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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2010HL1
	Application Number	
Title of Invention	SMART BIOMECHANICS AWARE ENERGY CONSCIOUS PROTECTIVE GEAR WITH TISSUE PROTECTION	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
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Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1

Applicant Authority ◉ Inventor ○ Legal Representative under 35 U.S.C. 117 ○ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	Robert	T.	Knight	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

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Citizenship under 37 CFR 1.41(b) US

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Postal Code	94530	Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	22434		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	SMART BIOMECHANICS AWARE ENERGY CONSCIOUS PROTECTIVE GEAR WITH TISSUE PROTECTION		
Attorney Docket Number	2010HL1	Small Entity Status Claimed	☒
Application Type	Provisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2010HL1
	Application Number	
Title of Invention	SMART BIOMECHANICS AWARE ENERGY CONSCIOUS PROTECTIVE GEAR WITH TISSUE PROTECTION	

Publication Information:
☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not been and will not be the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ US Representative (37 CFR 11.9)
Customer Number	22434		

Domestic Priority Information:

This section allows for the applicant to claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c). Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)

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Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

			Remove
Application Number	Country[i]	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			○ Yes ○ No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1

If the Assignee is an Organization check here. ☐

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	2010HL1
	Application Number	
Title of Invention	SMART BIOMECHANICS AWARE ENERGY CONSCIOUS PROTECTIVE GEAR WITH TISSUE PROTECTION	

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

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Address 1			
Address 2			
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Phone Number	510-663-1100	Fax Number	510-663-0920
Email Address			
Additional Assignee Data may be generated within this form by selecting the **Add** button.			

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/Audrey Kwan/			Date (YYYY-MM-DD)	2011-07-21
First Name	Avery Audrey	Last Name	Kwan	Registration Number	46850

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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SMART BIOMECHANICS AWARE ENERGY CONSCIOUS PROTECTIVE GEAR WITH TISSUE PROTECTION

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates generally to protective gear and more specifically it relates to a protective gear utilizing a smart biomechanics aware energy conscious design using energy dissipation, transformation, absorption, redirection techniques for providing a device for the protection of people from traumatic injury - not just from the impact forces, but also from indirect movements or vibrations; and the utilization of the same design for multiple purposes including protective gear for other things or beings.

Description of the Related Art

Typically protective gear devices are focused on avoiding full impact forces directly mechanically damage the area of contact - like the skull, the knee, the nose, ...

The main problem with conventional protective gear devices is that the results address the physical cracking or breaking of the bone, however the bigger issue is the tissue and neurological damage caused by the rotational forces, shear forces, oscillations, and tension/compression forces.

Specifically in head injuries, the major issue is the neurological damage caused by oscillations of the brain in the cranial vault resulting in coup-contracoup injuries manifested as direct contusions to the CNS; shear injuries exacerbated by rotational/tension/compression/shear forces resulting in demyelination and tearing of axonal fibers; and subdural or epidural hematomas.

Another problem with conventional protective gear devices is that they are not designed to dampen/transform/dissipate/distribute the rotational/tension/compression/shear forces, but rather focus on absorbing the direct impact force over a small area, potentially exacerbating the secondary forces on the CNS.

In addition to the neurological damage - initial mechanical damage results in secondary cascade of tissue and cellular damage due to increased glutamate release or

other trauma induced molecular cascades.

Another problem with conventional protective gear devices is that they are not biomechanics aware or biomechanics customized for the area of protection.

Another problem with conventional protective gear devices is that they are not temporally reactive at the right time scales to avoid damage.

While these current devices may be suitable for the particular purpose to which they address, they are not as suitable for providing a device for protecting from both mechanical damage (like skull fracture), as well as neurological damage.

In these respects, the smart biomechanics aware energy conscious protective gear with tissue protection according to the present invention substantially departs from the conventional concepts and designs of the prior art, and in so doing provides an apparatus primarily developed for the purpose of providing a protective gear device with tissue protection for the brain, limbs, and internal organs.

SUMMARY OF THE INVENTION

In view of the foregoing disadvantages inherent in the known types of protective gear devices now present in the prior art, the present invention provides a new smart protective gear that will minimize the force/energy transmitted to the body by a smart combination of dissipation, transformation, absorption, redirection techniques that is appropriate to the biomechanics involved with the region being protected, and minimize tissue and neurological damage.

