



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 NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/431,377	05/22/2018	9974379	DN 3875 PCT-US-DIV	9015

2128 7590 05/02/2018
MATTHEWS EDWARDS LLC
514 EARTH CITY PLAZA
SUITE 131
EARTH CITY, MO 63045

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Michael E. Cole, Ste. Genevieve, MO;
FirstSpear, LLC, Fenton, MO;
Scott J. Carver, Chesterfield, MO;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

2128 7590 01/24/2018
MATTHEWS EDWARDS LLC
514 EARTH CITY PLAZA
SUITE 131
EARTH CITY, MO 63045

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/431,377	02/13/2017	Michael E. Cole	DN 3875 PCT-US-DIV	9015

TITLE OF INVENTION: LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0	\$0	\$500	04/24/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
SKURDAL, COREY NELSON	3782	224-675000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 **Matthews Edwards LLC**

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

FirstSpear, LLC

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Fenton, Missouri

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature / Stephen R Matthews /
Typed or printed name Stephen R. Matthews

Date 2018-04-24
Registration No. 34,384

Electronic Patent Application Fee Transmittal

Application Number:	15431377			
Filing Date:	13-Feb-2017			
Title of Invention:	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD			
First Named Inventor/Applicant Name:	Michael E. Cole			
Filer:	Stephen Roy Matthews/Barbara Kuntz			
Attorney Docket Number:	DN 3875 PCT-US-DIV			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	2501	1	500	500

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				500

Electronic Acknowledgement Receipt

EFS ID:	32424114
Application Number:	15431377
International Application Number:	
Confirmation Number:	9015
Title of Invention:	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD
First Named Inventor/Applicant Name:	Michael E. Cole
Customer Number:	2128
Filer:	Stephen Roy Matthews/Barbara Kuntz
Filer Authorized By:	Stephen Roy Matthews
Attorney Docket Number:	DN 3875 PCT-US-DIV
Receipt Date:	24-APR-2018
Filing Date:	13-FEB-2017
Time Stamp:	11:19:38
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	EFT
Payment was successfully received in RAM	\$ 500
RAM confirmation Number	042418INTEFSW11203600
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	IssueFeeTransmittalA.pdf	152393	no	1
			2ff7390f1debda1531ffd55841c0e096944ca df9		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30605	no	2
			f3fddca51badac330a8e402c96e46e3ba450 9d7f		
Warnings:					
Information:					
Total Files Size (in bytes):			182998		
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					



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NOTICE OF ALLOWANCE AND FEE(S) DUE

2128 7590 01/24/2018
MATTHEWS EDWARDS LLC
514 EARTH CITY PLAZA
SUITE 131
EARTH CITY, MO 63045

EXAMINER

SKURDAL, COREY NELSON

ART UNIT

PAPER NUMBER

3782

DATE MAILED: 01/24/2018

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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15/431,377

02/13/2017

Michael E. Cole

DN 3875 PCT-US-DIV

9015

TITLE OF INVENTION: LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0	\$0	\$500	04/24/2018

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
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P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax **(571)-273-2885**

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CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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Certificate of Mailing or Transmission

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(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/431,377	02/13/2017	Michael E. Cole	DN 3875 PCT-US-DIV	9015

TITLE OF INVENTION: LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD

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nonprovisional	SMALL	\$500	\$0	\$0	\$500	04/24/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
SKURDAL, COREY NELSON	3782	224-675000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). <input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.	2. For printing on the patent front page, list (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____ (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____ 3 _____
---	---

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted: <input type="checkbox"/> Issue Fee <input type="checkbox"/> Publication Fee (No small entity discount permitted) <input type="checkbox"/> Advance Order - # of Copies _____	4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) <input type="checkbox"/> A check is enclosed. <input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached. <input type="checkbox"/> The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).
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5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

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NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/431,377	02/13/2017	Michael E. Cole	DN 3875 PCT-US-DIV	9015

2128 7590 01/24/2018
MATTHEWS EDWARDS LLC
514 EARTH CITY PLAZA
SUITE 131
EARTH CITY, MO 63045

EXAMINER

SKURDAL, COREY NELSON

ART UNIT	PAPER NUMBER
----------	--------------

3782

DATE MAILED: 01/24/2018

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. 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 12 minutes to complete, including gathering, preparing, and submitting the completed application 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 15/431,377	Applicant(s) COLE ET AL.	
	Examiner COREY SKURDAL	Art Unit 3782	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to claims filed 2/13/17.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-23. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Examiner's Amendment/Comment |
| 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 7. <input type="checkbox"/> Other _____. |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. | |

/COREY SKURDAL/
Primary Examiner, Art Unit 3782

Notice of References Cited	Application/Control No. 15/431,377		Applicant(s)/Patent Under Reexamination COLE ET AL.	
	Examiner COREY SKURDAL		Art Unit 3782	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-7,200,871 B1	04-2007	Carlson; Richard A.	A41D13/0012	2/102
*	B	US-7,526,842 B2	05-2009	Wemmer; Jeffrey M.	A41D27/20	24/3.7
*	C	US-7,644,449 B2	01-2010	Hellweg; Albert	A41D13/0012	2/102
*	D	US-2015/0189977 A1	07-2015	Thompson; Jesse	A45F5/02	24/3.7
*	E	US-9,144,255 B1	09-2015	Perciballi; William J.	A41D27/00	1/1
*	F	US-9,664,481 B2	05-2017	Alcantra; Cres Trilles	A41D3/00	1/1
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				


FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 15431377	Applicant(s)/Patent Under Reexamination COLE ET AL.
	Examiner COREY SKURDAL	Art Unit 3782

CPC- SEARCHED		
Symbol	Date	Examiner
A45F5/02, 2003/146, 2200/0591, 3/14, 3/00, 5/021, 2003/001	1/4/2018	CNS
A41D13/0012	1/4/2018	CNS
Y10T24/1382, 24/13	1/4/2018	CNS
A44B18/00, 18/0073	1/4/2018	CNS
A45C13/30, 2013/306	1/4/2018	CNS
F42B39/02	1/4/2018	CNS

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
inventor name search	1/4/2018	CNS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
uspgpub, uspat	text search .clm.	1/4/2018	CNS

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Bibliographic Data

Application No: 15431377

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☒ No ☐ Met After Allowance

Verified and Acknowledged:

/Corey Skurdal/

Examiner's Signature

Initials

Title:

LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM
AND METHOD

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
02/13/2017	224	3782	DN 3875 PCT-US-DIV
RULE			

APPLICANTS

FirstSpear, LLC, Fenton, MO, UNITED STATES

INVENTORS

Michael E. Cole, Ste. Genevieve, MO, UNITED STATES

Scott J. Carver, Chesterfield, MO, UNITED STATES

CONTINUING DATA

PCT/US12/50001 is a PRO of 61521309 08/08/2011

14237468 is a 371 of PCT/US12/50001 08/08/2012

15431377 is a DIV of 14237468 02/06/2014PAT 9565922

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

02/21/2017

STATE OR COUNTRY

UNITED STATES

ADDRESS

MATTHEWS EDWARDS LLC

514 EARTH CITY PLAZA


SUITE 131

EARTH CITY, MO 63045

UNITED STATES

FILING FEE RECEIVED


\$850

Issue Classification 	Application/Control No. 15431377	Applicant(s)/Patent Under Reexamination COLE ET AL.	
	Examiner COREY SKURDAL	Art Unit 3782	

CPC					
Symbol				Type	Version
A45F	5	02		F	2013-01-01
A45F	3	00		I	2013-01-01
A44B	18	0073		I	2013-01-01
A45F	2003	001		A	2013-01-01
A45C	13	30		A	2013-01-01
A45F	3	14		I	2013-01-01
A45C	2013	306		A	2013-01-01
F42B	39	02		I	2013-01-01
Y10T	24	13		A	2015-01-15
Y10T	24	1382		A	2015-01-15
A44B	18	00		I	2013-01-01
A45F	5	021		I	2013-01-01
A45F	2003	146		A	2013-01-01


CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

NONE		Total Claims Allowed:	
		23	
(Assistant Examiner)	(Date)		
/COREY SKURDAL/ Primary Examiner.Art Unit 3782	01/04/2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	14

Issue Classification 	Application/Control No. 15431377	Applicant(s)/Patent Under Reexamination COLE ET AL.
	Examiner COREY SKURDAL	Art Unit 3782

<input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input type="checkbox"/> T.D. <input type="checkbox"/> R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	17	17												
2	2	18	18												
3	3	19	19												
4	4	20	20												
5	5	21	21												
6	6	22	22												
7	7	23	23												
8	8														
9	9														
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11	11														
12	12														
13	13														
14	14														
15	15														
16	16														

NONE	Total Claims Allowed: 23	
(Assistant Examiner)	(Date)	
/COREY SKURDAL/ Primary Examiner.Art Unit 3782	01/04/2018	O.G. Print Claim(s) 1
(Primary Examiner)	(Date)	O.G. Print Figure 14

<i>Index of Claims</i> 	Application/Control No. 15431377	Applicant(s)/Patent Under Reexamination COLE ET AL.
	Examiner COREY SKURDAL	Art Unit 3782

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

<input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input type="checkbox"/> T.D. <input type="checkbox"/> R.1.47										
CLAIM		DATE								
Final	Original	01/04/2018								
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4	4	=								
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21	21	=								
22	22	=								
23	23	=								



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United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/431,377	02/13/2017	Michael E. Cole	DN 3875 PCT-US-DIV

CONFIRMATION NO. 9015

PUBLICATION NOTICE



OC00000091770574

2128
MATTHEWS EDWARDS LLC
514 EARTH CITY PLAZA
SUITE 131
EARTH CITY, MO 63045

Title:LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD

Publication No.US-2017-0150805-A1

Publication Date:06/01/2017

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

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Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

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United States Patent and Trademark Office
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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
15/431,377	02/13/2017	3782	850	DN 3875 PCT-US-DIV	23	3

CONFIRMATION NO. 9015

FILING RECEIPT



0000000089380824

2128
MATTHEWS EDWARDS LLC
514 EARTH CITY PLAZA
SUITE 131
EARTH CITY, MO 63045

Date Mailed: 02/23/2017

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. 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**

Inventor(s)

Michael E. Cole, Ste. Genevieve, MO;
Scott J. Carver, Chesterfield, MO;

Applicant(s)

FirstSpear, LLC, Fenton, MO;

Power of Attorney: The patent practitioners associated with Customer Number 02128

Domestic Priority data as claimed by applicant

This application is a DIV of 14/237,468 02/06/2014 PAT 9565922
which is a 371 of PCT/US12/50001 08/08/2012
which claims benefit of 61/521,309 08/08/2011

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 02/21/2017

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/431,377**

Projected Publication Date: 06/01/2017

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD

Preliminary Class

224

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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 patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number
15/431,377

APPLICATION AS FILED - PART I

(Column 1)

(Column 2)

SMALL ENTITY

OR

OTHER THAN SMALL ENTITY

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(i))	23 minus 20 =	* 3
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

RATE(\$)	FEE(\$)
N/A	70
N/A	300
N/A	360
x 40 =	120
x 210 =	0.00
	0.00
TOTAL	850

OR

RATE(\$)	FEE(\$)
N/A	
N/A	
N/A	
TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED - PART II

(Column 1)

(Column 2)

(Column 3)

SMALL ENTITY

OR

OTHER THAN SMALL ENTITY

AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
	Application Size Fee (37 CFR 1.16(s))				
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

OR

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
	Application Size Fee (37 CFR 1.16(s))				
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

OR

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UTILITY PATENT APPLICATION TRANSMITTAL <i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i>	Attorney Docket No.	DN 3875 PCT-US-DIV
	First Named Inventor	Michael E. Cole
	Title	Light Weight Modular Pouch Attachment System
	Express Mail Label No.	

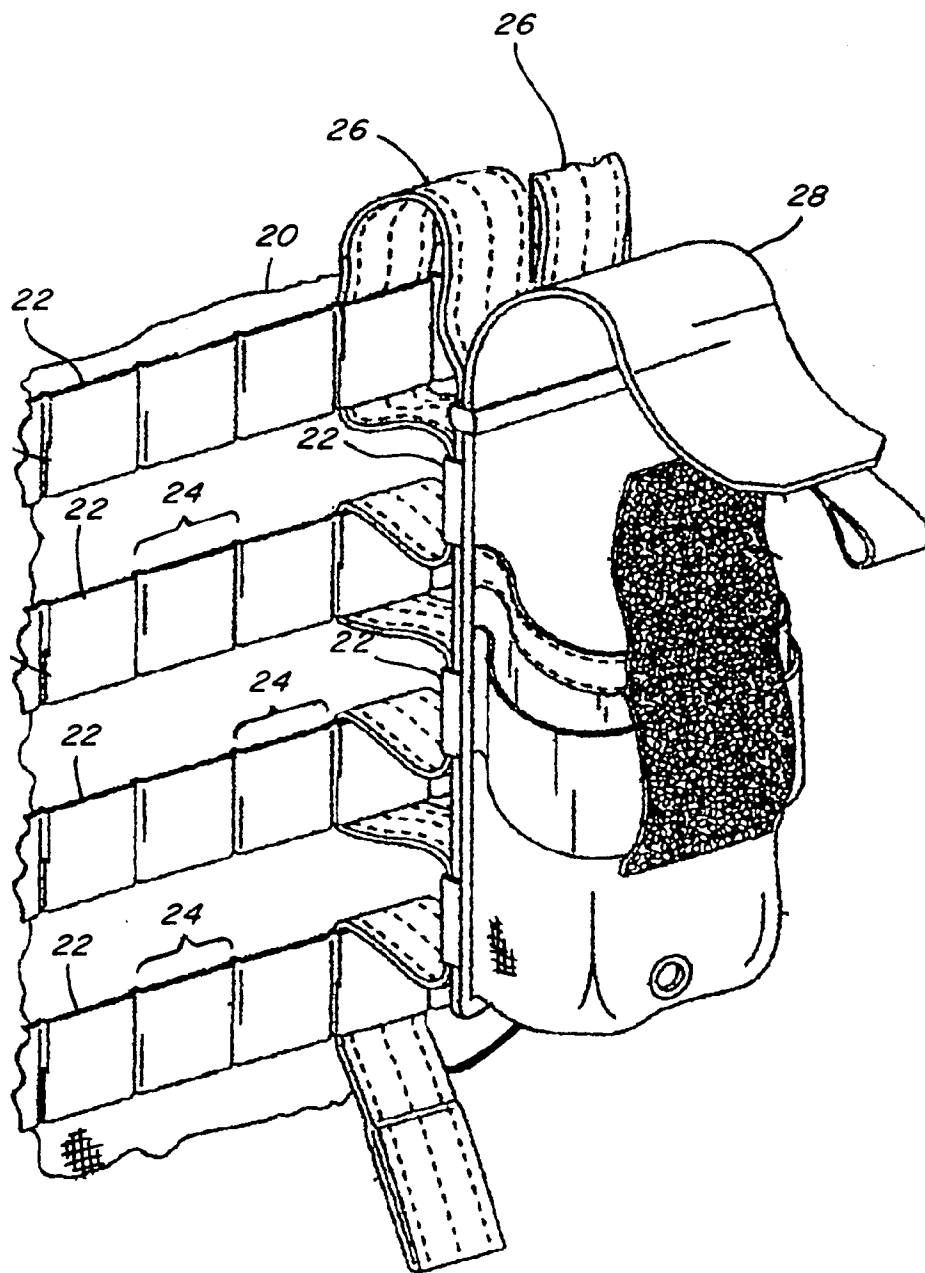
APPLICATION ELEMENTS <i>See MPEP chapter 600 concerning utility patent application contents.</i>	Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450
1. <input type="checkbox"/> Fee Transmittal Form (PTO/SB/17 or equivalent)	ACCOMPANYING APPLICATION PAPERS 10. <input type="checkbox"/> Assignment Papers (cover sheet & document(s)) Name of Assignee _____ 11. <input type="checkbox"/> 37 CFR 3.73(c) Statement (when there is an assignee) <input checked="" type="checkbox"/> Power of Attorney 12. <input type="checkbox"/> English Translation Document (if applicable) 13. <input checked="" type="checkbox"/> Information Disclosure Statement (PTO/SB/08 or PTO-1449) <input checked="" type="checkbox"/> Copies of citations attached .. 1 foreign patent 14. <input type="checkbox"/> Preliminary Amendment 15. <input type="checkbox"/> Return Receipt Postcard (MPEP § 503) (Should be specifically itemized) 16. <input type="checkbox"/> Certified Copy of Priority Document(s) (if foreign priority is claimed) 17. <input type="checkbox"/> Nonpublication Request Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent. 18. <input type="checkbox"/> Other: _____ _____ _____ _____ _____
2. <input checked="" type="checkbox"/> Applicant asserts small entity status. See 37 CFR 1.27	
3. <input type="checkbox"/> Applicant certifies micro entity status. See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent.	
4. <input checked="" type="checkbox"/> Specification [Total Pages <u>30</u>] Both the claims and abstract must start on a new page. (See MPEP § 608.01(a) for information on the preferred arrangement)	
5. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) [Total Sheets <u>16</u>]	
6. <input checked="" type="checkbox"/> Inventor's Oath or Declaration [Total Pages <u>2</u>] (including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e))	
a. <input checked="" type="checkbox"/> Newly executed (original or copy)	
b. <input type="checkbox"/> A copy from a prior application (37 CFR 1.63(d))	
7. <input checked="" type="checkbox"/> Application Data Sheet * See note below. See 37 CFR 1.76 (PTO/AIA/14 or equivalent)	
8. CD-ROM or CD-R in duplicate, large table, or Computer Program (Appendix) <input type="checkbox"/> Landscape Table on CD	
9. Nucleotide and/or Amino Acid Sequence Submission (if applicable, items a. – c. are required)	
a. <input type="checkbox"/> Computer Readable Form (CRF)	
b. <input type="checkbox"/> Specification Sequence Listing on:	
i. <input type="checkbox"/> CD-ROM or CD-R (2 copies); or	
ii. <input type="checkbox"/> Paper	
c. <input type="checkbox"/> Statements verifying identity of above copies	

***Note:** (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 **must** be included in an Application Data Sheet (ADS).
 (2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS				
<input checked="" type="checkbox"/> The address associated with Customer Number: <u>02128</u> OR <input type="checkbox"/> Correspondence address below				
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Address				
City	State	Zip Code		
Country	Telephone	Email		
Signature	/ Stephen R Matthews /		Date	2017-02-13
Name (Print/Type)	Stephen R. Matthews		Registration No. (Attorney/Agent)	34,384

This collection of information is required by 37 CFR 1.53(b). 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 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application 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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PRIOR ART

