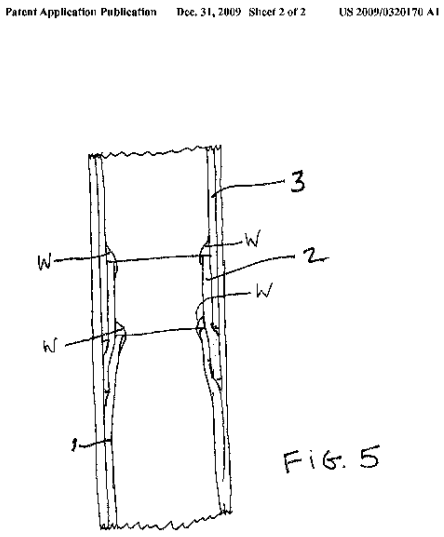
US2009320170 (A1)

Publication: 2009-12-31

Applicant(s): NP AEROSPACE LTD [GB] + (NP AEROSPACE LIMITED)

A garment, such a jacket or pair of pants, affords protection from ballistic impacts. The garment comprises at least two tubular sections of strong fabric, the sections overlapping such that said sections can telescope to allow flexing of a body part enclosed thereby without exposing any part of the body part. A set of protective clothing comprises the ballistic protective garment and an outer garment of heat and blast protective material.





IMPACT PROTECTION DEVICE

GB2460493 (A)

Publication: 2009-12-09

Applicant(s): UNIV BOLTON [GB] + (THE UNIVERSITY OF BOLTON)

An impact protection device comprises a web of piezoelectric fibres and an electrorheological fluid suspended by said web. In response to an impact event, the piezoelectric fibres generate an electrical signal. This is used either directly or indirectly to apply a second electrical signal to one or more electrodes, in response to which an electric field is applied to the electrorheological fluid. This causes the fluid to stiffen, providing protection against the impact event.

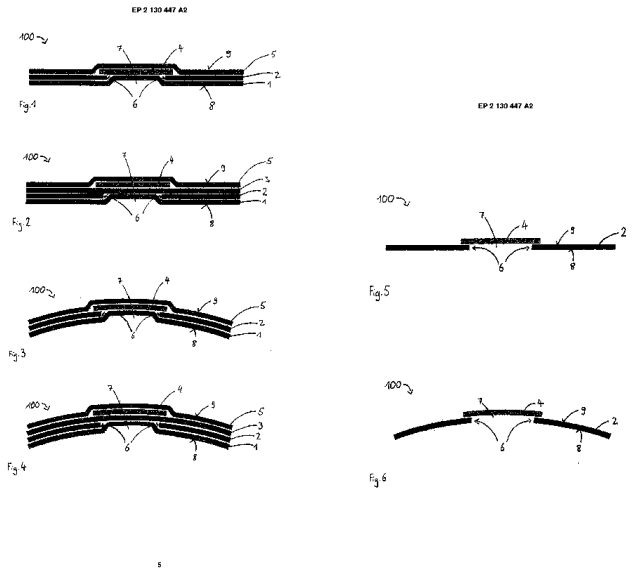
PROTECTOR WORN ON THE HUMAN BODY WITH MULTIPLE PROTECTIVE LAYERS

EP2130447 (A2)

Publication: 2009-12-09

Applicant(s): POLO EXPRESSVERSAND GES FUER M [DE] + (POLO EXPRESSVERSAND GESELLSCHAFT FUER MOTORRADBEKLEIDUNG UND SPORTSWEAR MBH & CO. KG)

The tread (100) has protecting layers (1-5) made of foam material, and a recess (6) provided within an area. A body part is protected within the area and protruded in the protecting layer (2), such that a cavity (7) is formed, where the cavity partially accommodates the body part to be protected. The partial protecting layer (4) has size that is adapted to the recess and arranged such that the partial protecting layer partially compensates the reduction, caused by the recess, of thickness of the tread.