The general purpose of the present invention, which will be described subsequently in greater detail, is to provide a smart biomechanics aware energy conscious protective gear with tissue protection that has many of the advantages of the protective gear devices mentioned heretofore and many novel features that result in a new protective gear device utilizing biomechanics aware, energy conscious designs that minimize mechanical, tissue, and neurological damage which is not anticipated, rendered obvious, suggested, or even implied by any of the prior protective gear devices, either alone or in any combination thereof.

To attain this, the present invention generally comprises of:

- **Container Device** - a mechanism to provide a structural mechanism to enable the energy and impact transformer. The design of this element could be part of the smart energy conscious biomechanics aware design for protection.
- **Energy and Impact Transformer** – a mechanism for the dissipation, transformation, absorption, redirection of force/energy at the right time scales (in some cases as small as a few milliseconds).

There has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description thereof may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the invention that will be described hereinafter.

In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of the description and should not be regarded as limiting.

A primary object of the present invention is to provide a smart biomechanics aware energy conscious protective gear that will overcome the shortcomings of the prior art devices.

An object of the present invention is to provide a smart biomechanics aware energy conscious protective gear that protects from mechanical as well as tissue and

neurological damage.

Another object of the present invention is to provide a smart biomechanics aware energy conscious protective gear is to dampen/transform/dissipate/distribute the rotational/tension/compression/shear forces generated.

Another object of the present invention is to provide a smart biomechanics aware energy conscious protective gear that utilizes the knowledge of the biomechanics of the region being protected in the design of the protection.

Another object of the present invention is to provide a smart biomechanics aware energy conscious protective gear that temporally responds in the right time scales to avoid damage.

Other objects and advantages of the present invention will become obvious to the reader and it is intended that these objects and advantages are within the scope of the present invention.

To the accomplishment of the above and related objects, this invention may be embodied in the form illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that changes may be made in the specific construction illustrated.

DETAILED DESCRIPTION OF THE INVENTION

Turning now descriptively to the drawings, in which similar reference characters denote similar elements throughout the several views, the attached figures illustrate a smart biomechanics aware energy conscious protective gear, which comprises a container device and energy impact transformer.

Container Device a mechanism to provide a structural mechanism to enable the energy and impact transformer. Another purpose of this device is to protect from direct penetration from any intruding object or impeding object. The design of this element could be part of the smart energy conscious biomechanics aware design for protection; this includes a combination of mechanisms including but not limited to:

- tensile/compression to shear transformers
- smart force dampeners
- energy transformers (like mechanical to heat)
- impact distribution mechanism

The Container Device uses designs that are biomechanics aware, and leverage the information about the dynamics of the forces and their impact on the structure, nervous system and tissues.

This device could include a protective material - like Kevlar - that helps prevent penetration. It could alternatively have a form factor that facilitates the functionality more than the material. The device could leverage a hybrid combination of form and material to accomplish its objectives.

The container device in some designs could be separated into a multi-shell structure with the energy and impact transformer between them.

Energy and Impact Transformer a mechanism for the dissipation, transformation, absorption, redirection of force/energy at the right time scales (in some cases as small as a few milliseconds).

This system is a device that factors the neurological, structural, and tissue impact/dynamic into its design. It could include but not limited to the following conceptual elements or a combination thereof:

1: Mechanical transformer Element

A design where an outer and inner core are connected mechanically and/or with a fluid in between that helps transform the impact forces into more amenable forces (example compressive forces into shear energy) that can be mechanically retained without passing through to the inner shell, or be absorbed/dissipated. For example the structure could use shear truss like elements connecting the outer and inner layers through a structure in the middle, that lets any force or impact on the outer shell get transmitted to the center (for example converting tensile forces into shear forces). The center slides relative to inner core and does not transmit or diminishes these movements/impact. The material used for

the connecting and middle structure could also be material that absorbs/dissipates the mechanical energy as thermal energy. Also, the space between the shells could be filled with absorptive/dissipative material (fluids/gels).

2: Electro-Rheological Element

A design where an outer and inner core are separated by an electro-rheological element (electric field dependent viscosity) that essentially stays solid for most of the time. However, when there is stress/strain on the outer core, the electric field is activated that changes viscosity dependent on the level of strain that enables shear and slip between the layers that minimize impact transmission.