Fig. 1

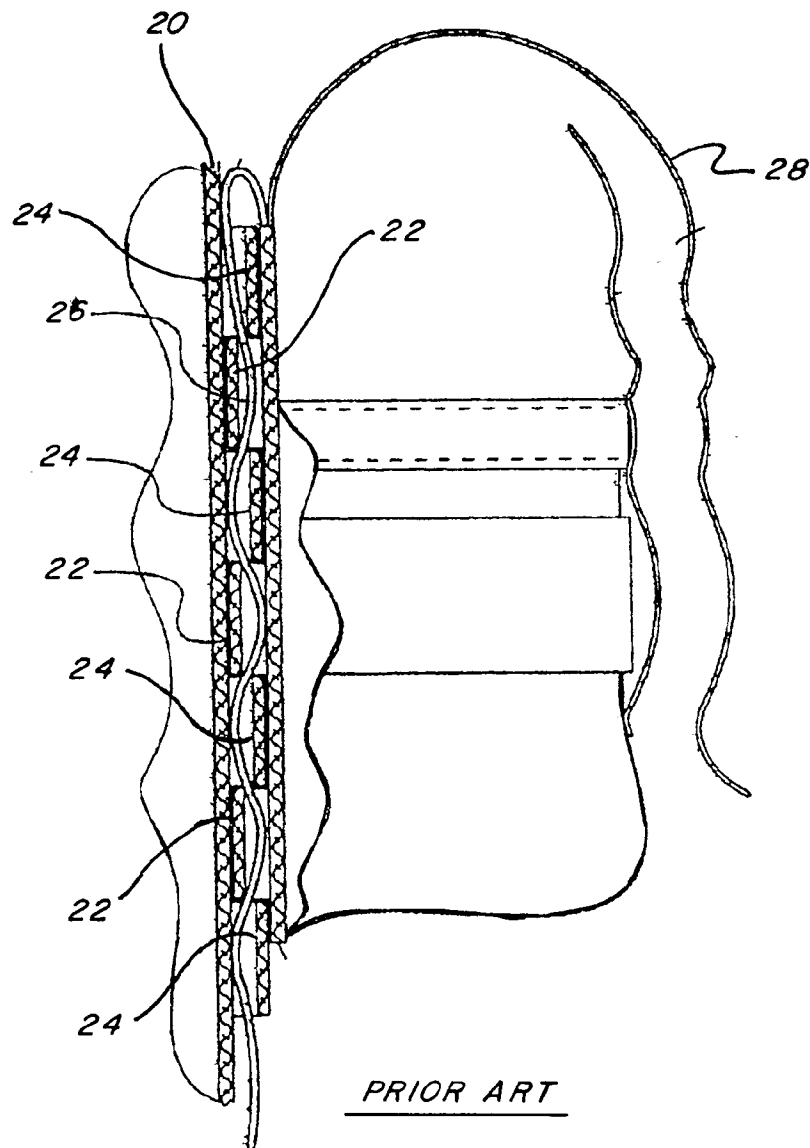


Fig. 2

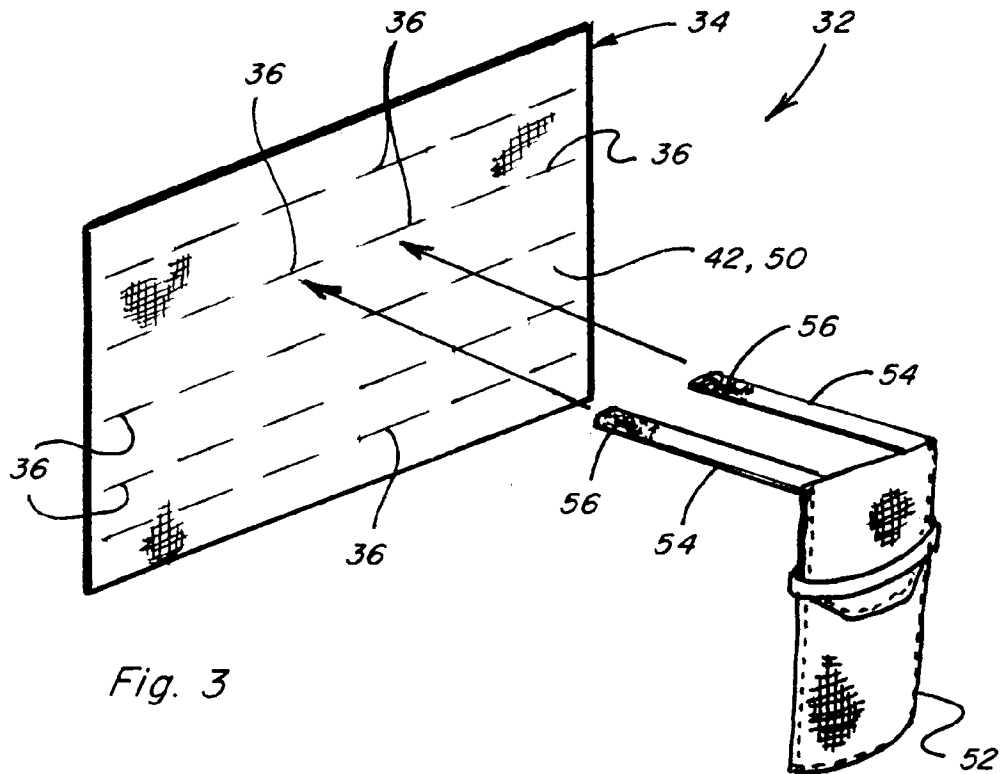
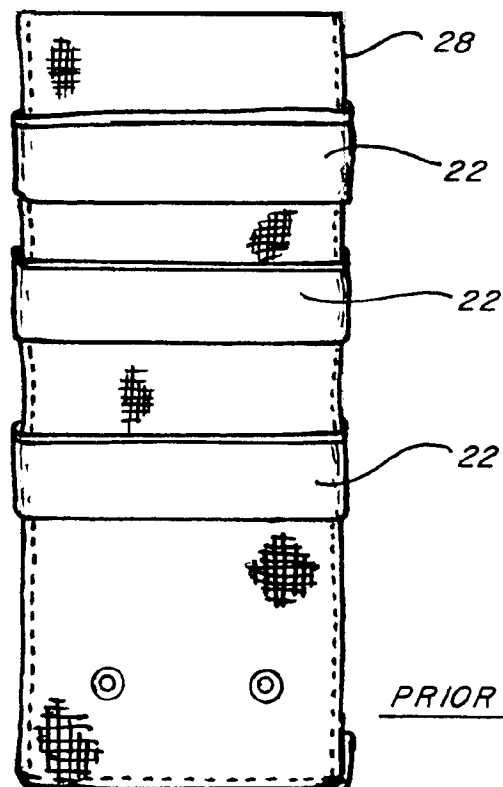
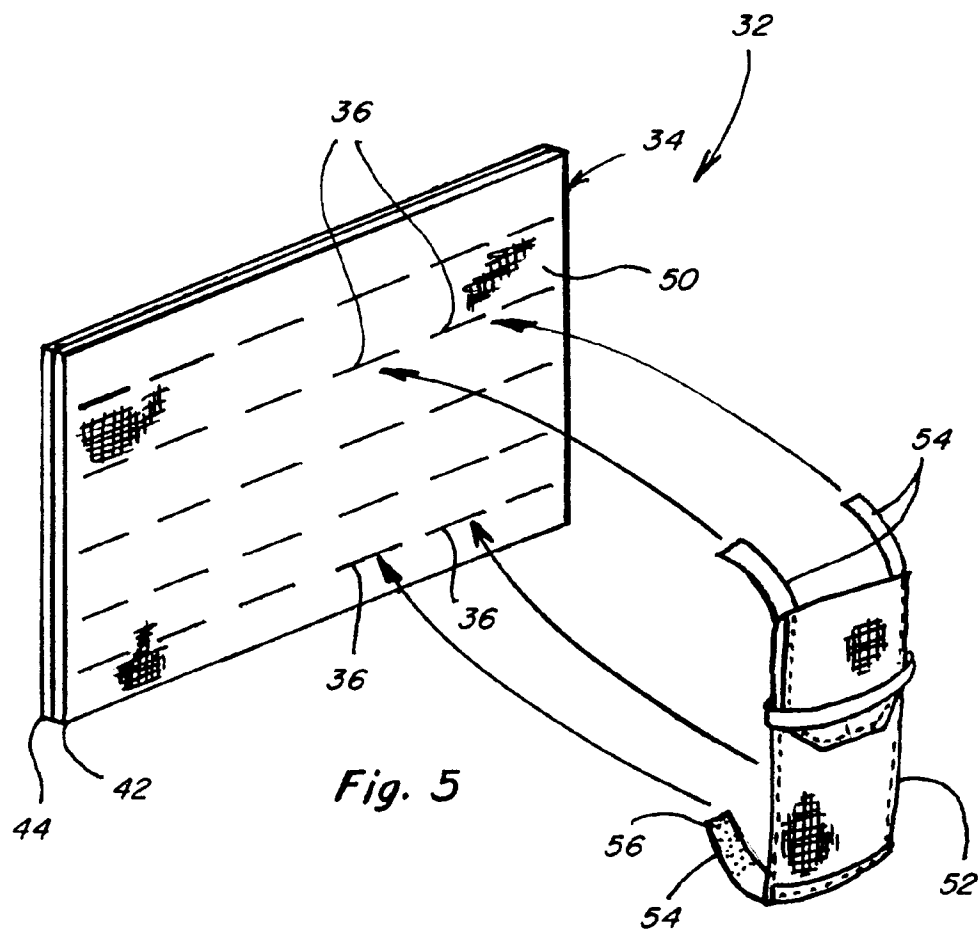