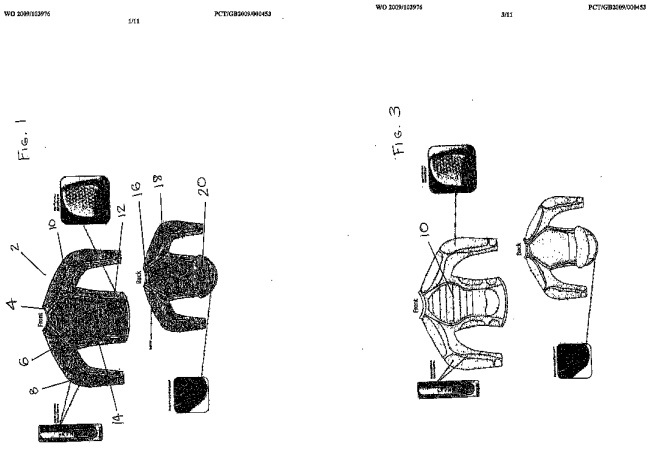
TRAUMA PROTECTION GARMENT

WO2009103976 (A1)

Publication: 2009-08-27

Applicant(s): TRAUMATEC LTD [GB]; HARDING WILLIAM RICHMOND [GB]; TAKIAR PANKAJ [GB]; KITCHINGMAN PAUL [GB]; TAKIAR NEERAJ [GB] + (TRAUMATEC LIMITED, ; HARDING, WILLIAM, RICHMOND, ; TAKIAR, PANKAJ, ; KITCHINGMAN, PAUL, ; TAKIAR, NEERAJ)

The present invention relates to a garment for providing protection against trauma injury to a body, such as impact trauma injury which can be caused by blunt, sharp or ballistic objects, which provides effective protection and is comfortable to wear. The garment has a plurality of discrete sections over areas of the body intended to be protected in which a protective material representative of the level of protection required may be situated. The invention is able to be worn covertly under ordinary everyday clothing and provide protection for most of the body, particularly for the major organs.



SHOCK ABSORBER

EP2062486 (A2)

Publication: 2009-05-27

Applicant(s): ATUFORMA GMBH [DE] + (ATUFORMA GMBH)

The shock absorber (3) has a shock absorber end formationmade from flexible plastic material that has a flexible spacer (5) embedded in it. The flexible spacer may have short fibres and be arranged between two cover layers (6) made from a textile material which may be a gel that is polyurethane.

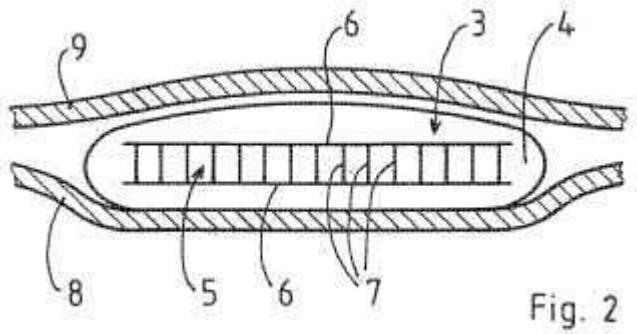


Fig. 2

SYSTEM AND METHOD OF USING SHEAR THICKENING MATERIALS IN SPORTS PRODUCTS
US2009191989 (A1)

Publication: 2009-07-30

Applicant(s): HEAD TECHNOLOGH GMBH + (HEAD TECHNOLOGH GMBH)

A sports product may include a support member and an impact region configured to impact an object. The impact region may be coupled to the support member. The sports product may also include a shear thickening material in at least one of the support member or the impact region. The shear thickening material may be configured to exhibit shear thickening behavior when an impact occurs between the impact region and the object.

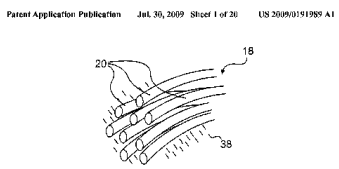


FIG. 1

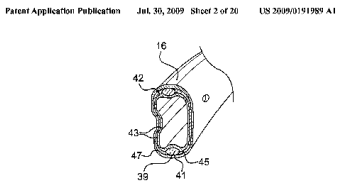


FIG. 3

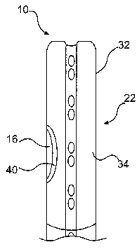


FIG. 2

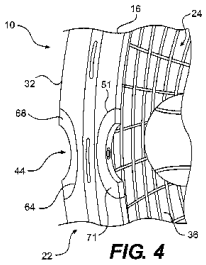


FIG. 4

RESILIENT SHOCK-ABSORBING DEVICE
EP2100527 (A1)