3: Magneto-Rheological Element

A design where an outer and inner core are separated by an magneto-rheological element (magnetic field dependent viscosity) that essentially stays solid for most of the time. However, when there is stress/strain on the outer core, the magnetic field is activated that changes viscosity dependent on the level of strain that enables shear and slip between the layers that minimize impact transmission.

4: Tempur-Pedic **like** Element

Mattress type of element is designed to take regular forces, and special forces, and distribute the force evenly. It is like a "mattress on/surrounding the head". If the entire mattress is made of Tempur-Pedic like material, its capacity to absorb shock, and make the impact essentially invisible to the inner core could be leveraged. Especially, this element could be under the inner shell in combination with the other concept elements.

5: Magnetic Suspension Element (Active/Passive)

A design where the inner core and outer core are separated by magnets that resist each other (N-poles opposing each other). The inner and outer cores naturally want to fly apart, but are pulled together by elastic materials. So when the outer core is impacted, and the magnets are pushed closer, they increase resistance through the air gap.

6: Concentric Geodesic Dome Element

With a series of inner shells, each of which is a truss based Geodesic Dome, but connected to the outer geodesic through structural or fluidic means. This means that each geodesic structure fully distributes its own shock load, but also transmits it in a uniform manner to the dome underneath. The sequence of geodesic structures, and the separation by fluid ensures consistently uniform force distribution and potentially dissipation that protects the inner most shell from these impacts.

7: Water Bed/ Accordion Element

This element could resemble a water bed with some minor modification. The inner and outer core could be separated by accordion like bellows with fluid/gel separating them. This could enable shock from the outer core to be transmitted and distributed through the enclosed fluid uniformly while the accordion compresses to accommodate strain and providing structural integrity.

8: Compressed Fluid/Piston/Spring Element

This design could include piston/cylinder like elements with a compressed fluid in between that absorbs the impact energy while increasing the resistance to the applied force. The design could include additional mechanical elements like a spring to absorb/dissipate the energy.

9: Coconut and Fiber Element

Creating a rippled outer core shaped like the coconut, and pack it with dense coconut fiber like elements that separates the inner core from the outer core. The shock is absorbed by the outer core and the fibrous filling. This could even be a "green" helmet if we use natural fibrous elements.

10: Squeeze Toy Element

Using thick stretchable gel filled plastic bag wrapped around the inner core structure. Pressing in one spot makes the bag pop up in a different spot as the force is instantaneously transferred and distributed. The combination of the elasticity of the bag, and the viscosity of the gel could provide the cushioning necessary to absorb/dissipate the energy and prevent much of the impact from transmitting.

Connections and Operations:

Typically the container device (which could be single or multiple layers) is connected to or filled with the energy and impact transformer. The design could have alternate embodiments where the two sub-systems could be integrated, or one of them serves both purposes.

As to a further discussion of the manner of usage and operation of the present invention, the same should be apparent from the above description. Accordingly, no further discussion relating to the manner of usage and operation will be provided.

With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.

Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Various other objects, features and attendant advantages of the present invention will become fully appreciated as the same becomes better understood when considered in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the several views, and wherein:

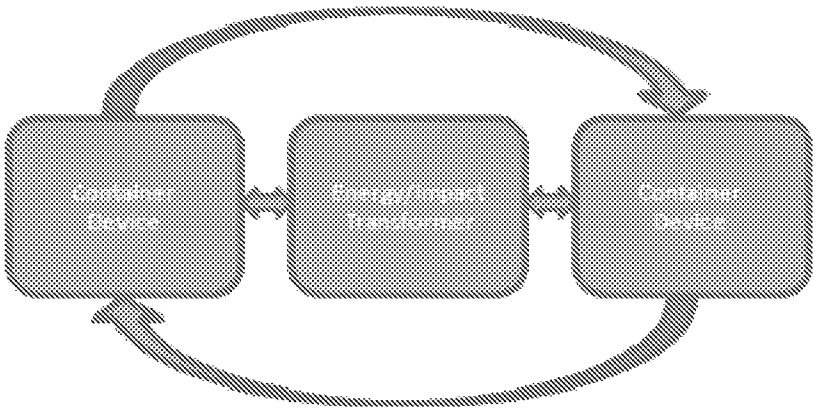

FIG.1 Sample System Architecture Alternate 1

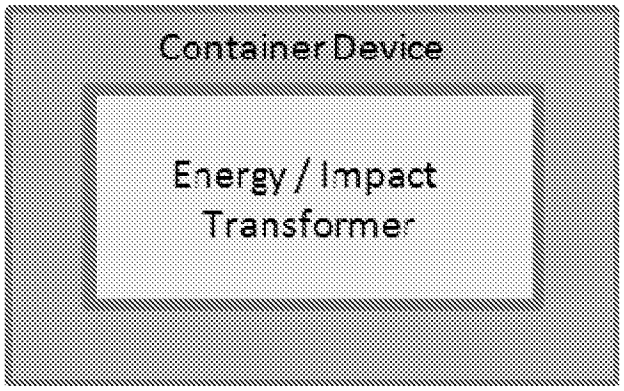

FIG 2 Sample System Architecture Alternate 2

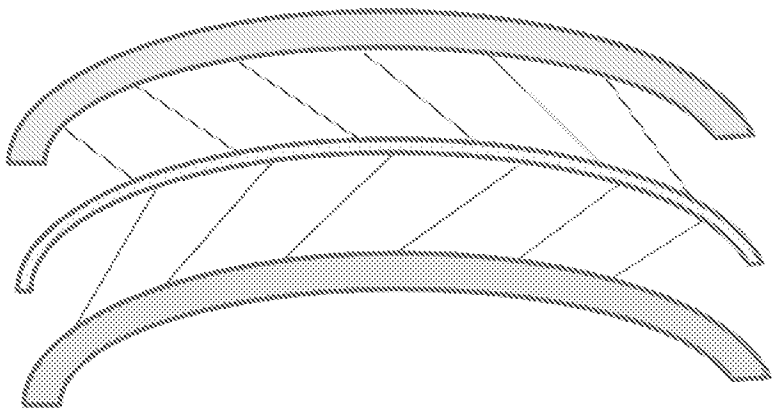

FIG.3 Sample Embodiment

ABSTRACT OF THE DISCLOSURE

Protective gear utilizing a smart biomechanics aware energy conscious design using energy dissipation, transformation, absorption, redirection techniques for providing a device for the protection of people from traumatic injury - not just from the impact forces, but also from indirect movements or vibrations; and the utilization of the same design for multiple purposes including protective gear for other things or beings.

The inventive device includes a container device, and a energy and impact transformer.

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Electronic Acknowledgement Receipt

EFS ID:	10573627
Application Number:	61510401
International Application Number:	
Confirmation Number:	7977
Title of Invention:	SMART BIOMECHANICS AWARE ENERGY CONSCIOUS PROTECTIVE GEAR WITH TISSUE PROTECTION
First Named Inventor/Applicant Name:	Robert T. Knight
Customer Number:	22434
Filer:	Avery Audrey Kwan/Latonia Ervin
Filer Authorized By:	Avery Audrey Kwan
Attorney Docket Number:	2010HL1
Receipt Date:	21-JUL-2011
Filing Date:	
Time Stamp:	19:10:27
Application Type:	Provisional

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	Helmet_ADS.pdf	90562 33c693a820a28fd6b00d3a6730f5e966f0b88e3e	no	4

Warnings:	
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2	Specification	Provisional_helmet.pdf	214064 fc5b101d61841d0f396867edca2136d6ee9fbabf	no	11
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			Total Files Size (in bytes):	304626	

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New Applications Under 35 U.S.C. 111

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National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
61/510,401	07/21/2011	Robert T. Knight	2010HL1

CONFIRMATION NO. 7977

22434
Weaver Austin Villeneuve & Sampson LLP
P.O. BOX 70250
OAKLAND, CA 94612-0250

FORMALITIES LETTER

OC000000049057633

Date Mailed: 08/10/2011

NOTICE TO FILE MISSING PARTS OF PROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(c)

Filing Date Granted

An application number and filing date have been accorded to this provisional application. The items indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
  *Applicant must submit $**110** to complete the basic filing fee for a small entity.*

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- A surcharge (for late submission of filing fee or cover sheet) as set forth in 37 CFR 1.16(g) of $**25** for a small entity in compliance with 37 CFR 1.27, must be submitted.