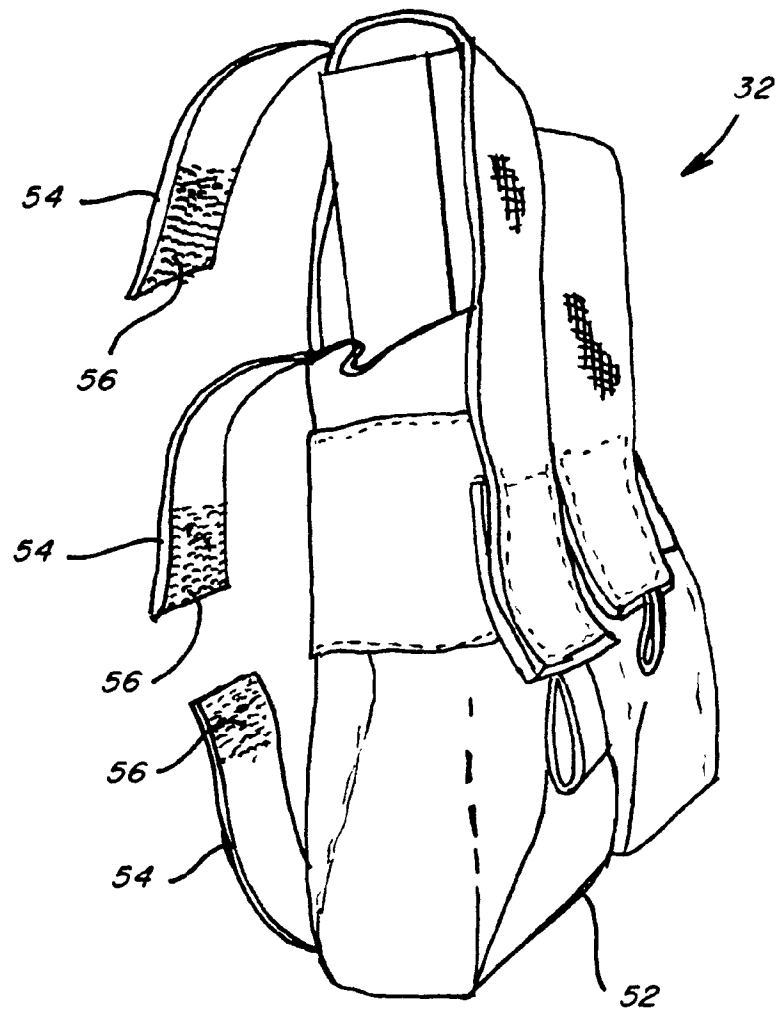
Fig. 3



PRIOR ART

Fig. 4



*Fig. 6*

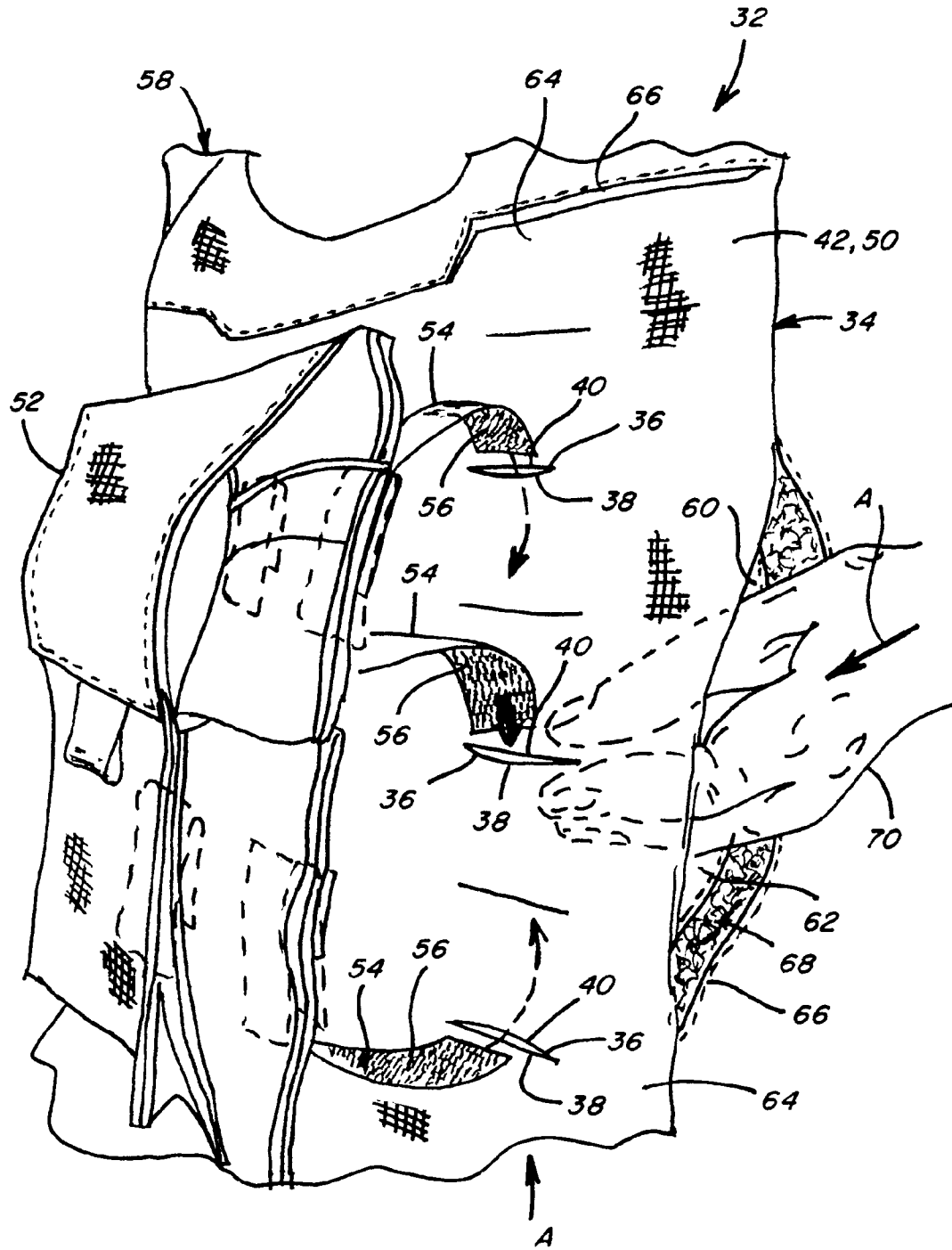


Fig. 7

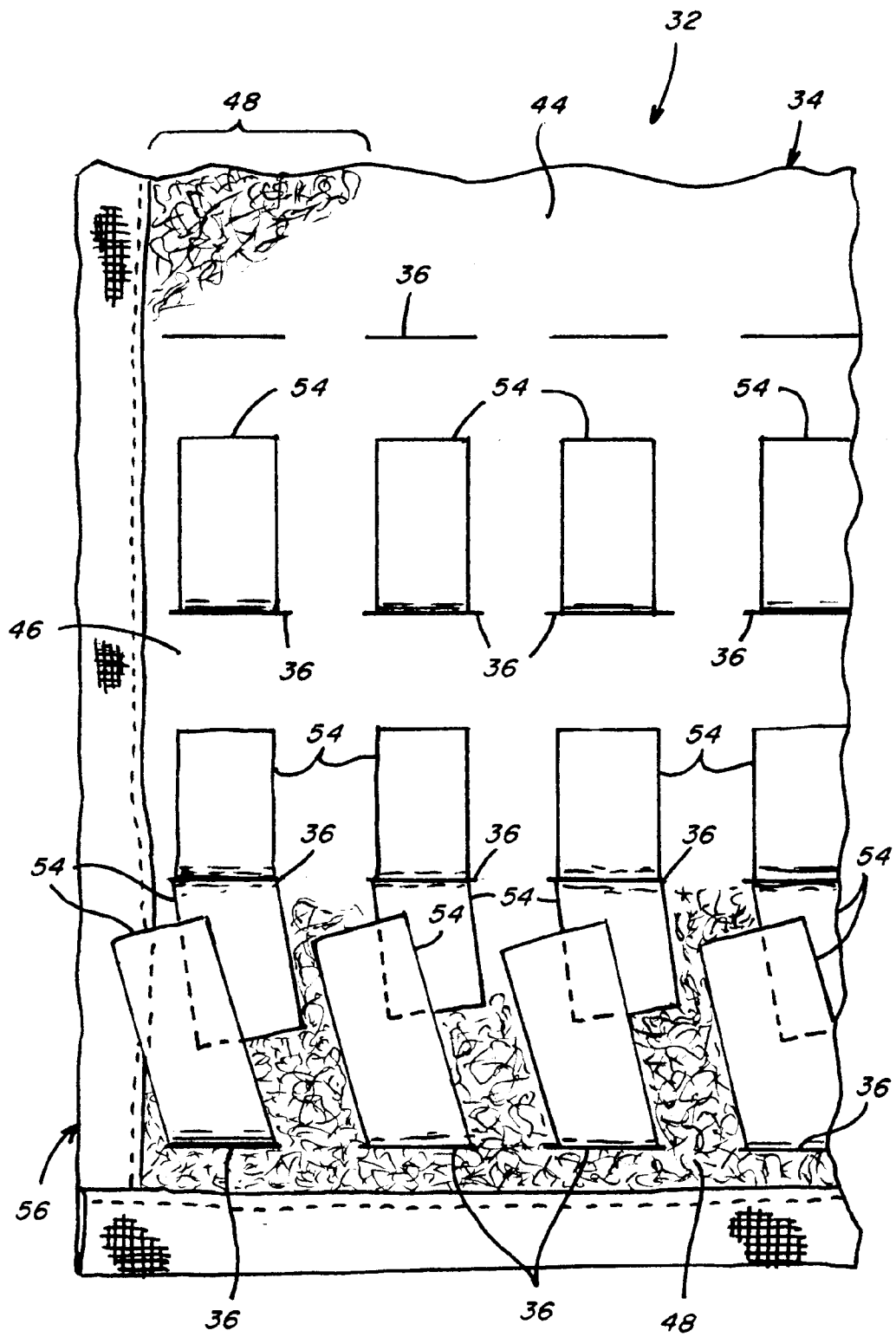


Fig. 8

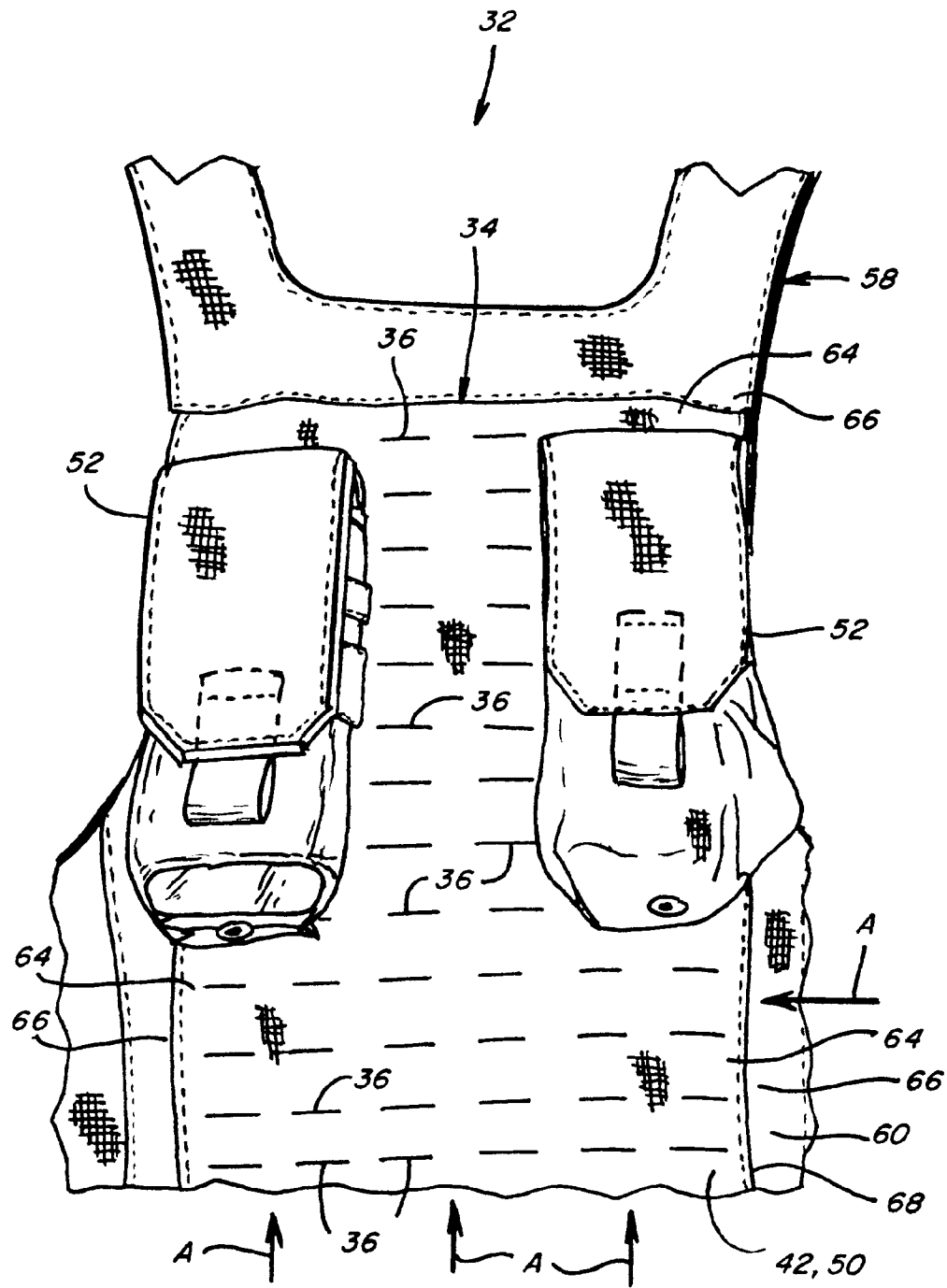


Fig. 9

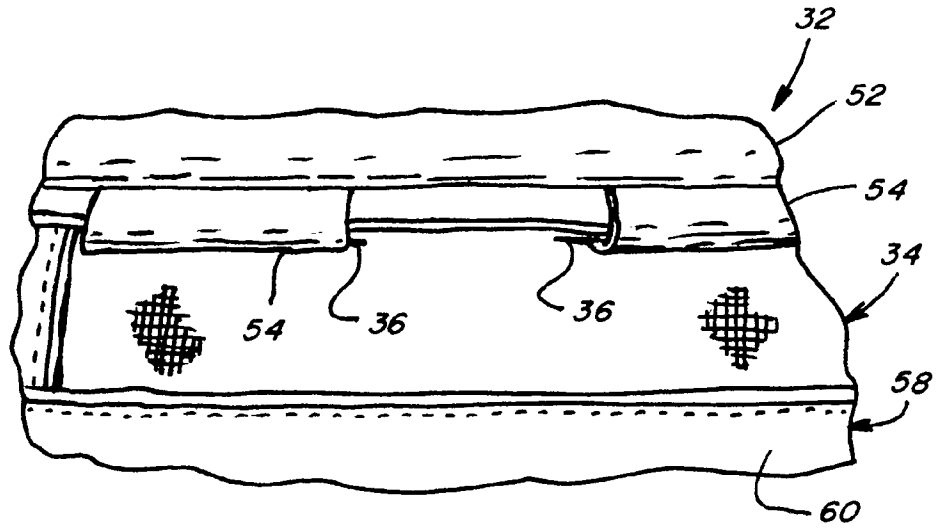


Fig. 10

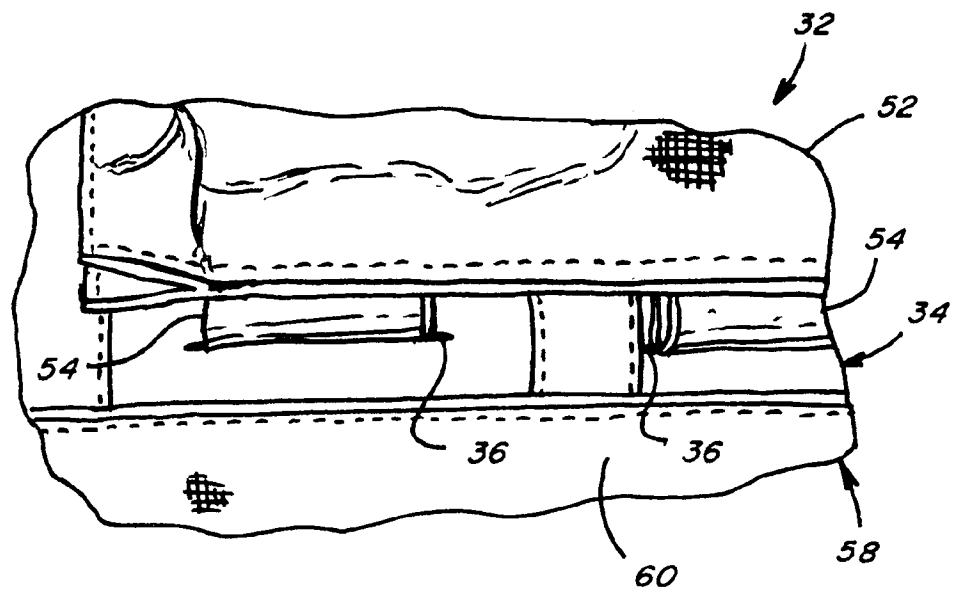


Fig. 11

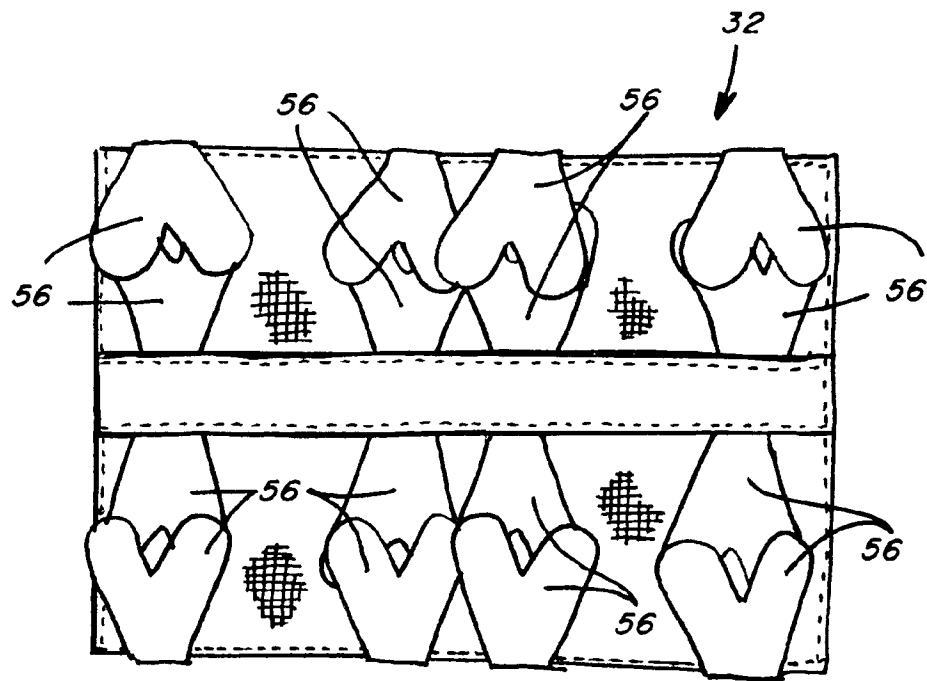


Fig. 12

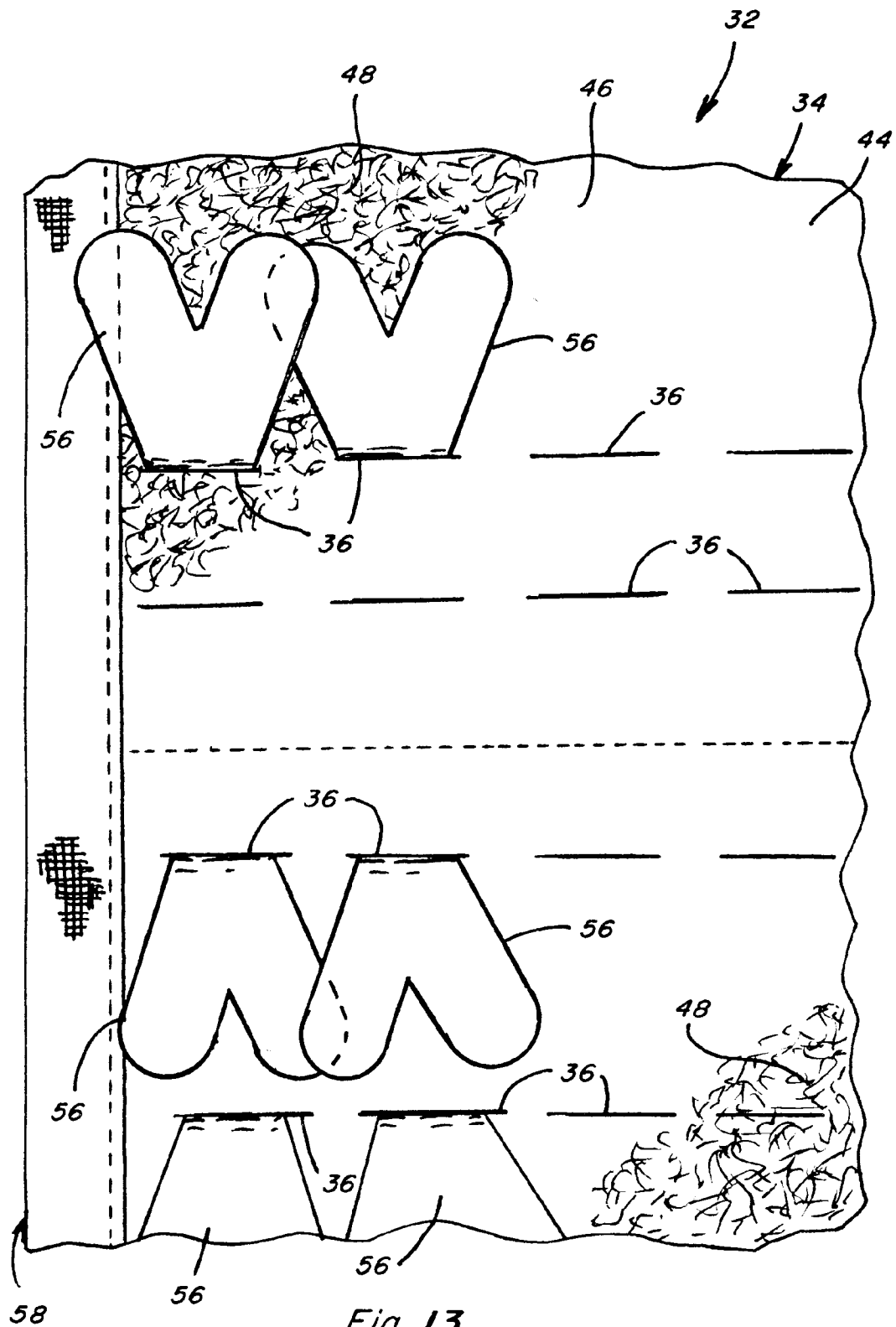


Fig. 13

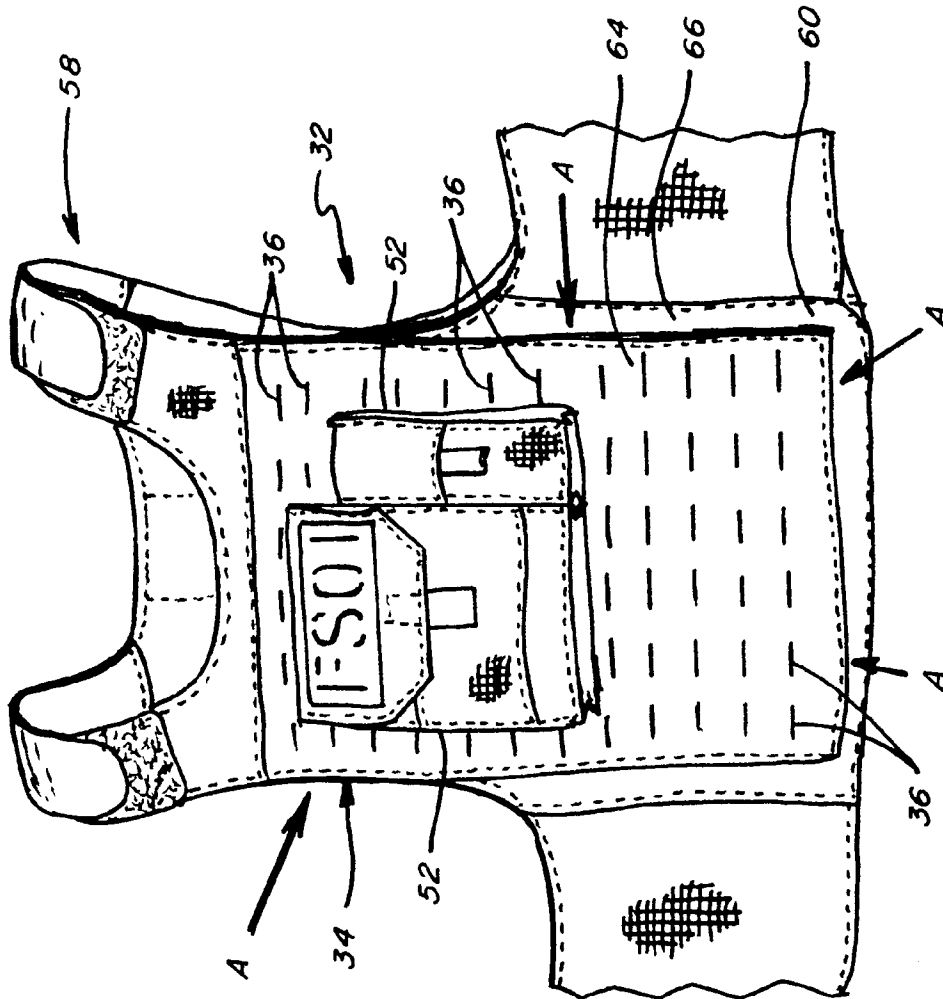
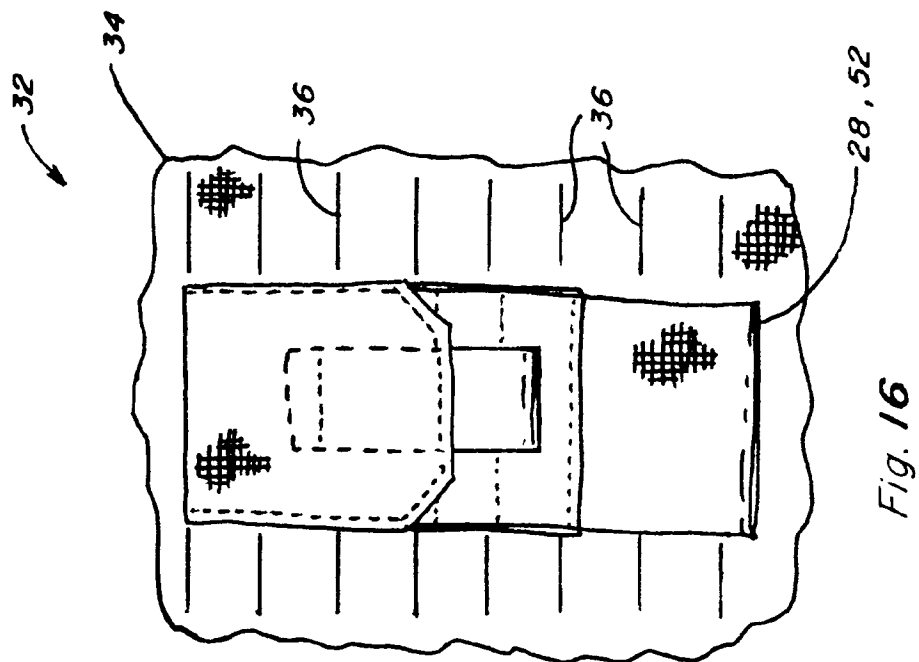
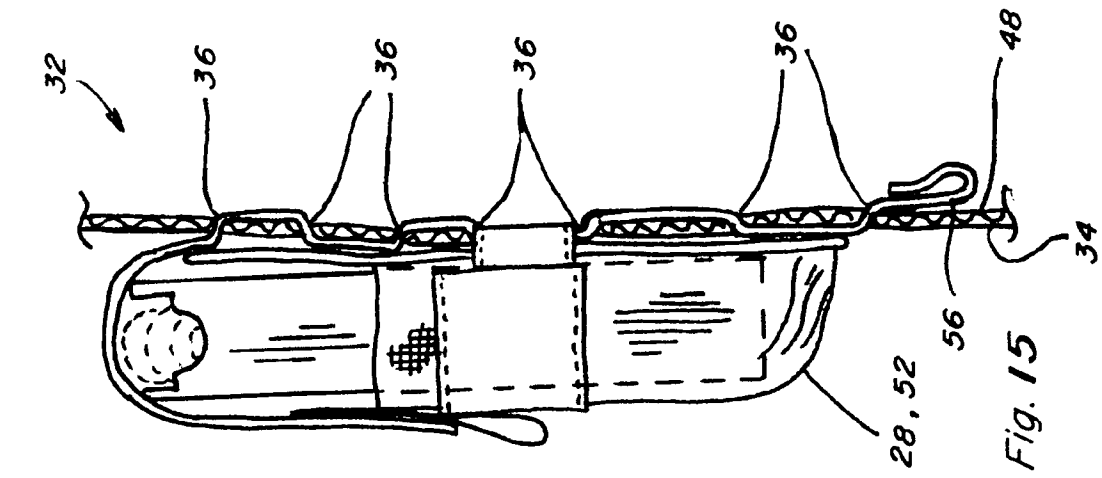


Fig. 14



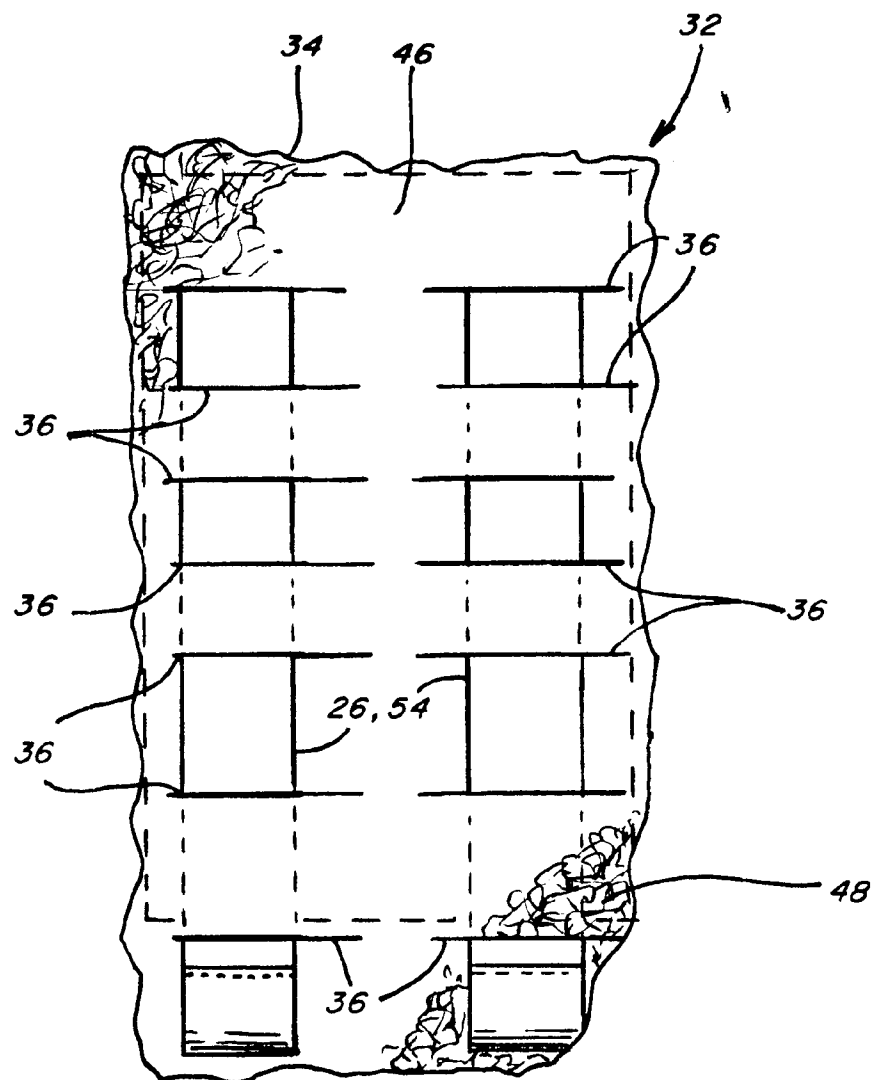
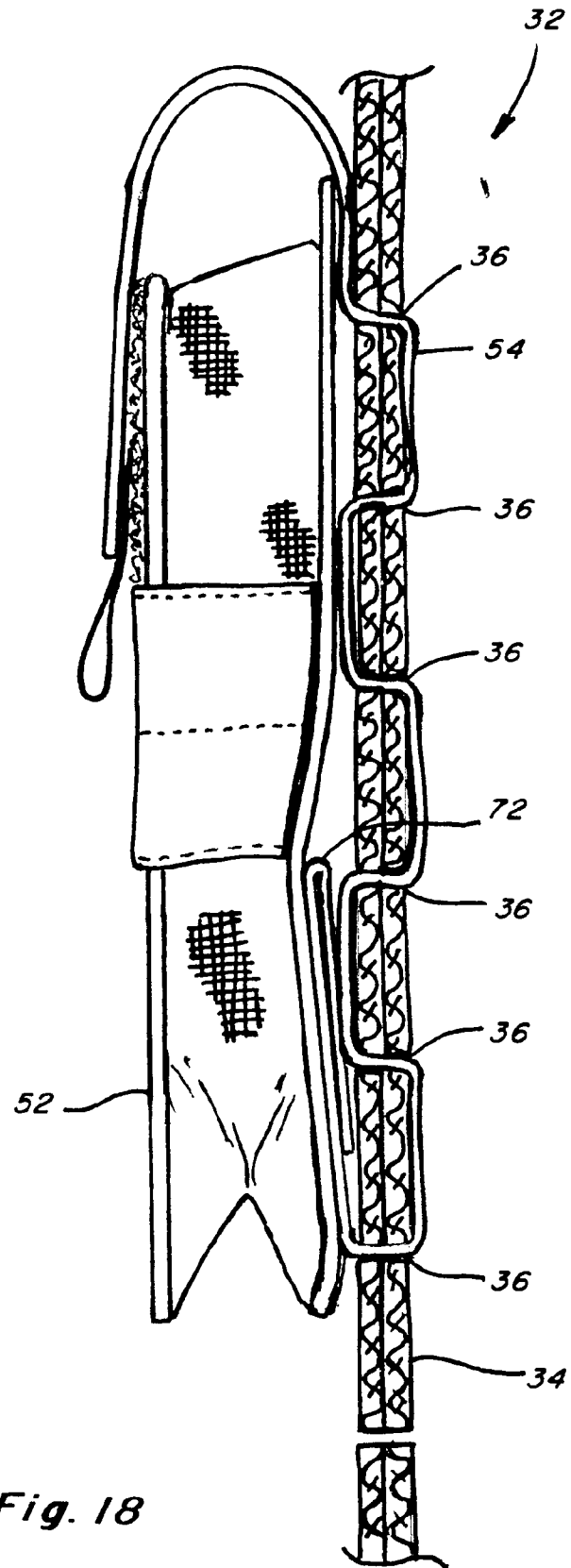