Publication: 2009-09-16

Applicant(s): LIN KENG-HSIEN [TW] + (LIN, KENG-HSIEN)

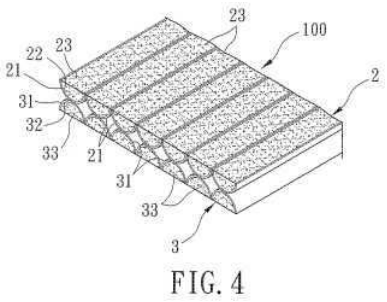


FIG. 4

A resilient shock-absorbing device includes an absorber body (100, 100', 100a, 100b, 100c) having top and bottom faces and including first and second absorber layers (2, 2', 2c, 3, 3', 3c). The first absorber layer (2, 2', 2c) includes a plurality of juxtaposed resilient first outer tube halves (21, 21c) heat-sealed to each other, and a pluralityof first foammembers (23, 23') filledrespectively in the first outer tube halves (21, 21c) . The second absorber layer (3, 3', 3c) includes a plurality of juxtaposed resilient second outer tube halves (31, 31c) heat-sealed to each other, and a plurality of second foam members (33, 33') filled respectively in the second outer tube halves (31, 31c). The first and second absorber layers (2, 2' , 2c, 3, 3', 3c) form respectively the top and bottom faces of the absorber body (100, 100', 100a, 100b, 100c). Each of the first and second outer tube halves (21, 21c, 31, 31c) is made of a thermoplastic elastic material. Each of the first and second foam members (23, 23', 33, 33') has a segment-shaped cross section.

FLUID SAFETY LINER

US2009265839 (A1)

Publication: 2009-10-29

Applicant(s): MASSACHUSETTS INST TECHNOLOGY [US] + (MASSACHUSETTS INSTITUTE OF TECHNOLOGY)

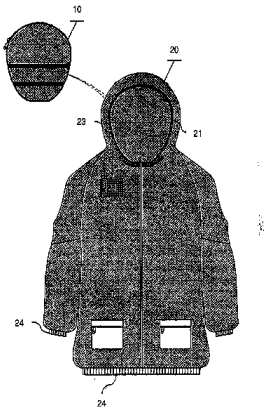
A fluid safety liner includes a liner of closed-cell foam that uses a series of channels and reservoirs to spread forces and distribute fluid contained within the liner throughout different areas of the liner. The liner is useable in protective gear such as a helmet and has a shape that conforms to the area of protection. The channel and reservoir system generally includes a mesh of coupled channels and reservoirs in the closed-cell foam. The channel and reservoir system also generally includes an incompressible fluid movable throughout the system for redistributing pressure and absorbing the force of any impact through viscous flow. The reduction in peak force and lengthening of the duration of the force reduces the biomechanical severity (e.g. HIC, Head Injury Criterion) of a blow to the protective gear.

GARMENT FOR PROTECTION FROM HARMFUL INSECTS

WO2010030113 (A2)

Publication: 2008-09-12

Applicant(s): Shim Tae Hwan



The present invention relates to a garment for protection from harmful insects and a method for its making. More specifically, the protection garment comprises: a face cover made of synthetic fabric of mesh materials, and an upper garment made of bi-layered or tri-layered synthetic fabric. One or more face-shaped fixation rods are horizontally attached to the face cover, wherein the fixation rod is convexly curved outward. A coupling member is formed at the lateral side or rear side of the face cover to be detachable from the upper garment. The bi-layered synthetic fabric is prepared by: forming a portion to be sewn by overlapping two sheets of synthetic fabric cut in a certain size and folding both ends of the two sheets inwardly to form a narrow part; and sewing the two sheets inwardly to form a space between the two sheets of synthetic fabric. The tri-layered synthetic fabric is prepared by: forming a sewn portion by overlapping three sheets of synthetic fabric cut in a certain size and folding the ends of both outer synthetic fabrics inwardly to form a narrow part; and sewing the folded portion and a middle synthetic fabric inwardly to form a space among three sheets of synthetic fabrics respectively. The garment for protection from harmful insects is characterized in that: wrist and waist portions of the upper garment are treated with bands; an elastic rod insertion portion is extended from one end of a hood portion to the opposite end via the back part of the head and has an insertion hole for inserting an elastic rod; and a coupling member for detaching the face cover is attached.