SUMMARY OF FEES DUE:

Total fee(s) required within **TWO MONTHS** from the date of this Notice is $**135** for a small entity
- $**110** Statutory basic filing fee.
- $**25** Surcharge.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
61/510,401	07/21/2011		0.00	2010HL1		

CONFIRMATION NO. 7977

22434
Weaver Austin Villeneuve & Sampson LLP
P.O. BOX 70250
OAKLAND, CA 94612-0250

FILING RECEIPT

OC00000049057632

Date Mailed: 08/10/2011

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Robert T. Knight, Berkeley, CA;

Power of Attorney:
Avery Kwan--46850

If Required, Foreign Filing License Granted: 07/29/2011
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 61/510,401**
Projected Publication Date: None, application is not eligible for pre-grant publication
Non-Publication Request: No
Early Publication Request: No
**** SMALL ENTITY ****
Title

SMART BIOMECHANICS AWARE ENERGY CONSCIOUS PROTECTIVE GEAR WITH TISSUE PROTECTION

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international

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LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and

Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert T. Knight	Attorney Docket No.: BGRDP001P
Application No.: 61/510,401	Examiner: Not Yet Assigned
Filed: July 21, 2011	Group: Not Assigned
Title: SMART BIOMECHANICS AWARE ENERGY CONSCIOUS PROTECTION GEAR WITH TISSUE PROTECTION	Confirmation No.: 7977

CERTIFICATE OF EFS-WEB TRANSMISSION
I hereby certify that this correspondence is being transmitted electronically through EFS-WEB to the Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450 on September 12, 2011.

Signed: /Latonia Ervin/
Latonia Ervin

RESPONSE TO NOTICE TO FILE MISSING PARTS

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Notice to File Missing Parts mailed August 10, 2011, Applicant hereby responds by paying the $110 statutory basic filing fee and $25 surcharge for a SMALL ENTITY.

The Commissioner is authorized to charge any unpaid fees to Deposit Account No. 504480 (Order No. BGRDP001P).

Respectfully submitted,
Weaver Austin Villeneuve & Sampson LLP

/Audrey Kwan/

Avery Audrey Kwan
Registration No. 46,850

P.O. Box 70250
Oakland, CA 94612-0250

Electronic Patent Application Fee Transmittal

Application Number:	61510401
Filing Date:	21-Jul-2011
Title of Invention:	SMART BIOMECHANICS AWARE ENERGY CONSCIOUS PROTECTIVE GEAR WITH TISSUE PROTECTION
First Named Inventor/Applicant Name:	Robert T. Knight
Filer:	Avery Audrey Kwan/Latonia Ervin
Attorney Docket Number:	BGRDP001P

Filed as Small Entity

Provisional Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Provisional Application filing fee	2005	1	110	110
Pages:				
Claims:				
Miscellaneous-Filing:				
Late provisional filing fee/cover sheet	2052	1	25	25
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**135**

Electronic Acknowledgement Receipt

EFS ID:	10931142
Application Number:	61510401
International Application Number:	
Confirmation Number:	7977
Title of Invention:	SMART BIOMECHANICS AWARE ENERGY CONSCIOUS PROTECTIVE GEAR WITH TISSUE PROTECTION
First Named Inventor/Applicant Name:	Robert T. Knight
Customer Number:	22434
Filer:	Avery Audrey Kwan/Latonia Ervin
Filer Authorized By:	Avery Audrey Kwan
Attorney Docket Number:	BGRDP001P
Receipt Date:	12-SEP-2011
Filing Date:	21-JUL-2011
Time Stamp:	20:02:49
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$135
RAM confirmation Number	7291
Deposit Account	504480
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Applicant Response to Pre-Exam Formalities Notice	BGRDP001P_ResponsetoMissingParts.pdf	61984 0e10e2bcef154fbeaed701a6991f08746794 9943	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	31931 03e6297d15872a4972570acbcff605b5e956 f377	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	93915	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
61/510,401	07/21/2011		135	BGRDP001P		

CONFIRMATION NO. 7977

UPDATED FILING RECEIPT

22434
Weaver Austin Villeneuve & Sampson LLP
P.O. BOX 70250
OAKLAND, CA 94612-0250

Date Mailed: 09/15/2011

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Robert T. Knight, Berkeley, CA;

Power of Attorney:
Avery Kwan--46850

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