Fig. 17

*Fig. 18*

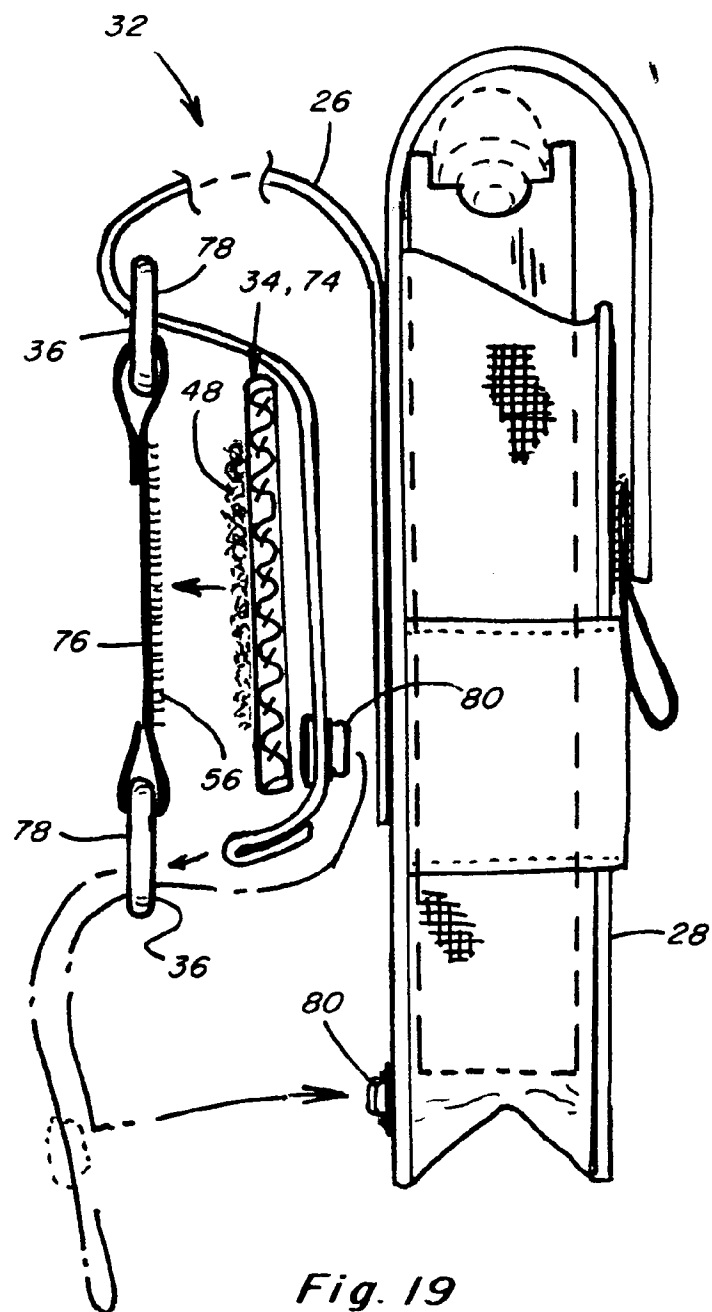


Fig. 19

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DN 3875 PCT-US-DIV
		Application Number	
Title of Invention	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD		
<p>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.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

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.)

Inventor Information:

Inventor 1						Remove	
Legal Name							
Prefix	Given Name	Middle Name		Family Name		Suffix	
<input checked="" type="checkbox"/>	Michael	E.		Cole		<input checked="" type="checkbox"/>	
Residence Information (Select One)		<input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Ste. Genevieve	State/Province	MO	Country of Residence	US		
Mailing Address of Inventor:							
Address 1		19336 Lime Kiln Road					
Address 2							
City	Ste. Genevieve	State/Province	MO				
Postal Code	63670	Country	US				
Inventor 2						Remove	
Legal Name							
Prefix	Given Name	Middle Name		Family Name		Suffix	
<input checked="" type="checkbox"/>	Scott	J.		Carver		<input checked="" type="checkbox"/>	
Residence Information (Select One)		<input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Chesterfield	State/Province	MO	Country of Residence	US		
Mailing Address of Inventor:							
Address 1		14637 Timberlake Manor Court					
Address 2							
City	Chesterfield	State/Province	MO				
Postal Code	63017	Country	US				
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.							

Correspondence Information:

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

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DN 3875 PCT-US-DIV
		Application Number	
Title of Invention	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD		

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

Customer Number	02128		
Email Address	mail@matthewsedwards.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD		
Attorney Docket Number	DN 3875 PCT-US-DIV	Small Entity Status Claimed	<input checked="" type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	16	Suggested Figure for Publication (if any)	14

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

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 and will not** be the subject of an application filed in another country, or under a multilateral international 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). Either enter 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:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	02128		

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DN 3875 PCT-US-DIV
		Application Number	
Title of Invention	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim 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.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Division of	14237468	2014-02-06
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
14237468	a 371 of international	PCT/US12/50001	2012-08-08
Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
PCT/US12/50001	Claims benefit of provisional	61521309	2011-08-08
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. 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. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Remove
			Access Code ⁱ (if applicable)
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DN 3875 PCT-US-DIV
		Application Number	
Title of Invention	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD		

<input type="checkbox"/>	<p>This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.</p> <p>NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.</p>
--------------------------	---

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DN 3875 PCT-US-DIV
		Application Number	
Title of Invention	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD		

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DN 3875 PCT-US-DIV
		Application Number	
Title of Invention	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.			
Applicant 1			Remove
<p>If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.</p>			
Clear			
<input checked="" type="radio"/> Assignee	<input type="radio"/> Legal Representative under 35 U.S.C. 117	<input type="radio"/> Joint Inventor	
<input type="radio"/> Person to whom the inventor is obligated to assign.		<input type="radio"/> Person who shows sufficient proprietary interest	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:			
Name of the Deceased or Legally Incapacitated Inventor: <input type="text"/>			
If the Applicant is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	FirstSpear, LLC		
Mailing Address Information For Applicant:			
Address 1	2015 Corporate 44 Drive		
Address 2			
City	Fenton	State/Province	MO
Country	US	Postal Code	63026
Phone Number	636-349-4820	Fax Number	636-326-5557
Email Address			
Additional Applicant Data may be generated within this form by selecting the Add button. Add			

Assignee Information including Non-Applicant Assignee Information:

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

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DN 3875 PCT-US-DIV
		Application Number	
Title of Invention	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD		

Assignee 1				
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.				
				<input type="button" value="Remove"/>
If the Assignee or Non-Applicant Assignee is an Organization check here.				<input type="checkbox"/>
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
Country ⁱ		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.				<input type="button" value="Add"/>

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Stephen R Matthews /		Date (YYYY-MM-DD)	2017-02-13
First Name	Stephen	Last Name	Matthews	Registration Number
				34384
Additional Signature may be generated within this form by selecting the Add button.				<input type="button" value="Add"/>

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	DN 3875 PCT-US-DIV
		Application Number	
Title of Invention	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD		

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.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

- 1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
- 3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA/82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	
Filing Date	
First Named Inventor	Michael E. Cole
Title	Light Weight Modular Pouch Attachment System And Method
Art Unit	
Examiner Name	
Attorney Docket Number	DN 3875 PCT-US-DIV

SIGNATURE of Applicant or Patent Practitioner

Signature	/ Stephen R Matthews /	Date (Optional)	2017-02-13
Name	Stephen R. Matthews	Registration Number	34,384
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐

*Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number

Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)



I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

02128

OR



I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:



The address associated with the above-mentioned Customer Number

OR



The address associated with Customer Number:

OR

Firm or
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):



Inventor or Joint Inventor (title not required below)



Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)



Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)



Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Date (Optional)

Name

Scott J. Carver

Title

President, FirstSpear, LLC

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.



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(71) Applicants and

(72) Inventors: **MCBRIDE, William, B.** [US/US]; 609 Piedmont Drive, Tallahassee, FL 323 12 (US). **ROGERS, John** [US/US]; 1756 Ellen Street NW, Atlanta, GA 30318 (US).

(74) Agent: **LOFFLER, Peter**; P.O. Box 1001, Niceville, FL 32588-1001 (US).

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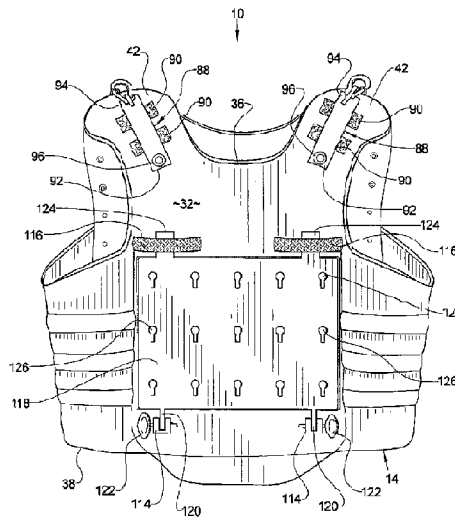


FIG. 1

(57) Abstract: A rapid doffing and donning vest (10) uses a clam shell design wherein the ends of the cummerbund (16) are removably attachable to the rear panel (12). A blade (50) on the cummerbund (16) mates with a receiver (70) on the rear panel (12) and has a plunger (104) hold the two together. The plunger (104) is attached to a pull strap (88) located on the front panel's shoulder strap via a cord (98). As the pull strap (88) is pulled outwardly, the cord (98) pulls the plunger (104) away from the mated blade (50) and receiver (70) and allows the two to decouple detaching the cummerbund (16) from the rear panel (12). Outward pulling on the pull strap (88) also facilitates decoupling of the shoulder strap (42) from the rear panel (12). When the vest (10) is doffed, the front panel (14) and cummerbund (16) remain attached to each other and detached from the rear panel (12).

TITLE OF THE INVENTION

RAPID DOFFING VEST

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 The present invention relates to a vest, such as a bullet and shrapnel resistant vest worn by military personnel, which vest can be rapidly doffed by the wearer. The vest can be quickly donned.

2. Background of the Prior Art

Military and paramilitary body armor has developed primarily through numerous wars
10 and has included such innovations and stages as chain mail and full metal armor for knights. More recent versions began with the "flack jackets" worn by World War II bomber crews. Besides those in the air, United States troops on the ground began wearing armor in the latter stages of the Viet Nam War. This body armor had numerous disadvantages including the armor's weight, its restriction of movement, its discomfort from heat and its lack of providing
15 protection for portions of the trunk of the body. Recent years have seen tremendous improvements in materials and design that have resulted in several improvements in the body armor, especially in the amount of protection provided and the relative comfort increase for those wearing such armor. The improvements herein continue in this direction.

A body armor vest in wide use is the clam shell vest with cummerbund. This design
20 uses a rear plate that covers the back with the opposing ends of a cummerbund attached to respective opposing sides of the rear plate, the medial section of the cummerbund being removably attachable to itself to effect sizing about the torso of the wearer. A front plate is attached to the rear plate by having shoulder straps on the front plate removably attach to the rear plate via the use of cooperating hook and loop material (including the newer dart and

hook) and side panels of the front plate removably attached to the cummerbund, again with cooperating hook and loop material.

Although a marked improvement over to previous generations of body armor, the basic clam shell design still has certain limitations for which further improvements continue to be needed. Oftentimes, the body armor needs to be shed quickly by the wearer. For example, when an explosion occurs near a vehicle, an occupant may have need to quickly exit the vehicle, especially if the vehicle is on fire. If any part of the vest is not capable of extraction from the vehicle or parts thereof, the wearer must shed the vest to escape injury from secondary sources as well as to get into the fight if necessary. If the wearer cannot escape the vehicle in a timely manner due to the vest being caught, such a person can be injured or killed or may not be able to help support his or her fellow soldiers in the fight against the enemy. When a wearer of a vest is wounded, medics generally need to remove the vest to effect treatment. Sooner removal is invariably better than later. Delays in vest removal oftentimes result in higher casualties among the (already) wounded as well as the medics.

As many body armor suits are made from an incredibly strong material, simply cutting the vest off of a wounded soldier is not practical, the armor must have a secondary ability for quick removal. Ideally, the vest should be able to be quickly and easily reassembled in order to be donned by the wearer for continued protection.

Many battlefields are found in warm and hot climates or in cold climates. Wearing of vests in warm and hot climates, while offering protection from projectiles, can result in early exhaustion, heat prostration, and dehydration for the wearer. Cold climates also cause problems for the soldier. These conditions reduce effectiveness of the wearer and sometimes result in a soldier needing medical attention or even in the death of the soldier.

Present vests offer numerous "tie-down" points for carrying and retaining supplies such as fighting load components, including ammunition pouches, grenade pouches, hydration systems, etc., or medical supplies, communication supplies, etc. However, the time required to utilize these tie-down points reduces the wearer's effectiveness. A system is
5 needed whereby the wearer can quickly replace equipment and supplies while having them readily available when needed.

A body armor vest is needed that addresses the above-mentioned shortcomings found in the art. Specifically, such a body armor vest must be quickly and easily doffed by the wearer so that if a wearer needs to extricate himself or herself from a situation wherein the
10 vest inhibits such extrication, the vest is shed, allowing the fighter to escape, or in the case of a wounded soldier, the body armor can be quickly removed in order to allow medical personal to administer treatment as soon as possible. Additionally, such a vest should provide for keeping a wearer relatively cool in warm climate conditions and warm in cold climates. Furthermore, such a vest should provide tie-down points on the vest which points can carry
15 and retain needed equipment and supplies which retention system allows for quick removal from and reattachment to the vest of the needed equipment and supplies.

Such a vest must be utilizable with various body armor configurations including the basic body armor outer tactical vest, with or without yoke and collar, as well as other body protectors including throat protectors, groin protectors, etc. The vest should have the ability
20 to carry enhanced small arms protective inserts and enhanced ballistic inserts and carriers. The vest must not impede soldier tasks including the operation of individual weapons such as a rifle, grenade launcher, and pistol, must not impede the operation of crew served weapons, nor impede the ability to throw fragmentation and smoke grenades. Such a vest must allow for safe operation, ingress, and emergency egress of combat vehicles including the M1A1
25 Abrams Tank, the Bradley Fighting Vehicle, and an Armored Security Vehicle as well as

tactical vehicles such as the Up Armored HMMWV. Such a vest should be able to provide for a tailored capability to incorporate modular extremity protection system components for the shoulder such as the Deltoid Auxiliary Protection System as well as arm and leg protection.

SUMMARY OF THE INVENTION

The rapid doffing vest of the present invention addresses the aforementioned needs by providing a body armor vest that can be quickly and easily doffed by the wearer so that if a wearer needs to extricate himself or herself from a situation, wherein the vest inhibits such
5 extrication, the vest can be quickly and easily shed, allowing the wearer to escape, or in the case of a wounded soldier, the body armor can be quickly removed by medical or other personnel in order to allow the medical personal to administer treatment as soon as possible and possibly reassemble the vest on the patient after treatment. The rapid doffing vest makes provisions for keeping a wearer relatively cool in warm climate conditions and warm in cold
10 climates. The rapid doffing vest provides tie-down points on the vest which tie-down points can carry and retain needed equipment and supplies which retention system allows for quick removal from and reattachment to the vest of the needed equipment and supplies with the flexibility to arrange the load without restricting the ability to don and doff the vest.

The rapid doffing vest of the present invention is very flexible in that it can be
15 configured as needed for the battlefield so that the rapid doffing and the rapid donning functions do not interfere with such configurations and allow the overall body armor system to be utilizable with various configurations including the basic body armor outer tactical vest, with or without yoke and collar, as well as other body protectors including throat protectors, groin protectors, etc. The rapid doffing vest is configurable to have the ability to carry
20 enhanced small arms protective inserts and enhanced ballistic inserts and-carriers including the ability to adjust the plates up and down within their pockets. The rapid doffing vest does not impede soldier tasks including the operation of individual weapons such as a rifle, grenade launcher, and pistol, does not impede the operation of crew served weapons, nor does the rapid doffing vest impede the ability to throw fragmentation and smoke grenades. The
25 rapid doffing vest allows for safe operation, ingress, and emergency egress of combat vehicles

including the M1A1 Abrams Tank, the Bradley Fighting Vehicle, and an Armored Security Vehicle as well as tactical vehicles such as the Up Armored HMMWV. The rapid doffing vest may provide for a tailored capability to incorporate modular extremity protection system components for the shoulder such as the Deltoid Auxiliary Protection System as well as arm
5 and leg protection.

The rapid doffing vest of the present invention is comprised of a rear panel that has a first outer surface, a first inner surface, a top, a bottom, and a pair of opposing sides. A front panel has a second outer surface, a second inner surface, and a pair of spaced apart shoulder straps that are each removably attachable to the first outer surface of the rear panel. A size-
10 adjustable cummerbund has a pair of ends such that each end is attached to a respective one of the sides of the rear panel and at least one of the ends is removably attachable to its respective side via an attachment system. The attachment system comprises a blade that is attached to the end of the cummerbund, a blade receiver that is attached to the side of the rear panel such that the blade is laterally received within the blade receiver, and a plunger that has
15 an upper surface and a lower surface, such that the plunger is removably attached to the blade receiver in order to prevent lateral movement of the blade with respect to the blade receiver whenever the blade is received within the blade receiver. At least one stop is located on the blade receiver in order to prevent longitudinal movement of the blade with respect to the blade receiver whenever the blade is received within the blade receiver, the stop may be
20 located at the top of the blade receiver, at the bottom thereof, or at both locations. A cord is attached to the upper surface of the plunger. The cord is removably attached to a respective one of the shoulder straps of the front panel via a pull strap. A keeper is located on the shoulder strap while a stop is located on the cord between the keeper and the plunger such that when the stop encounters the keeper, further cord travel through the keeper is prevented. A
25 guide is attached to the outer surface of the rear panel above the receiver such that the cord

passes through the guide. The upper surface of the plunger is rounded and tapered in order to prevent snagging of the plunger on the guide as the plunger rapidly passes through the guide. The plunger is received within a plunger receiver that is located on the blade receiver such that a notch on the blade aligns with the plunger receiver whenever the blade is received

5 within the blade receiver and such that the plunger prevents lateral notch travel in order to prevent the lateral movement of the blade. A reservoir is located on the second inner surface of the front panel. At least one capillary tube extends downwardly from the reservoir and has at least one opening located thereon. A load receiver is located on the second outer surface of the front panel to which a load carrier is removably attachable. A pocket is located on the

10 first inner surface of the rear panel such that a thermal pack is removably receivable within the pocket, the thermal pack may, but need not necessarily be eutectic salt based.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of the front of the rapid doffing vest of the present invention illustrating the load receiver .

Figure 2 is perspective view of the rear of the rapid doffing vest.

5 Figure 3 is a perspective view of the female blade receiver mated with the male blade of the quick-release hinge of the rapid doffing vest.

Figure 4 is an elevation view of the female blade receiver.

Figure 5 is an elevation view of the male blade.

Figure 6 is an elevation view of the rapid doffing vest donned by a wearer wherein the
10 release mechanism is partially opened on one side.

Figure 7 is a perspective view of the front of the rapid doffing vest illustrating the water cooling reservoir and drip manifold.

Figure 8 is an elevation view of the outer surface of the rear panel.

Figure 9 is an elevation view of the inner surface of the rear panel illustrating the
15 cooling pouch and pack provision.

Similar reference numerals refer to similar parts throughout the several views of the drawings.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, it is seen that the rapid doffing vest of the present invention, generally denoted by reference numeral 10, improves on the typical clam shell design and is comprised of a rear panel 12, a front panel 14 that is removably attached to the rear panel 12, and a cummerbund 16 that is also removably attachable to the rear panel 12. As seen, the rear panel 12 has an outer surface 18 and an inner surface 20, the inner surface 20 being positioned so as to face the back of the wearer S when the vest 10 is worn. The rear panel 12 also has a top 22, a bottom 24, a pair of sides 26. One or advantageously each end 28 of the cummerbund 16 is removably attachable to its respective side 26 of the rear panel 12 via an attachment system 30 as will be more fully discussed *infra*. The medial section of the cummerbund 16 attaches to itself in the usual way (attachment not illustrated) in order to provide sizing of the rear panel 12 about the torso of the wearer S. The front panel 14 also has an outer surface 32 and an inner surface 34, which faces the torso of the wearer S when the vest 10 is worn, and has a top 36, a bottom 38, and a pair of sides 40. A pair of shoulder straps 42 extends from the top 36 of the rear panel 12 proximate each side 40 and each shoulder strap 42 is removably attachable to the outer surface 18 of the rear panel 12 by the use of cooperating hook and loop material 44 (through the specification, hook and loop material includes and encompasses dart and loop and other similar materials) positioned on the inner surface 34 of the shoulder straps 42 of the front panel 14 and correspondingly on the outer surface 18 of the rear panel 12 proximate the rear panel's top 22. The side panels 46 of the front panel 14 removably attach to the cummerbunds 16 in the usual way by providing hook and loop material 48 on the inner surface 34 of the side panels 46 of the front panel 14 and correspondingly on the cummerbund 16 proximate each end 28 thereof.

The attachment system 30 comprises a male blade 50 that is a generally flat plate member made from a hard material such as a stiff plastic or metal and has a first side edge 52,

an opposing second side edge 54, a top edge 56, and a bottom edge 58. As seen, a series of openings 60 are located along the first side edge 52. A generally rectangular notch 62 is located on the top edge 56 while an extension 64 extends downwardly from the bottom edge 58 at the second side edge 54, the extension 64 having a diagonal cut 66. Each male blade 50
5 is attached to a respective end 28 of the cummerbund 16 (or just one male blade 50 is attached to one of the ends 28 of the cummerbund 16) by using appropriate fasteners 68 such as rivets, etc., and passing such fasteners 68 through respective openings 60 on the male blade 50 and corresponding openings (not illustrated) on the cummerbund 16.

A corresponding female blade receiver 70 has a rib 72 on one side, the rib 72 having a
10 series of openings 74 extending along the length thereof. Extending from the rib 72, is a pair of parallel blade panels 76 that are spaced apart from each other to form a channel 78 therebetween. A rest 80 is located at the bottom of the channel 78, while a plunger receiver 82 is formed at the top of the pair of blade panels 76, the plunger receiver 82 being generally cylindrical in shape and may have a conical distal end for manufacturing expediency. The
15 tops of the blade panels 76 between the rib 72 and the plunger receiver 82 are joined together in order to form a closed section 84 of the channel 78 at that point. Each female blade receiver 70, which is also made from an appropriate hard material such as metal, plastic, etc., is attached to its respective side 26 of outer surface 18 of the rear panel 12 by also using an appropriate fastener 86 such as rivets and passing such fasteners 86 through respective
20 openings 74 on the female blade receiver 70 and corresponding openings (not illustrated) on the rear panel 12.

A pull strap 88 is removably attachable to the outer surface 18 of the shoulder strap 42 of the front panel 14 by the use of cooperating hook and loop material sections 90 on the pull strap 88 and correspondingly on the shoulder strap 42. The pull strap 88 has a lower end 92
25 and an upper end 94, the lower end 92 of the pull strap 88 having a grommet 96 thereat. A

pull cord 98 is attached to the upper end 94 of the pull strap 88 in appropriate fashion. The pull cord 98 passes through a keeper 100 attached to shoulder strap 42 above the pull strap 88 and through a guide 102 attached to the outer surface 18 of the rear panel 12, the guide 102 located between the female blade receiver 70 and the section of hook and loop material 44 on the outer surface 18 of the rear panel 12 that mates with the corresponding hook and loop material 44 on the shoulder strap 42. The guide 102, which is a hollow tubular member, has its longitudinal axis generally aligned with plunger receiver 82. A plunger 104 is located on the distal end of the pull cord 98 while a stop 106 is located medially along the pull cord 98 proximate the keeper 100, the stop 106 located between the keeper 100 and the plunger 104, the stop 106 preventing further advancement of the pull cord 98 through the keeper 100. If desired, a connector cord 108 connects the two grommets 96 on the respective pull straps 88 and may further have a tether 110 extending medially from the connector cord 108, the tether 110 having a pull handle 112 on a distal end thereof.

In order to attach each end 28 of the cummerbund 16 to its respective side 26 of the rear panel 12, the male blade 50 is received within a respective one of the female blade receivers 70 by passing the second side edge 54 of the male blade 50 into the channel 78 of the female blade receiver 70 until the second side edge 54 reaches the back end of the channel 78. The extension 64 of the male blade 50 passes over the step 80 and thereafter seats within the cavity formed between the step 80 and the back end of the channel 78, the cut 66 in the extension 64 helping the male blade 50 be angularly inserted into the female blade receiver 70. Once the male blade 50 is fully received within the female blade receiver 70 and the two are parallel with one another, the notch 62 is within the plunger receiver 82. At this point, the plunger 104 is inserted into the plunger receiver 82 wherein the plunger 104 is frictionally held. The male blade 50 is locked to the female blade receiver 70 as the plunger 104, by being inserted into the plunger receiver 82 that is aligned with the notch 62 of the male blade

50, prevents the top 56 of the male blade 50 from being retracted laterally out of the female blade receiver 70 while the step 80 within the female blade receiver 70 acts as a stop and prevents the extension 64 of the male blade 50 from being laterally retracted from the female blade receiver 70 and also prevents the male blade 50 from sliding longitudinally downwardly within the channel 78. The closed section 84 of the channel 78 acts as another stop and prevents the male blade 50 from sliding longitudinally upwardly within the channel 78. Each side of the vest 10 is similarly attached.

The vest 10 is donned by attaching the cummerbund 16 to the rear panel 12 as described and sizing the rear panel 12 about the wearer via the cummerbund 16. Thereafter, the front panel 14 is attached by attaching the shoulder straps 42 to the rear panel and attaching the side panels 46 to the cummerbund 16, the front panel 14 being in proximity to the wearer S during rear panel 12 donning due to the fact that the pull cord 98 upon which the plunger 104 is attached, is attached to the front panel 14.

In order to doff the vest 10, then the pull strap 88 is grasped and pulled outwardly, either via each pull strap 88 being pulled directly or via the pair of pull straps 88 being pulled via the connector strap 108 and/or the tether 110 including pull handle 112. The outward pulling on the pull strap 88 causes the shoulder strap 42 to decouple from the rear panel 12 and also causes an upward pull on the pull cord 98 in order to extract the plunger 104 from the plunger receiver 82 as well as through the pull cord guide 102, the upper surface of the plunger 104 being rounded and tapered in order to help prevent the plunger 104 from getting caught on the pull cord guide 102, the stop 106 preventing further advancement of the pull cord 98 once the pull cord 98 has traveled a sufficient amount. Once the plunger 104 is so extracted, the top 56 of the male blade 50 falls outwardly out of the female blade receiver 70 due to gravity (or force of the wearer S or other personnel). If the wearer S is upright, gravity will cause the male blade 50 to pivot within the female blade receiver 70 about the extension

64, the cut 66 allowing such pivotal action, the male blade 50 eventually coming free of the female blade receiver 70. If the wearer S is not gravitationally positioned for this to occur, then the wearer S or other personal can effect such pivoting and lateral extraction. Each side of cummerbund 16 to rear panel 12 attachment is so effected, and once each side is so detached, the front panel 14 is detached from the rear panel 12 and the vest 10 is clear of the torso from the wearer S with the cummerbund 16 remaining attached to the front panel 14.

During normal wearing of the vest 10, the pull cord guide 102 helps prevent the pull cord 98 from being caught on something or otherwise being bunched and also helps to laterally deflect any undesired pull on the pull cord 98 should the pull cord 98 be caught on something, thereby helping minimize unwanted removal of the plunger 104 from the plunger receiver 82,. Additionally, as the stop 106 is a short distance from the keeper 100, the keeper 100 by catching the stop 106 after only a short distance of travel by the pull cord 98 also helps minimize unwanted removal of the plunger 104 from the plunger receiver 82.

The rapid doffing vest 10 may have additional features.

As seen, a pair of receivers 114 is located on the outer surface 32 of the front panel 14 proximate the front panel's lower edge 38, the receivers 114 being in spaced apart fashion to each other, while a pair of retainer straps 116 is located on the outer surface 32 of the front panel 14, one retainer strap 116 generally above each receiver 114. The ends of each retainer strap 116 are attached to the front panel 14, fixedly or otherwise, while the medial portion remains detached (or just removably attached). A load carrier 118 has a pair of lower leg 120 such that each lower leg 120 is received with a respective one of the receivers 114. A key 122 passes through corresponding openings (neither illustrated) on the receiver 114 and its respective lower leg 120. The load carrier 118 also has a pair of upper legs 124, such that each upper leg 124 is received between the ends of one of the respective retainer straps 116. As seen, the load carrier 118 has a series of keyhole openings 126 thereon, which openings

126 removably receive an appropriate load or supply thereat. Of course, the load carrier 118 may utilize different attachment methods for attaching loads to the load carrier 118.

A flexible fluid reservoir 128 may be located on the inner surface 34 of the front panel 14 (or within any protective material cover) and has a fill plug 130. One or more capillary
5 tubes 132 depend downwardly from the reservoir 128, each tube 132 having a series of small openings 134.

As best seen in figure 9, a pouch 136 is located on the inner surface 20 of the rear panel 12 which pouch 136 has an appropriate hook and loop fastener 138 with pull handle 140. The pouch 136 is designed to removably hold a thermal pack 142, which may be filled
10 with a eutectic salt.

Prior to donning the vest, and if so equipped, an appropriate pack or packs 142 may be placed into the pouch 136 so that such packs 130 provide cooling (or heating) for the wearer S especially around the kidney region.

If so equipped, the reservoir 128 may be filled with water via the fill plug 130 in order
15 to allow the water to slowly drip onto the front torso of the wearer S via the capillaries 132 in order to provide evaporative cooling to the wearer.

If so equipped, a load carrier 118 may be attached to the front panel 14 and any desired loads or supplies loaded thereonto.

As noted previously, the vest 10 is designed to accommodate varying armor designs as
20 required by the wearer or the entity so ordering the vests 10. The rapid doffing vest 10 of the present invention is concerned with rapid doffing and rapid donning of the vest 10, as well as cooling or warming and load carrying, irrespective of the specific armor architecture.

While the invention has been particularly shown and described with reference to an embodiment thereof, it will be appreciated by those skilled in the art that various changes in
25 form and detail may be made without departing from the spirit and scope of the invention.

WE CLAIM:

Claim 1.

A clam shell vest for wearing about the torso of a person, the vest comprising:

a rear panel having a first outer surface, a first inner surface, a top, a bottom, and a

5 pair of opposing sides;

a front panel having a second outer surface, a second inner surface, and a pair of spaced apart shoulder straps each shoulder strap removably attachable to the first outer surface of the rear panel; and

a size adjustable cummerbund having a pair of ends, each end attached to a respective
10 one of the sides of the rear panel and at least one of the ends being removably attachable to its respective side via an attachment system.

Claim 2.

The vest as in claim 1 wherein the attachment system comprises:

a blade attached to the end of the cummerbund;

15 a blade receiver attached to the side of the rear panel such that the blade is laterally received within the blade receiver; and

a plunger having an upper surface and a lower surface, the plunger removably attached to the blade receiver in order to prevent lateral movement of the blade with respect to the blade receiver whenever the blade is received within the blade receiver.

20 Claim 3.

The vest as in claim 2 further comprising at least one stop located on the blade receiver in order to prevent longitudinal movement of the blade with respect to the blade receiver whenever the blade is received within the blade receiver.

Claim 4.

The vest as in claim 2 further comprising a cord attached to the upper surface of the
plunger.

Claim 5.

The vest as in claim 4 wherein the cord is removably attached to a respective one of
5 the shoulder straps of the front panel.

Claim 6.

The vest as in claim 5 further comprising:
a keeper located on the shoulder strap;
a stop located on the cord between the keeper and the plunger such that when the stop
10 encounters the keeper further cord travel through the keeper is prevented.

Claim 7.

The vest as in claim 5 wherein the cord is removably attached to the shoulder strap via
a pull strap itself removably attachable to the shoulder strap.

Claim 8.

15 The vest as in claim 5 further comprising a guide attached to the outer surface of the
rear panel above the receiver such that the cord passes through the guide.

Claim 9.

The vest as in claim 8 wherein the upper surface of the plunger is rounded and
tapered.

20 Claim 10.

The vest as in claim 2 wherein the plunger is received within a plunger receiver
located on the blade receiver such that a notch on the blade aligns with the plunger receiver
whenever the blade is received within the blade receiver and such that the plunger prevents
lateral notch travel in order to prevent the lateral movement of the blade.

25 Claim 11.

The vest as in claim 10 further comprising at least one stop located on the blade receiver' in order to prevent longitudinal movement of the blade with respect to the blade receiver whenever the blade is received within the blade receiver.

Claim 12

5 The vest as in claim 10 further comprising a cord attached to the upper surface of the plunger.

Claim 13.

The vest as in claim 12 wherein the cord is removably attached to a respective one of the shoulder straps of the front panel.

10 Claim 14.

The vest as in claim 13 further comprising:

a keeper located on the shoulder strap;

a stop located on the cord between the keeper and the plunger such that when the stop encounters the keeper further cord travel through the keeper is prevented.

15 Claim 15.

The vest as in claim 12 wherein the cord is removably attached to the shoulder strap via a pull strap itself removably attachable to the shoulder strap.

Claim 16.

20 The vest as in claim 12 further comprising a guide attached to the outer surface of the rear panel above the receiver such that the cord passes through the guide.

Claim 17.

The vest as in claim 16 wherein the upper surface of the plunger is rounded and tapered.

Claim 18.

25 The vest as in claim 1 further comprising:

a reservoir located on the second inner surface of the front panel;
at least one capillary tube extending downwardly from the reservoir; and
at least one opening located on the capillary tube.

Claim 19.

5 The vest as in claim 1 further comprising:

a load receiver located on the second outer surface of the front panel; and

a load carrier removably attachable to the load receiver.

Claim 20.

10 The vest as in claim 1 further comprising:

a pocket located on the first inner surface of the rear panel; and

a thermal pack removably receivable within the pocket.

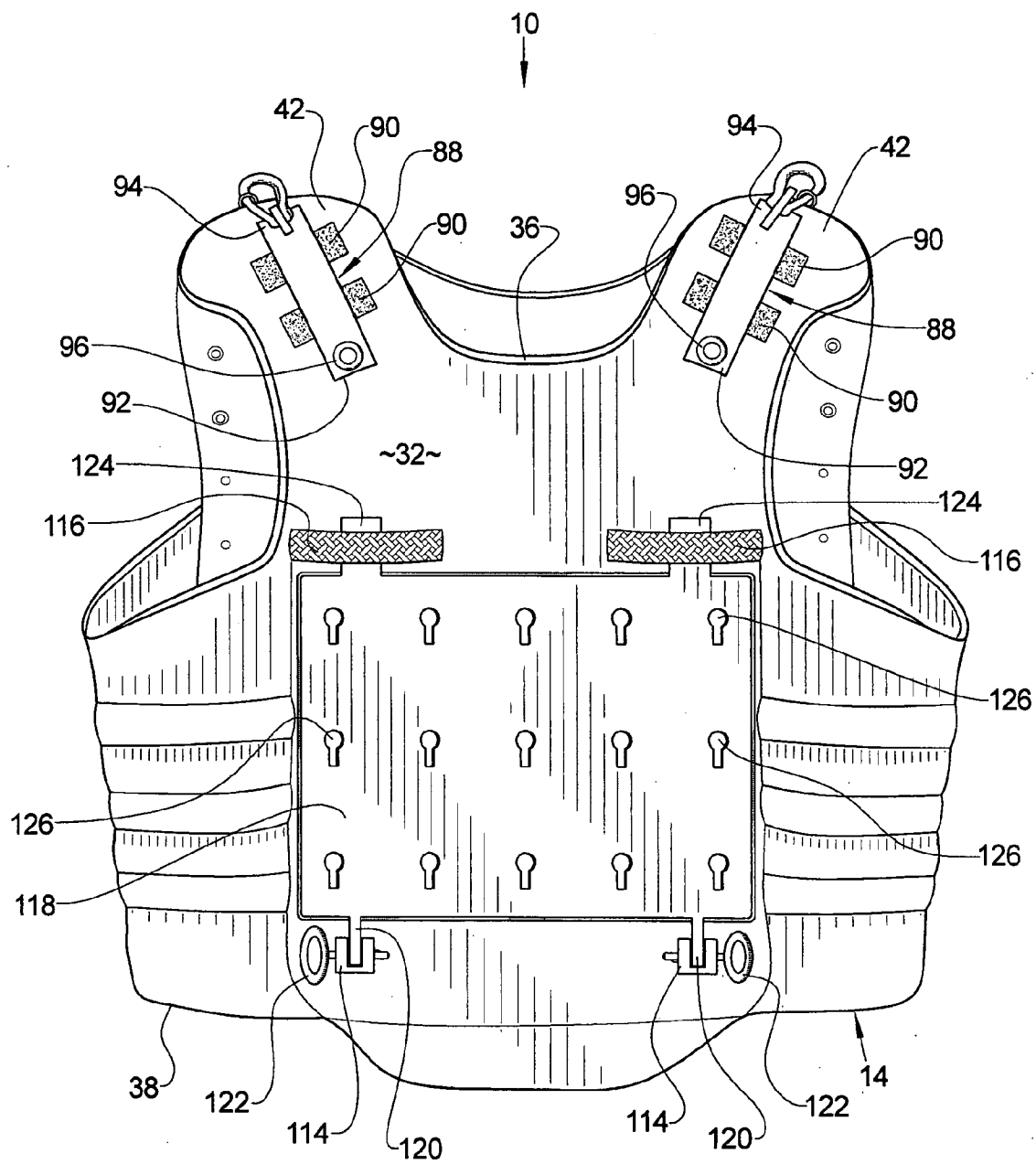


FIG. 1

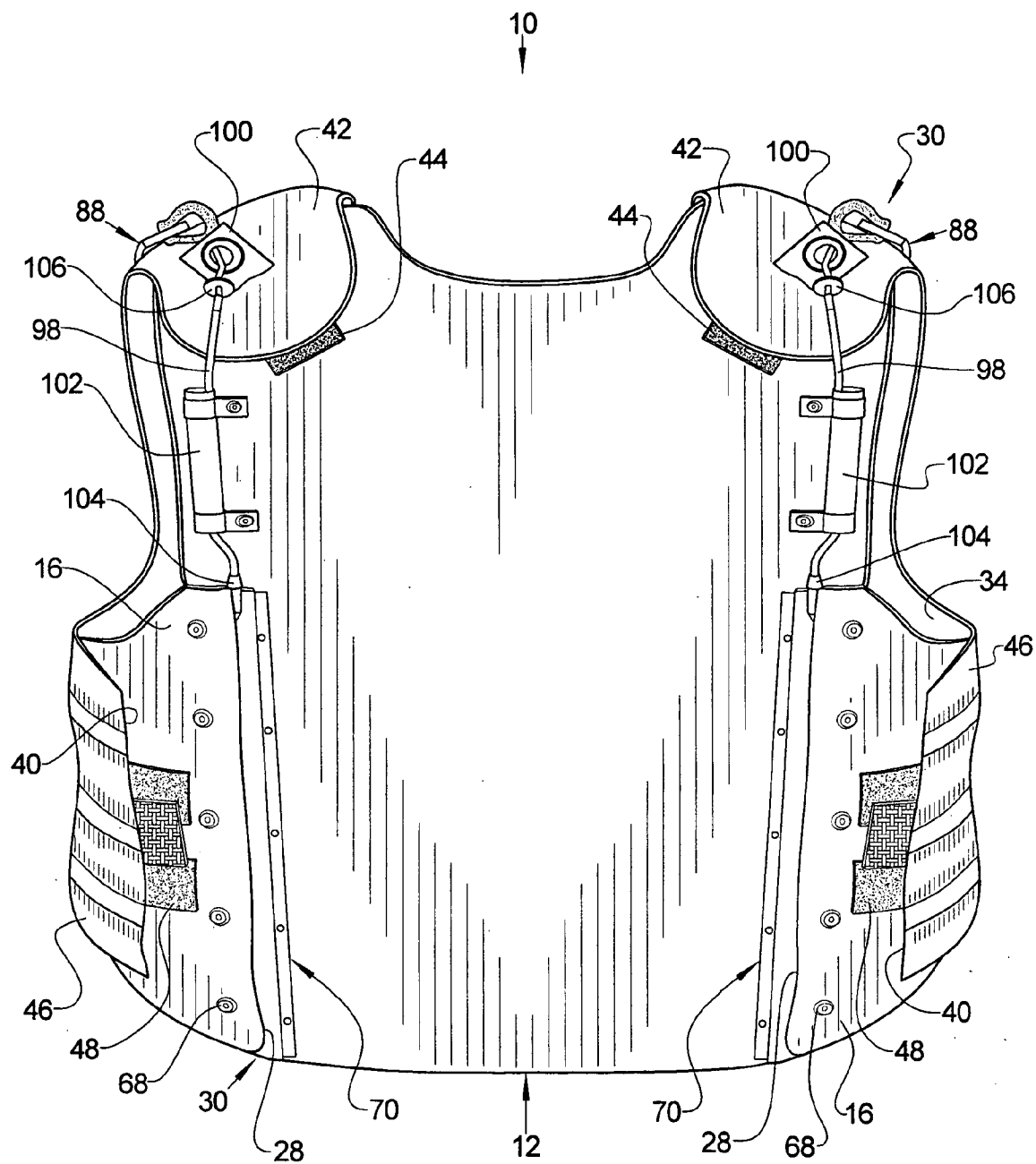
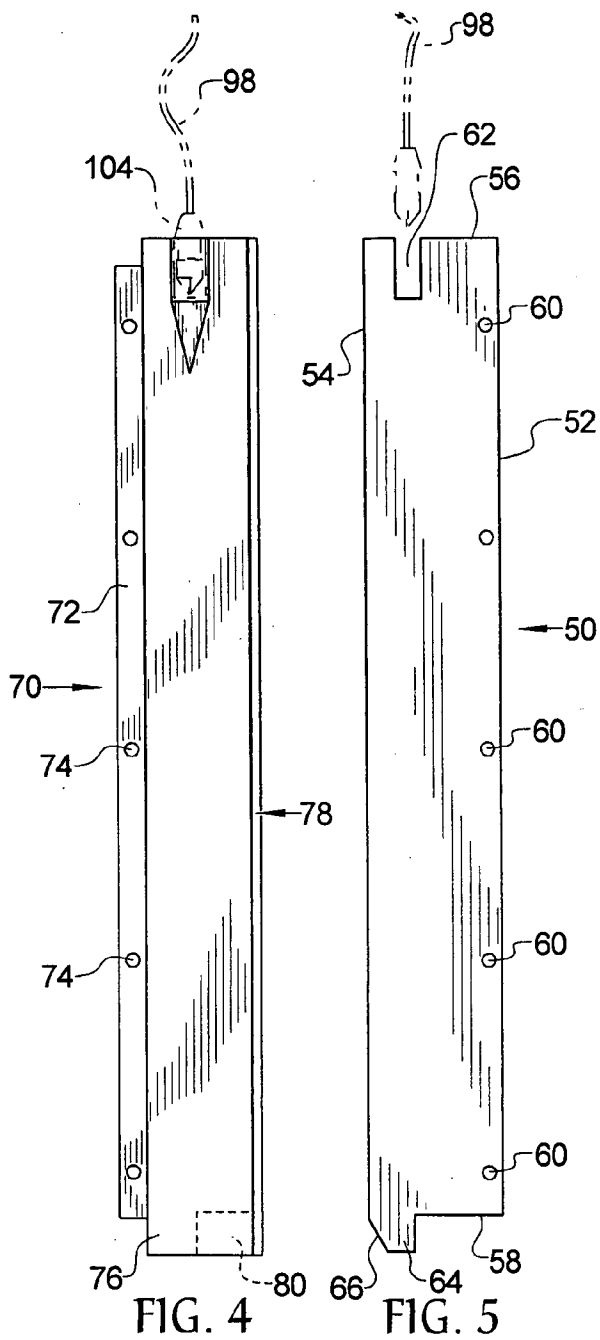
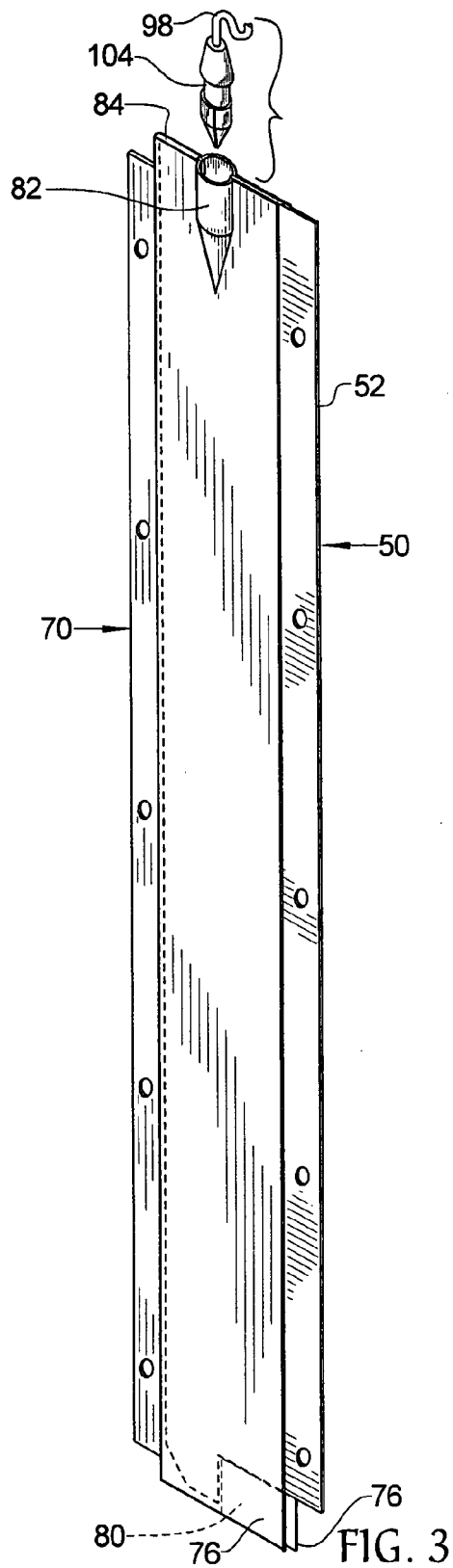


FIG. 2



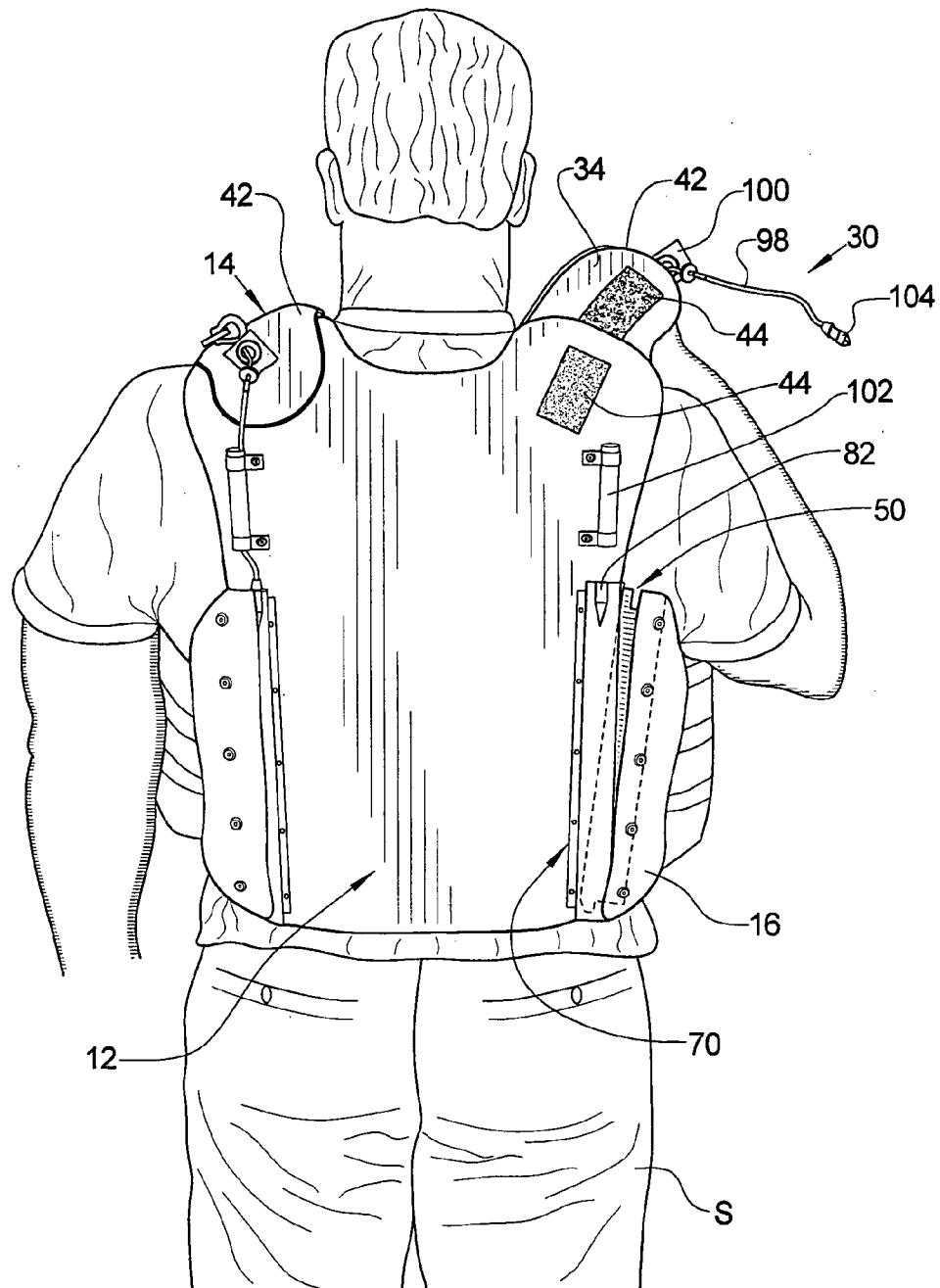


FIG. 6

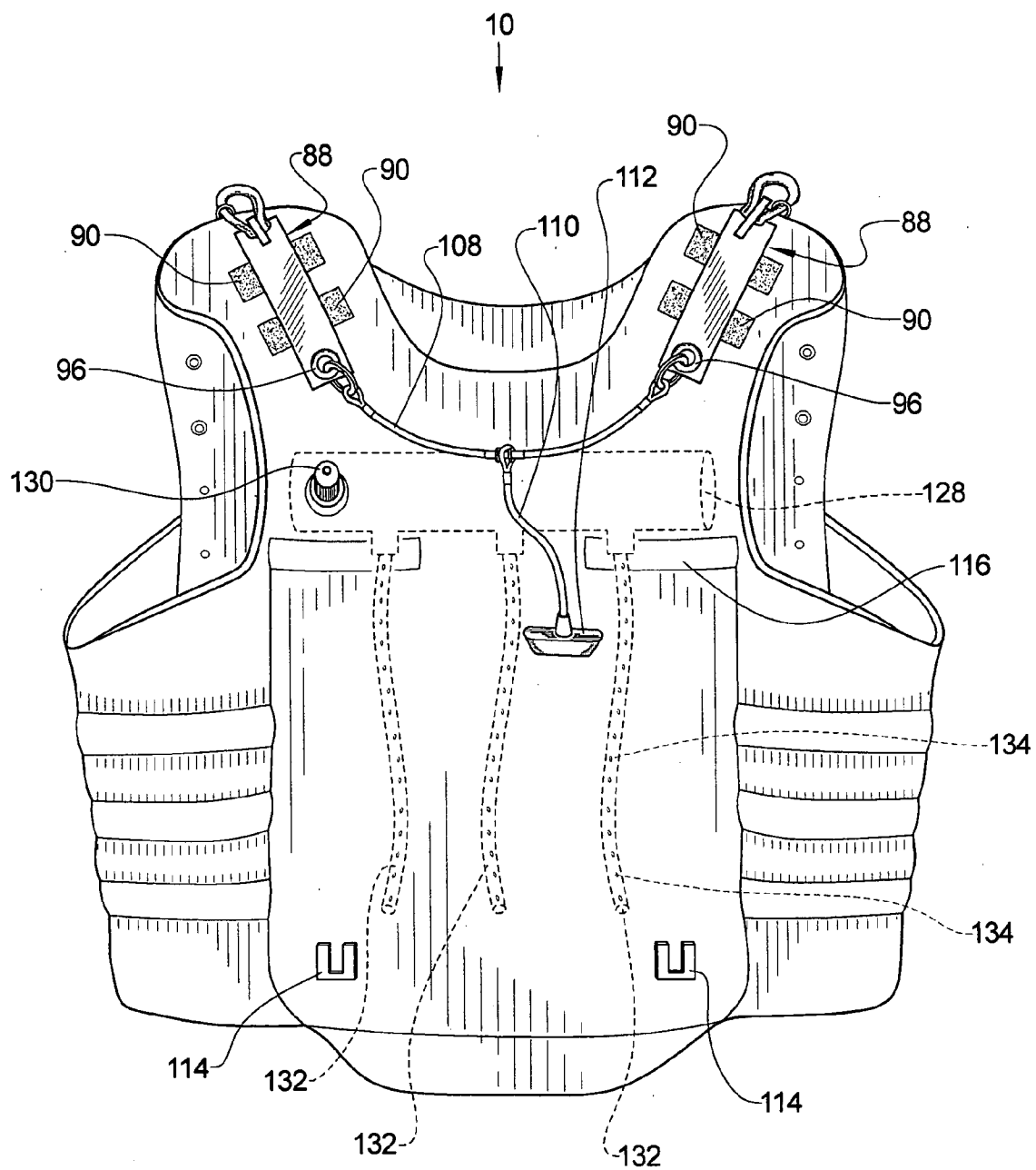


FIG. 7

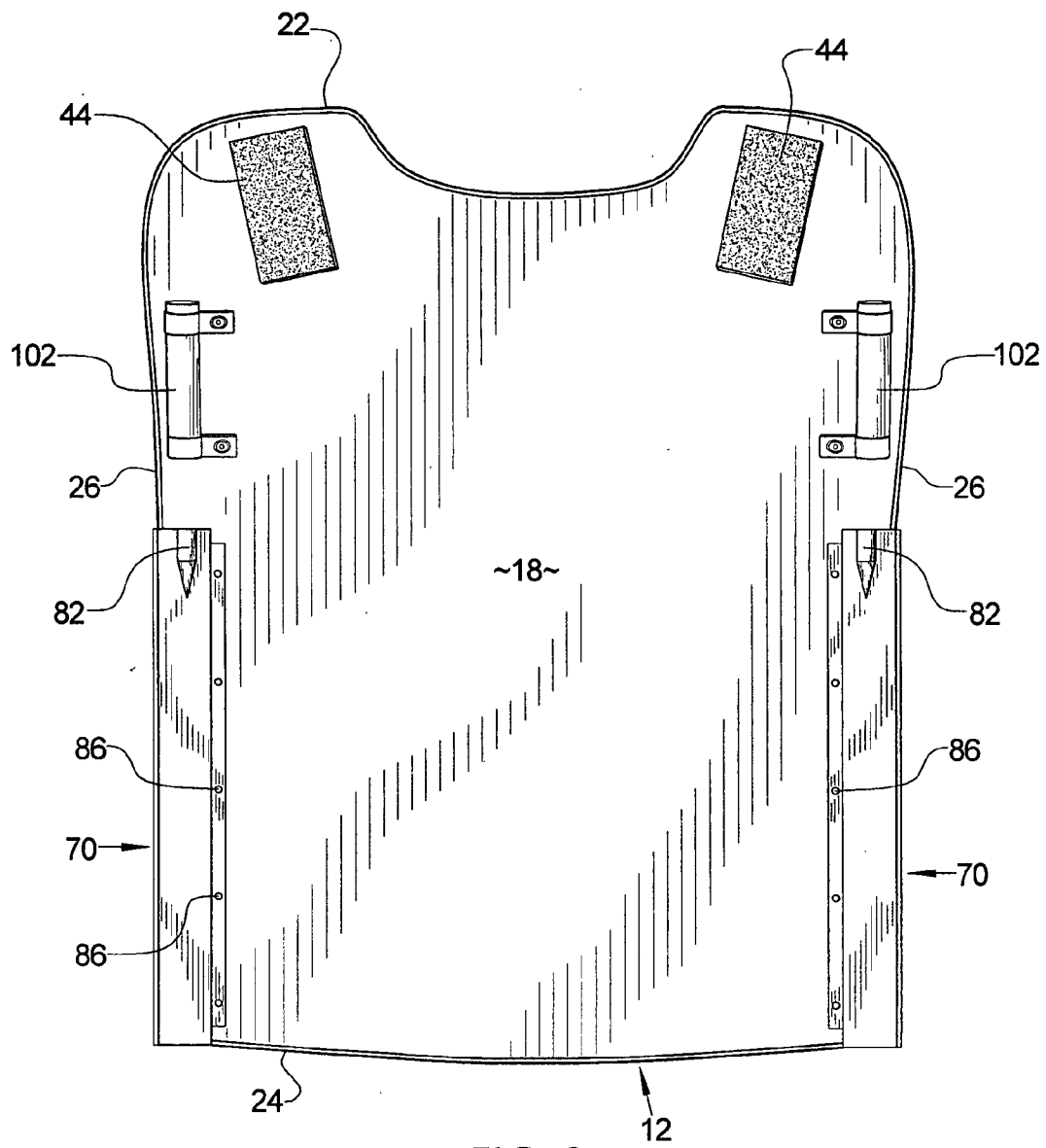


FIG. 8

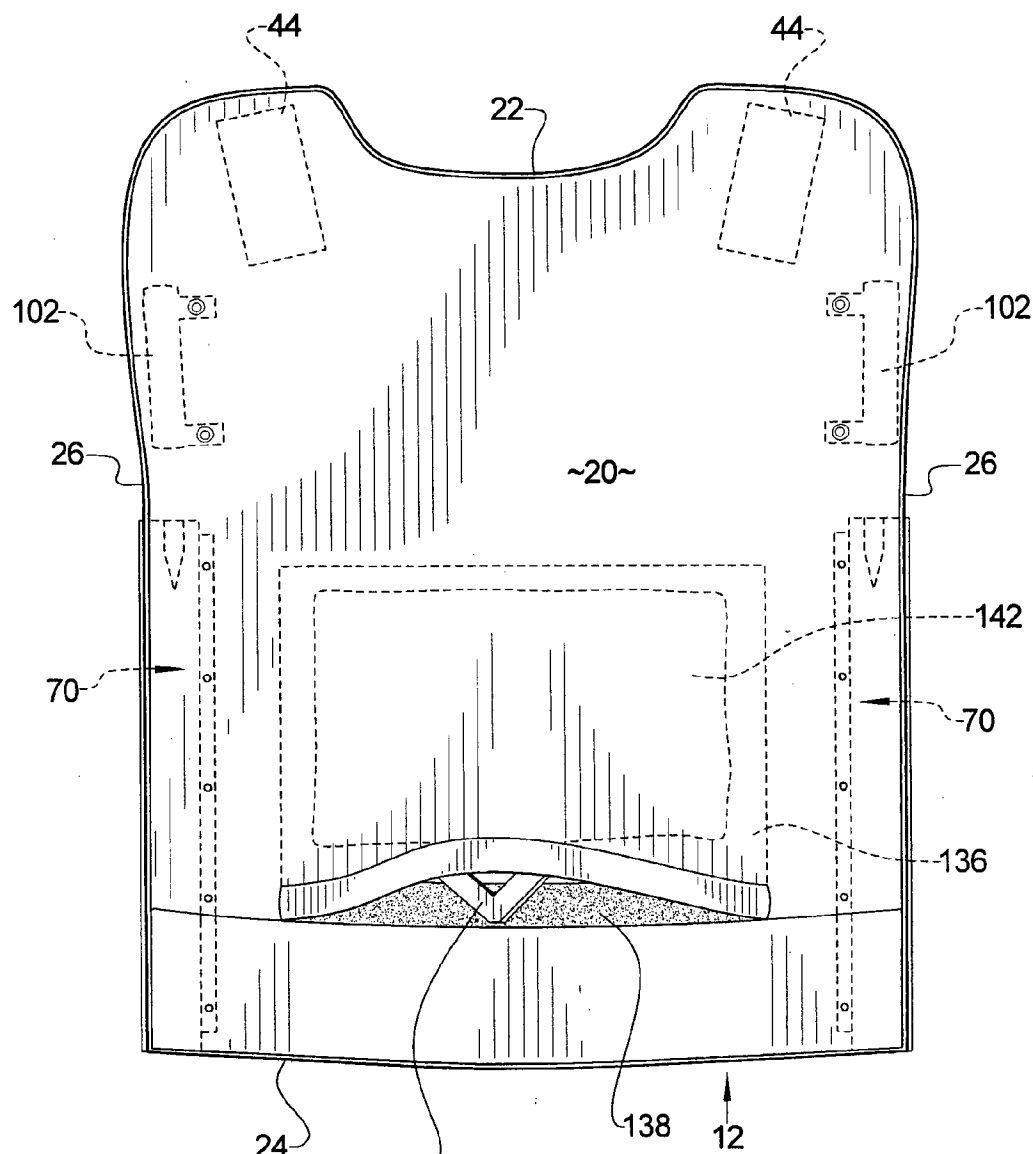


FIG. 9

Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM			
First Named Inventor/Applicant Name:	Michael E. Cole			
Filer:	Stephen Roy Matthews/Barbara Kuntz			
Attorney Docket Number:	DN 3875 PCT-US-DIV			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	70	70
UTILITY SEARCH FEE	2111	1	300	300
UTILITY EXAMINATION FEE	2311	1	360	360
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	3	40	120
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				850

Electronic Acknowledgement Receipt

EFS ID:	28342163
Application Number:	15431377
International Application Number:	
Confirmation Number:	9015
Title of Invention:	LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM
First Named Inventor/Applicant Name:	Michael E. Cole
Customer Number:	2128
Filer:	Stephen Roy Matthews/Barbara Kuntz
Filer Authorized By:	Stephen Roy Matthews
Attorney Docket Number:	DN 3875 PCT-US-DIV
Receipt Date:	13-FEB-2017
Filing Date:	
Time Stamp:	17:27:22
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	EFT
Payment was successfully received in RAM	\$850
RAM confirmation Number	021417INTEFSW17283900
Deposit Account	
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		3875pctus-divAp.pdf	118216	yes	30
			64ef9c65cdf3ff8b4382ab499fd993cf2b4ebf7a		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Abstract		30	30	
	Claims		24	29	
	Specification		1	23	
Warnings:					
Information:					
2	Oath or Declaration filed	3875pctus-divSignedColeDeclaration.pdf	67004	no	1
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Information:					
3	Oath or Declaration filed	3875pctus-divSignedCarverDeclaration.pdf	65884	no	1
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Warnings:					
Information:					
4	Transmittal of New Application	3875pctus-divTransmittalA.pdf	1111609	no	1
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5	Drawings-only black and white line drawings	3875pctus-divFormalDrawingsA.pdf	924078	no	16
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Information:					
This is not an USPTO supplied ADS fillable form					
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Warnings:					
Information:					
Total Files Size (in bytes):			6479224		

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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.

Abstract Of The Disclosure

An attachment system for supporting holders on a carrier includes a platform having a front side, an opposite back side, the platform being constructed of laminated layers having slits therethrough defined and bound by opposite edges of the layers fused together to increase wear and abrasion resistance of the edges, the slits arranged in a predetermined pattern of aligned and spaced apart rows, the slits being configured to receive straps therethrough between the front side and the back side to attach at least one holder to the platform, and the platform being supported by and comprising an element of a carrier configured to be worn against a portion of a user's body, the back side and at least one element of the carrier or a backing element defining and bounding a generally flat cavity through which the back side can be accessed.

Claims

What is claimed is:

1 1. An attachment system, comprising:
2 a platform having a front side and an opposite back
3 side, the platform comprising laminated layers including
4 at least one fabric layer, the platform having a
5 plurality of slits therethrough defined and bound by
6 edges of the layers fused together to have increased
7 wear and abrasion resistance, the slits arranged in a
8 predetermined pattern of aligned and spaced apart rows,
9 the slits being configured to receive flexible,
10 generally flat straps or tabs therethrough between the
11 front side and the back side to attach at least one
12 holder to the platform, and the platform being supported
13 by and comprising an element of a carrier configured to
14 be worn against a portion of a user's body, the back
15 side and at least one element of the carrier or a
16 backing element bounding a generally flat cavity through
17 which the back side can be accessed.

1 2. The attachment system of claim 1, wherein at
2 least one of the back side and the backing element
3 comprises a fastening component of a hook and loop
4 fastening system.

1 3. The attachment system of claim 1, wherein at
2 least one of the layers comprises an adhesive.

1 4. The attachment system of claim 1, wherein at
2 least one of the layers comprises a synthetic rubber
3 compound.

1 5. The attachment system of claim 4, wherein the
2 platform comprises a woven nylon fabric laminated to the
3 synthetic rubber compound.

1 6. The attachment system of claim 1, wherein the
2 edges are hardened by laser fusion.

1 7. The attachment system of claim 1, further
2 comprising at least one strap woven through selected
3 ones of the slits attaching a holder to the platform.

1 8. The attachment system of claim 1, wherein the
2 back side and the at least one element of the carrier or
3 the backing element comprise coextensive edges
4 comprising fastening components fastened together to
5 prevent entry of particulates therebetween, the
6 fastening components being unfastenable to allow
7 manually accessing the cavity therebetween.

1 9. The attachment system of claim 8, wherein the
2 fastening components comprise components of a hook and
3 loop fastening system.

1 10. The attachment system of claim 1, wherein the
2 carrier comprises a vest, a cummerbund, or a belt.

1 11. The attachment system of claim 1, further
2 comprising a holder configured for holding at least one
3 object or article, having a strap extending therefrom
4 and woven through at least two of the slits
5 interlockingly attaching the holder to the platform.

1 12. The attachment system of claim 1, further
2 comprising a first fastening component of a hook and
3 loop fastening system attached to or comprising the back
4 side of the platform within the generally flat cavity,
5 and a holder configured for holding at least one object
6 or article, the holder having at least one tab extending
7 through at least one of the slits and comprising a
8 second fastening component of the hook and loop
9 fastening system fastened to the first component
10 thereof, to attach the holder adjacent to the front side
11 of the platform.

1 13. An attachment system for removably attaching
2 at least one holder to a carrier configured for wear on
3 a human body, the carrier having at least one outer
4 surface oriented to face away from a body on which the
5 carrier is worn, the attachment system comprising:
6 a platform supported in an upstanding orientation
7 on the carrier in covering relation to a surface of the
8 carrier or an opposing backing element to bound a
9 generally flat cavity therebetween, the platform having
10 a front side facing outwardly, an opposite back side
11 facing the cavity, the platform comprising laminated
12 layers wherein at least one of the layers is a fabric,
13 and a plurality of slits defined and bound by fusion

14 hardened edges of the laminated layers, the slits
15 arranged in a predetermined pattern of aligned and
16 spaced apart rows.

1 14. The attachment system of claim 13, further
2 comprising at least one holder configured for holding an
3 article or object, having at least one generally flat,
4 flexible tab or strap extending therefrom and extending
5 through at least one of the slits and attached to the
6 platform or the holder to releasably secure the holder
7 adjacent to the front side of the platform.

1 15. The attachment system of claim 14, wherein the
2 at least one generally flat, flexible tab or strap
3 comprises a tab having a first fastening component of a
4 hook and loop fastening system thereon releasably
5 fastened to a second fastening component of the system
6 on the back side of the platform.

1 16. The attachment system of claim 15, wherein the
2 holder comprises a plurality of the tabs having the
3 first fastening component, extending through a plurality
4 of the slits, respectively, and releasably fastened to
5 the second fastening component of the system on the back
6 side of the platform.

1 17. The attachment system of claim 14, wherein the
2 at least one generally flat, flexible tab or strap
3 comprises a strap having one end attached to the holder
4 and woven through at least two of the slits, and a
5 second end releasably fastened to the holder.

1 18. The attachment system of claim 14, wherein the
2 holder comprises a pouch.

1 19. An attachment system for supporting holders on
2 a carrier, including a platform comprising a front side
3 and laminated layers having a plurality of slits
4 therethrough arranged in a predetermined pattern of
5 aligned and spaced apart rows; and
6 the platform having a back side opposite the front
7 side and opposing a surface of the carrier or a backing
8 element to enclose a generally flat cavity therebetween
9 generally coextensive with the platform, the slits
10 extending through the platform to the cavity and being
11 defined and bounded by hardened fused edges of the
12 laminated layers and configured for receiving one or
13 more elongate straps or tabs to support a holder
14 adjacent to the front side.

1 20. The attachment system of claim 19, further
2 comprising at least one holder supported adjacent to the
3 front side of the platform by at least one flexible tab
4 extending through at least one of the slits and attached
5 to the back side of the platform by a hook and loop
6 fastening system.

1 21. The attachment system of claim 19, further
2 characterized by a holder supported adjacent to the
3 front side of the platform by at least one flexible
4 strap woven through at least two of the aligned slits.

1 22. The attachment system of claim 19, wherein at
2 least one of the layers comprises a synthetic rubber
3 compound.

1 23. The attachment system of claim 22, wherein at
2 least one of the layers comprises a woven nylon fabric
3 laminated to the synthetic rubber compound layer.

Description

LIGHT WEIGHT MODULAR POUCH ATTACHMENT SYSTEM AND METHOD

5 **[0001]** This application is a division of co-pending
U.S. Patent Application Serial No. 14/237,468, filed
February 6, 2014, which application was submitted under
35 U.S.C. 371 claiming priority to PCT/US2012/50001,
filed August 8, 2012, which application claims the
10 benefit of U.S. Provisional Application No. 61/521,309,
filed August 8, 2011.

Technical Field

15 **[0002]** The present invention relates generally to a
system and method for removably attaching pouches and
other accessories to a carrier, such as a vest or other
garment, or other device, and more particularly, which
is light weight, non-metallic, resists accumulation of,
and degradation of operation from, particulates such as
20 dirt dust and the like, is quiet in operation, and is
compatible with some known systems.

Background Art

25 **[0003]** The disclosures of co-pending patent
application Serial No. 14/237,468, filed February 6,
2014, PCT application Serial No. PCT/US2012/50001, filed
August 8, 2012, and U.S. Provisional Application No.
61/521,309, filed August 8, 2011, are hereby
incorporated herein in its entirety by reference.

30 **[0004]** Modular pouch attachment systems and methods
for carrier garments, hereinafter sometimes referred to
by the term carrier or carriers, such as, but not

limited to, vests, cummerbunds, belts, and the like, for carrying holders such as, but not limited to, pouches for holding items and accessories on a person's body, are well known. Advantages include an ability to attach
5 pouches and accessories to a platform and easily remove them; rearrange or configure them; and exchange for other pouches or accessories.

[0005] Reference, Kirk et al., U.S. Patent No.

5,724,707, issued on March 10, 1998; and Johnson, U.S.

10 Patent No. 7,047,570, issued on May 23, 2006, which show representative commercially available pouch attachment systems and methods. Typically, as shown in FIGS. 3A and 3B of the 7,047,570 patent, reproduced here as FIGS. 1 and 2, such known systems utilize one or more elongate
15 woven webs or straps, sewn or otherwise affixed to at longitudinally spaced locations to a panel comprising fabric layers, forming a side by side pattern of loops. If multiple webs or straps are used, they are laterally spaced apart, e.g., vertically, so as to extend
20 horizontally across a surface of the garment or other device, at vertically spaced intervals, such that the loops of the webs will be vertically aligned. A pouch or other accessory will include one or more elongate straps configured to be inserted through the aligned
25 loops. The straps will typically each be attached at one end to the pouch or accessory, and have an opposite free end. The backside of the pouch or other accessory will typically include additional loops positioned to be disposed in alternating relation to the loops on the
30 panel, such that the straps can be alternately woven through the loops on the panel and the back of the pouch

or accessory, for attaching the pouch or accessory to the panel. The free end of the attachment straps can then be secured, using a snap, hook and loop fastener, or the like, to the back of the pouch or accessory.

5 **[0006]** Stated advantages in U.S. Patent No. 5,724,707 of the known pouch attachment systems such as just discussed, include that they are light weight, quiet to use, and stronger than earlier known systems, including known systems using hook and loop type fasteners.

10 Shortcomings of hook and loop fasteners mentioned in U.S. Patent No. 5,724,707 include heavy weight, noisiness, low strength, and failure under dirty and dusty conditions. Although past known carriers utilizing hook and loop fasteners have suffered from

15 these disadvantages, inherent advantages of hook and loop fasteners such as ease and familiarity of use, and non-metallic construction, still make them attractive. The non-metallic attribute is particularly desirable for military applications wherein the carrier is subject to

20 explosions which can cause metallic objects to fragment and possibly injure wearers. As a result, it is still sought to find a manner of use hook and loop type fasteners for attachment of holders and the like, particularly for military carrier applications.

25 **[0007]** Therefore, what is sought is an attachment system and method that utilizes the advantageous attributes of hook and loop fastening systems, but which overcomes one or more of the know disadvantages thereof, set forth above.

Summary Of The Invention

[0008] What is disclosed is an attachment system and method for carrier garments such as, but not limited to, vests, cummerbunds, belts, shirts, jackets, pants, and
5 the like, that utilizes the advantageous attributes of hook and loop fastening systems, but which overcomes one or more of the known disadvantages thereof set forth above.

[0009] According to a preferred aspect of the
10 invention, the attachment system utilizes a platform having a front side, an opposite back side, and a plurality of slits through the platform arranged in a predetermined pattern of vertically aligned and spaced apart rows, configured for receiving elements for
15 attaching at least one holder to the platform. As a non-limiting example, adjacent ones of the slits can be spaced vertically apart to correspond to the vertical spacing of loops of currently used MOLLE systems. The platform is supported by and comprises an element of, an
20 attachment or accessory to, a carrier configured to be worn on a user's body, for carrying at least one holder at a desired location on the user's body, e.g., front, back, or side. The platform can be permanently affixed, e.g., by stitching, or incorporated into the carrier, or
25 removably attached, e.g., via hook and loop fasteners, belts, snaps, zippers, or the like, in covering relation to an outwardly facing surface of the carrier or a backing element such as, but not limited to, a fabric layer or sheet.

30 [0010] According to another aspect of the invention, a back side of the platform faces and covers the outer

surface of the carrier or backing element and includes a first fastening component of a hook and loop fastening system thereon adjacent to, e.g., around or beside, the slits, and disposed in opposing relation to the carrier or backing element surface. This forms a generally flat pocket or cavity between the opposing surface and the back side, into which a user can insert his or her fingers for attaching and detaching objects to/from the fastening component, and/or weaving straps through the slits. This is advantageous as the carrier surface or backing element protects the component of the hook and loop fastener, and with the fastener component located on the back side and in the pocket or cavity, noise generated when detaching from the fastener is contained and muted or muffled so as to be suitable for applications where silence when configuring the system, e.g., adding, removing, moving holders, is required. Also preferably, the platform and the carrier or backing element have generally coextensive peripheral edge portions bounding and at least substantially or effectively enclosing the flat pocket or cavity behind the platform, providing a cover or barrier to entry of particulates such as dirt and dust into the cavity. Operationally, at least one of the coextensive edge portions is open or openable, e.g., via a hook and loop fastening system, buttons, overlapping flaps, etc., to allow the insertion of at least fingers of a hand into the cavity for attaching, detaching, weaving, etc.. In this latter regard, the platform can have any required extent, e.g., the height and width of a person's midsection or chest, and the opening or openings should

be sufficiently large and/or positioned to enable a person to reach a desired location within the cavity for attaching and detaching straps or tabs extending through any of the slits.

5 **[0011]** Each of the slits through the platform is defined and bound by opposing edges, respectively, disposed sufficiently close together when in a free state, to provide an effective barrier to prevent or substantially reduce passage of particulates such as
10 dust and dirt to the fastening system component on the back side of the platform. As a result of this and the enclosing of the pocket or cavity behind the platform, degradation of operation of the fastening system component from accumulated particulate contaminants,
15 e.g., dirt and dust, is sufficiently limited to allow usage of the carrier for intended uses and durations of use, such as military missions.

[0012] According to another preferred aspect of the invention, the first fastening component located on the
20 back side of the platform comprises a loop pile fabric layer, which can be of commercially available composition and construction such as available under the trademark "Velcro". The front side can comprise a woven fabric such as a nylon or the like, which is preferably
25 non-stretch, and the fabric layers are joined together by lamination using adhesives, gluing, or fusion. As another preferred aspect, the fabric layers comprising the edges bounding the slits are fused together, e.g., using a laser cutting process for forming the slits, so
30 as to be hardened but at least semi-flexible to allow insertion of flat straps and tabs through the slits, and

such that the edges will not fray or wear significantly under expected use. Also preferably, the edges will have sufficient resilient flexibility so as to be capable of conforming at least generally about

5 anticipated items to extend through the slits such as straps or flat tabs that may be attached to the fastening system component within the pocket.

[0013] According to another preferred aspect of the invention, the system includes at least one holder
10 including at least one tab having a second component of the hook and loop fastening system thereon, e.g., hooks for use with the pile loop fabric, such as commercially available under the trade name "Velcro". The tabs are substantially flat, so as to be easily insertable
15 through the slits, and a user can position and attach the tabs to the back side of the platform using fingers inserted into the pocket or cavity behind the platform. Similarly, the user can insert the fingers into the pocket to detach the tabs to allow removal or
20 repositioning of the holder.

[0014] The tabs attached to the holders can be straight and sized for passage through the slits, or can be V shape, in which case they can be folded or bent as required to pass through the slits and attach to the
25 back side. In this regard, as another advantage of one embodiment of the tabs, they are relatively short, for instance, but not limited to, not exceeding the vertical distance between two adjacent slits of the pattern, even for holders that have a length equal to the distance
30 between 4, 6, or more slits. The tabs can be constructed of a thin nylon film, and with the short

length, this provides substantially reduced weight compared to the much longer conventional heavy nylon fabric MOLLE straps. For strength, when inserted through the slits, the tabs are bent over for attachment to the back side, so that the hook and loop fasteners are loaded in shear, and are not subject to direct pulling away from the back side of the platform. The V shape tabs are advantageous in this regard as they provide up to double the attachment capability in a still relatively short, lightweight tab.

[0015] As another advantage, the tabs of the present system can be merely inserted through the slits and attached to the back side of the platform, whereas a MOLLE strap would be woven through interlocking loops on both the platform and back of the holder. For longer holders, the short tabs can be provided at spaced locations along the length of the holder, and are insertable and attachable through correspondingly located slits of the platform. The slits are also configured and sized to accommodate multiple tabs, so that a holder can be attached to the platform both above and below a particular slit. This results in an attachment capability that requires less time and is easier to do in the dark and when relying on feel or gloves are used, compared to conventional MOLLE systems. Also, because loops on the back of holders are eliminated, additional weight advantage is achieved.

[0016] As an alternative, the tabs can be provided in a length comparable to that of a conventional MOLLE strap, and the back side of a holder can include slits also, to allow weaving and interlocking the holder to

the platform using the longer tabs, which will have the second component of the hook and loop fastening system only at an appropriate location on the ends of the tabs. Alternatively, an enlarged tuck tab can be provided on the end of the longer tab, and the tuck tab inserted into an adjacent slit on either the platform or the holder, to secure the holder. In this embodiment, another advantage achieved is that this attachment system can be backwards compatible with existing MOLLE platforms, enabling using the holders with both the platform of the invention and MOLLE platforms.

[0017] As another preferred aspect of the invention, the edges bounding the slits of the platform are sufficiently resiliently flexible to allow passage of the tabs therethrough, respectively, for fastening to the loop pile fabric while biasing against the tabs forming at least a partial barrier to passage of particulates thereabout, to further prevent degradation of the hook and loop fastening system. In this regard, the lack of stretch and manner of attachment of the platform allows it to support a relatively large number of holders without pulling away from the supporting carrier, while being sufficiently flexible to accommodate normal body movements such as twisting and bending of the wearer.

[0018] As another advantage of the attachment system of the invention, the tightness of attachment of a holder to the platform is a function of the location of attachment of the tabs to the back side. The tabs can be attached to the back side of the platform tightly with little slack, in a manner so as to limit or prevent

relative movements of the holder relative to the platform, which may be desirable for some applications wherein low noise is desired or required, or, if desired, with slack to loosely hold the holder to the front side.

5 [0019] As another preferred aspect of the invention, representative holders contemplated for use with the invention include pouches for carrying batteries for electronic equipment, magazines for ammunition and weapons, radio, medical, clothing, food, and the like and the pouch portion of the holder can be of conventional fabric construction. Because weaving of straps through loops on the platform is not necessary, loops on the back of the holder can be eliminated, resulting in significant weight saving without loss of carrying capability or other performance. If desired, the back side of the holders can include a mating pattern of slits to allow interweaving of the tabs between the platform and holder, or the use of separate MOLLE style straps for attachment, if desired.

15 [0020] As a hybrid embodiment of the system of the invention for use with conventional MOLLE straps, the slits are provided on a backing element which includes the second component of the hook and loop fastening system. The backing element is attached to the back side of the platform using the hook and loop fastening system, and the MOLLE straps are inserted through the slits and either pass over the front side of the platform or the back of the backing element, for securing the attached holder to the platform. This embodiment is particularly useful for vertically

narrower applications such as belts, and allows carrying longer MOLLE holders such as magazine pouches, on a narrow belt, without relative shifting and movement.

5 Brief Description Of The Drawings

[0021] FIG. 1 is a fragmentary perspective view of a prior art attachment system, showing a MOLLE style pouch;

10 [0022] FIG. 2 is a fragmentary sectional view of the attachment system and pouch of FIG. 1;

[0023] FIG. 3 is an exploded perspective view of one embodiment of an attachment system of the invention showing a representative holder of the system which is a pouch;

15 [0024] FIG. 4 is a rearview of a standard MOLLE style pouch for use with the system of FIG. 3;

[0025] FIG. 5 is an exploded perspective view of another embodiment of an attachment system of the invention, including attachment tabs having hooks of a hook and loop system thereon and a rear fabric of loop pile on a back side of a platform of the system;

[0026] FIG. 6 is an enlarged view of a pouch of the attachment system of FIG. 5 having additional tabs;

20 [0027] FIG. 7 shows tabs of the pouch of FIG. 6 being inserted through slits of the platform of FIG. 5, shown in place on a representative carrier, and insertion of fingers behind the platform for attaching the tabs to the back side of the platform;

25 [0028] FIG. 8 is another enlargement of the system of FIGS. 6 and 7, showing tabs of pouches inserted through
30

slits of the platform and hooks of the tabs attached to pile on the back side;

[0029] FIG. 9 is fragmentary perspective view of a carrier incorporating the attachment system of the invention, showing two holders attached to the front side of the platform of the system;

[0030] FIG. 10 is fragmentary side view of a representative platform of the system of FIGS. 5 and 6, showing one manner of attachment of tabs, illustrating a tight fit;

[0031] FIG. 11 is fragmentary side view of a representative platform of the system of FIGS. 5 and 6, showing another manner of attachment of tabs, illustrating a loose fit;

[0032] FIG. 12 is a rear view of a holder of the system of the invention, showing alternative V shape tabs;

[0033] FIG. 13 is a rear view of a platform of the system showing the V shape tabs of FIG. 12 inserted through slits of the platform and having hooks attached to loop pile on the back side of the platform;

[0034] FIG. 14 is a front view of a platform of the system of the invention on a representative carrier, showing representative holders attached thereto by passage of tabs on the backs of the holders through slits of the platform of the system;

[0035] FIG. 15 is a side view of a platform of the system, showing a pouch having longer tabs such as illustrated in FIG. 3, woven through the slits and attached to the platform by the hook and loop fasteners on the end of the tabs;

[0036] FIG. 16 is a front view of the platform and pouch of FIG. 15;

[0037] FIG. 17 is a rear view of the platform and tabs of FIG. 15, weaving and attachment of the tabs;

5 [0038] FIG. 18 is a side view of a platform of the system of the invention, showing attachment of an alternative holder having an elongate tab with a tuck tab on the end; and

[0039] FIG. 19 is a side assembly view of an
10 alternative embodiment of the invention having slits on a removable backing element attachable to a platform of the invention, and weaving of a conventional MOLLE style strap through the slits for attachment of a pouch to the platform.

15

Detailed Description Of The Invention

[0040] Referring to the drawings, in FIGS. 1, 2 and 4, elements of a conventional prior art MOLLE style attachment system are illustrated. Essentially, the
20 system includes a panel 20 on which straps 22 are sewn or otherwise affixed at longitudinally spaced locations forming a side by side pattern of vertically aligned loops 24. Elongate straps 26 attached to a holder 28, which here is illustrated as a pouch, are interlocked or
25 woven through vertically aligned ones of loops 24 on panel 20, and straps 22 on the back side of holder 28 to attach the holder to panel 20. A fastener, e.g., a snap or button, is often provided on the end of the elongate strap 26 for attachment to an associated fastener on the
30 holder. As discussed above, straps 22 and 26 are relatively heavy, and this weaving and interlocking

process is time consuming and requires dexterity. For this and other reasons, an alternative to the widely used MOLLE system is desired.

5 [0041] Referring to FIGS. 3, 5, and 6 through 13, and improved attachment system 32, constructed and operable according to the teachings of the present invention, which can be constructed in a more light weight manner and has other advantages compared to known MOLLE systems, is shown.

10 [0042] Referring to FIGS. 3 and 5, a first embodiment of system 32 of the invention is shown, including a platform 34 which eliminates webbing straps and their associated weight. The platform 34 accomplishes this by comprising a pattern of cuts or slits 36 therethrough
15 arranged in a vertically spaced pattern, at locations generally corresponding to be locations and spacings of the loops of a conventional prior art MOLLE style attachment system as shown in FIGS. 1, 2 and 4. As will be discussed, this provides the advantage of enabling
20 use with various holders, e.g., pouch or accessory, of those prior art systems which are in wide spread use.

[0043] Essentially, according to steps of a method of the invention, straps 26 of a MOLLE style holder would be interlocked and woven through the slits 36 of the
25 platform 34 of present system 32, by being inserted through selected upper slits 36 of the platform 34 to the back side of the platform, then inserted through selected lower slits 36 of the platform to the front side thereof, then through webbing straps 22 or loops on
30 the back side of the pouch or accessory. The straps 26 can then be inserted through still lower slits 36 of the

platform to the back side, then through still lower
slits 36 to the front side, and through webbing loops on
the back side of the pouch or accessory, for further
attachment, one or more additional times, depending on
5 the length of the straps and platform, and available
number of slits. The free end of the straps 26 can them
be attached to the back side of the pouch or accessory,
using snaps, hook and loop fasteners, or other means
provided.

10 [0044] As a preferred aspect of the system of the
invention of FIGS. 3 and 5, as illustrated in FIG. 5,
the platform 34 can comprise one or more layers of a
fabric material, such as, but not limited to, a 500
denier nylon, and/or a sheet or film of other material
15 such as, but not limited to, a plastics film or sheet,
e.g., a synthetic rubber compound such as a chloroprene
or polychloroprene commercially available from DuPont
under the trade name Neoprene, optionally as a laminate,
of sufficient overall strength to hold one or more
20 holders such as pouches thereto, while being
sufficiently flexible to move with the body of a wearer,
such as to accommodate bending and twisting of the torso
of the body. For this purpose, at least layer 42 is of
a strong material which does not stretch significantly
25 under anticipated loads exerted thereagainst. Other
exemplary materials that can be used providing the
desired properties can include, but are not limited to,
a woven or knitted nylon fabric; woven or knitted loop
fabric; woven or knitted polyester fabric; woven or
30 knitted par-aramid synthetic fiber fabric, e.g., such as
commercially available under the trade name Kevlar;

woven or knitted ultra-high-molecular-weight polyethylene, e.g., such as commercially available under the trade names Dyneema and Spectra; and non-woven para-aramid nylon, a non-woven polyethylene, or other non-woven composition fabric. The lamination can be accomplished in any suitable manner, such as, but not limited to, using a laminating adhesive such as a curable polyurethane applied from water or hot melt. As another alternative, platform 34 can comprise a single composite fabric having a smooth face for the front surface, and a loop pile or hook component of a hook and loop fastening system for the back surface.

[0045] The slits 36 can be formed in any manner suitable for the anticipated application, as a non-limiting example, by knife or die cutting, using a button hole machine, or more preferably, by laser cutting. In regard to laser cutting, an advantage achieved is that the edges 38 and 40 (FIG. 7) of the laminated layers bounding and defining the slits 36 can be fused together, to increase stiffness and reduce sagging, reduce or eliminate fraying, and increase wear and abrasion resistance at that location, while still being sufficiently pliable or bendable to facilitate opening and insertion of a strap, or a tab of the invention to be discussed, therethrough. As an additional advantage, edges 38 and 40 can be cut so as to be very closely or intimately spaced, to serve as a barrier to entry or passage of particulate contaminants such as dust and dirt through the slits, to reduce accumulation of the contaminants in an area behind the platform. And, the edges 38 and 40 can be constructed

so as to at least generally conform or bias itself about a strap or tab inserted therethrough, so as to maintain the barrier against penetration of particulates when in use.

5 **[0046]** Additional advantages of the attachment system of the invention include a need for less material, and thus less weight, a reduced side profile, ability to provide a smoother face on the profile of platform 34, and the illustrated ability to use prior art holders
10 such as MOLLE style pouches.

[0047] Referring more particularly to FIGS. 8 and 13, platform 34 of the attachment system 32 comprises a back side 48 having a first component of a suitable fastening system thereon, such as, but not limited to, a loop pile
15 fabric 48 of a hook and loop fastening system such as available under the trademark Velcro. This can be provided as layer 44 in a layered or laminated, fused, glued, or composite construction with a suitable face fabric layer 42, for example, but not limited to, a 500
20 denier nylon, on a front side 50 of platform 34.

Additionally, one or more intermediate layers can be provided, such as a non-woven layer of a non-stretchable material to provide added strength and shape retention, if desired.

25 **[0048]** As another aspect of the invention, the system 32 of the invention can include holders 52, in the form of pouches, appliances and the like, which are also of a light weight construction, to further reduce the weight of the attachment system compared to known MOLLE
30 systems. This will preferably include another component of the fastening system used, here, one or more tabs 54

having hooks 56 of a hook and loop fastening system, releasably attachable to the loop pile fabric 48 on the back side 46 of platform 34. The tabs 54 are configured to be inserted through the slits 36 of the platform and
5 can have any of a variety of shapes, such as, but not limited to, an elongate strap shape (FIGS. 3, 5, 6, 7, 8), or a V shape (FIGS. 12, 13).

[0049] In use, the tabs 54 are inserted into selected slits 36, and the hooks 56 thereof attached to loop pile
10 fabric 48 on the back side 46 of the platform. For strength, when inserted through slits 36, the tabs 54 are bent over for attachment to the back side 46, so that the hook and loop fasteners are loaded in shear, and are not subject to direct pulling away from the back
15 side of the platform. The V shape tabs provide increased holding strength with a shorter overall length and can be folded or bent for insertion through the slits. Tabs 56 can be located at the top, bottom, middle, and/or sides of a holder 52 such as the pouch,
20 appliance or other article to be attached to the platform. As examples, FIG. 3 illustrates tabs 56 on just the top of a holder 52; FIG. 5 illustrates tabs at the top and bottom; and FIGS. 6 and 7 illustrate tabs attached to the top, middle and bottom of a pouch.

[0050] FIG. 8 shows the back side 46 of a
25 representative platform 34 of the invention, with top, bottom and middle tabs 54 of a pouch (FIGS. 6 and 7) through respective slits 36 therethrough and attached pile fabric 48. In FIG. 13, V shape tabs have two hook
30 surfaces extending in different direction and attached to the loop fabric.

[0051] As another advantage of the attachment system of the invention, the tightness of attachment of a holder or holders 52 to platform 34 is a function of the location of attachment of tabs 54 to back side 46. As
5 illustrated in FIG. 10, tabs 54 can be attached to the back side of the platform tightly with little slack, in a manner so as to limit or prevent relative movements of the holder relative to the platform, which may be desirable for some applications, e.g., wherein low noise
10 is desired or required. In FIG. 11, tabs 54 are illustrated attached to the back side of the platform more loosely with greater slack, to allow movement of the holder on the front side, which may increase comfort and freedom of movement for the user.

15 [0052] Referring also to FIG. 14, in use on a carrier 58 to be worn on a part of a persons body, which carrier can comprise, but is not limited to, a vest, cummerbund, backpack, shirt, pants, belt, etc., platform 34 is preferably attached, connected, or incorporated into the
20 carrier in a manner such that the platform 34, holder or holders 52, and items carried in the holders, e.g., ammunition magazines, batteries, radios, medical supplies, tools, etc., are supported in the desired manner on the wearing person's body. This can be
25 accomplished by attaching, e.g., fastening or sewing, one or several peripheral edges of platform 34 to carrier 58 such that platform 34 overlays or covers all or a portion of an outer surface 60 of the carrier. As a result, back side 46 of platform 34 faces and covers
30 all or a portion of surface 60, forming and enclosing a cavity or pocket 62 therebetween. Platform 34 has a

peripheral edge 64 thereabout that overlays a peripheral edge 66 of outer surface 60, and which is attached to surface about the periphery of the platform, but at least one open edge portion or openable closure 68

5 (FIGS. 7 and 9) is preferably provided to allow a person to insert at least the fingers of a hand 70 through the closure when open, as denoted by arrow A and into pocket 62 for accessing tabs 54 or straps inserted through slits 36, for attaching and detaching the hook and loop fasteners. Closure 68 can comprise for example, but is not limited to, a hook component of a hook and loop fastening system attachable to the loop pile fabric of back side 46, snaps, a zipper, overlapping flaps, tied or laced strings or cords, a draw cord, or the like.

10 The opening or openable closure 68 can be located along any suitable edge of the platform as denoted by arrow A in various of the FIGS., which provides sufficient attachment strength for supporting desired holders and carried items, while serving also as a barrier to entry of particulates into pocket 62. Location of the components of the attachment system 32 within pocket 62 also provides a cover for muffling or silencing sounds generated when detaching the tabs. And, the attachment in this manner is advantageous as it can be performed easily by feel.

25 **[0053]** As noted above, an advantage of the system of the invention is backward compatibility with existing MOLLE and similar systems to enable use of MOLLE style holders 28 having long straps 26, and also holders 52 of the present system having longer tabs 54 with hooks 56 at the ends such as shown in FIG. 3. This is

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illustrated in FIGS. 15, 16 and 17, where straps 26 or long tabs 54 are woven through slits 36 through platform 34 and interlocked with straps (if provided) on the back of holder 28. If tabs 54 are used, the hooks 56 on the ends are then attached to the pile fabric 48 on the back side 46 of the platform.

[0054] Referring also to FIG. 18, as another variant, a holder 52 having longer tabs 54 with a semi-rigid tuck tab 72 on the end can be woven through slits 36 through platform 34 of system 32, and the tuck tab tucked between the back side of the holder and the front side of the platform, or into an aperture in the back of the holder or a slit for supporting the holder on the front side of the platform. In this regard, it should be noted and understood that as an option, any holder for use with the system can include slits through the back side thereof for weaving of straps or the longer tabs therethrough for attachment as an alternative to using multiple tabs at spaced locations along the length of the holder. Further in this regard, it is contemplated that the tuck tabs 72 will have a length appropriate for self-retention between the holder and platform, or receipt in an aperture or slit on the back of the holder or on the platform. As a representative example, a tuck tab 72 can have a length equal to at least about the vertical distance between two or three slits 36, or 1 to 2 inches.

[0055] Referring also to FIG. 19, as another embodiment of the system 32 of the invention, particularly having utility for attachment of longer MOLLE style holders 28 such as magazine pouches to

shorter platforms 34, such as can be incorporated into or used as a belt 74, platform 34, e.g., in the form of a belt 74 includes the first component of the hook and loop fastening system, e.g., loop pile fabric 48, on its back side, and the second component, e.g., loops 56, is provided on a separate backing element 76 including slits 36 at upper and lower ends thereof, for instance, extending through flat rings 78 attached, e.g., by sewing. Backing element 76 can be of suitable material such as a non-stretchable fabric, plastics, or metal, and rings 78 can be fabric, plastics, or metal also. In use, backing element 76 will be attached to the back side of platform 34 via the hook and loop fasteners, and strap 26 inserted through slits 36 of rings 78, so as to pass between the back side of the holder 28 and front side of platform 34. A snap or other component of a fastener 80 on the end of the strap can then be fastened to its associated component on the holder 28 to secure the holder to the platform. Here, it should be noted that the size of slits 36 will be advantageously provided to be just marginally larger or smaller in thickness compared to the strap 26 so that frictional forces exist therebetween, such that holder 28 will be held in a fixed position on the platform (belt).

25 **[0056]** Here, it can be observed that relatively long pouches can be provided with shorter tabs of the invention, for easy attachment and removal, without requiring complex weaving of long straps through loops on both the platform and the pouch itself. The tabs are merely inserted through the selected slots, folded or bent over from the side or another direction, and

attached to the back side of the platform, which is made
easy due to the relatively short length of tabs that can
be used with good holding strength. The system of the
invention also requires less material, is of less
5 weight, and has a reduced profile when viewed from the
side. This allows the face of the platform to be
smoother.

[0057] In light of all the foregoing, it should thus
be apparent to those skilled in the art that there has
10 been shown and described a novel modular pouch
attachment system for carriers such as vests, belts, and
the like. However, it should also be apparent that,
within the principles and scope of the invention, many
changes are possible and contemplated, including in the
15 details, materials, and arrangements of parts which have
been described and illustrated to explain the nature of
the invention. Thus, while the foregoing description
and discussion addresses certain preferred embodiments
or elements of the invention, it should further be
20 understood that concepts of the invention, as based upon
the foregoing description and discussion, may be readily
incorporated into or employed in other embodiments and
constructions without departing from the scope of the
invention. Accordingly, the following claims are
25 intended to protect the invention broadly as well as in
the specific form shown, and all changes, modifications,
variations, and other uses and applications which do not
depart from the spirit and scope of the invention are
deemed to be covered by the invention, which is limited
30 only by the claims which follow.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

**Title of
Invention**

Light Weight Modular Pouch Attachment System And Method

As the below named inventor, I hereby declare that:

This declaration
is directed to:



The attached application, or



United States application or PCT international application number _____

filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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LEGAL NAME OF INVENTOR

Inventor: Michael E. Cole

Date (Optional):

2/9/17

Signature:



Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

**Title of
Invention**

Light Weight Modular Pouch Attachment System And Method

As the below named inventor, I hereby declare that:

This declaration
is directed to:



The attached application, or



United States application or PCT international application number _____
filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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LEGAL NAME OF INVENTOR

Inventor: Scott J. Carver

Date (Optional) : _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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