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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/231,717	11/22/2022	11504556	TETH115	1069

44088 7590 11/02/2022

KAUFHOLD DIX PATENT LAW
P. O. BOX 89626
SIOUX FALLS, SD 57109

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 Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

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

Walter Ernest Power II, Carver, MN;
Gregory Alan Godfrey, Richmond Hill, GA;
Carl Eugene Kossuth III, Rolla, MO;

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

Tethrd LLC, Carver, MN;

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. Ex. 1004

Notice of References Cited

Application/Control No.
17/231,717

Applicant(s)/Patent Under
Reexamination
Power et al.

Examiner
CANDACE L BRADFORD

Art Unit
3634

Page 1 of 2

Change(s) applied

to document,

U.S. PATENT DOCUMENTS

		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
8/17/2020	A2	US-20150297937-A1	10-2015	BURKINSHAW; COLIN M	A63B23/1218	482/139
*	B	US-6712181-B2	03-2004	Nichols; Steve	A62B1/16	182/5
*	C	US-0330087-A	11-1885	n/a Binns	F16G3/00	57/201
*	D	US-2600395-A	06-1952	JOSEPH DOMOJ JOHN	D07B1/185	124/90
*	E	US-5699657-A	12-1997	Paulson; William Thomas	D07B1/185	57/22
*	F	US-9162091-B2	10-2015	Kuhnert; Bradley A.	A62B35/0068	1/1
*	G	US-7814938-B2	10-2010	Davis, Jr.; Willie M.	A62B1/16	174/115
*	H	US-20210101032-A1	04-2021	Power, II; Walter Ernest	A62B35/0012	1/1
*	I	US-5970697-A	10-1999	Jacobs; William J. B.	F16L3/137	57/22
*	J	US-5062344-A	11-1991	Gerker; Thomas F.	D07B1/185	87/8
*	K	US-20070102240-A1	05-2007	Wilson; Jonathan L.	A62B1/16	182/5
*	L	US-2303954-A	12-1942	ROKE ALBERT I	E04G21/3276	248/228.7
*	M	US-20100213004-A1	08-2010	Petty; Clifford D.	A62B35/0068	182/5

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P	GB-1420783-A	01-1976	GB	n/a	A62B35/0037
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

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

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Page 1 of 2

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to document,**U.S. PATENT DOCUMENTS**

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8/1/2022	*	A	US-5062344-A	11-1991	Gerker; Thomas F.	D04C1/12	87/8
	*	B	US-20150297937-A1	10-2015	BURKINSHAW; COLIN M	A63B23/12	482/124
	*	C	US-6712181-B2	03-2004	Nichols; Steve	A62B1/16	182/192
	*	D	US-0330087-A	11-1885	n/a Binns	A61B17/0401	474/253
	*	E	US-2600395-A	06-1952	JOSEPH DOMOJ JOHN	D07B1/185	87/13
	*	F	US-5699657-A	12-1997	Paulson; William Thomas	B65H69/06	28/142
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	N	GB-1420783-A	01-1976	GB	n/a	A62B35/0075
	O	DE-455971-C	02-1928	DE	n/a	A62B35/0075
	P	FR-1602226-A	10-1970	FR	n/a	D07B1/162
	Q					
	R					
	S					
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*	A	US-3738449-A	06-1973	Arancio; James A.	A62B35/0037	182/7
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*	L	US-5699657-A	12-1997	Paulson; William Thomas	B65H69/06	28/142
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	R					
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NOTICE OF ALLOWANCE AND FEE(S) DUE

44088 7590 07/26/2022
KAUFHOLD DIX PATENT LAW
P. O. BOX 89626
SIOUX FALLS, SD 57109

EXAMINER

BRADFORD, CANDACE L

ART UNIT

PAPER NUMBER

3634

DATE MAILED: 07/26/2022

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/231,717	04/15/2021	Walter Ernest Power II	TETH115	1069

TITLE OF INVENTION: Bridge Rope Assembly

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	10/26/2022

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. 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), by mail or fax, or via EFS-Web.

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Commissioner for Patents
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Alexandria, Virginia 22313-1450

By fax, send to: (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):

44088 7590 07/26/2022
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P. O. BOX 89626
SIOUX FALLS, SD 57109

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.

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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

Sam W. Wernick (Typed or printed name)
[Signature] (Signature)
10/17/22 (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/231,717	04/15/2021	Walter Ernest Power II	TETH115	1069

TITLE OF INVENTION: Bridge Rope Assembly

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	10/26/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
BRADFORD, CANDACE L.	3634	248-205100

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/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or 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. _____
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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). 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. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

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

☒ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

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

Date

Typed or printed name

Registration No.

Electronic Patent Application Fee Transmittal

Application Number:	17231717			
Filing Date:	15-Apr-2021			
Title of Invention:	Bridge Rope Assembly			
First Named Inventor/Applicant Name:	Walter Ernest Power			
Filer:	Brendan Bennett Dix/Jason Wormstadt			
Attorney Docket Number:	TETH115			
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	600	600 Ex. 1004

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				600

Electronic Acknowledgement Receipt

EFS ID:	46833993
Application Number:	17231717
International Application Number:	
Confirmation Number:	1069
Title of Invention:	Bridge Rope Assembly
First Named Inventor/Applicant Name:	Walter Ernest Power
Customer Number:	44088
Filer:	Brendan Bennett Dix/Jason Wormstadt
Filer Authorized By:	Brendan Bennett Dix
Attorney Docket Number:	TETH115
Receipt Date:	17-OCT-2022
Filing Date:	15-APR-2021
Time Stamp:	17:08:41
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$600
RAM confirmation Number	E20220GH10141426
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)	TETH115ptol85.pdf	549499	no	2
			48f6d7fad257dc56c2c4dec6a430b6b484aef931		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	37600	no	2
			2e96126f76c0fdec9e0f31ac1ae156ec9327fe5c		
Warnings:					
Information:					
Total Files Size (in bytes):			587099		
<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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(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/231,717	04/15/2021	Walter Ernest Power II	TETH115	1069

TITLE OF INVENTION: Bridge Rope Assembly

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	10/26/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
BRADFORD, CANDACE L	3634	248-205100

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/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or 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 _____
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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). 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. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

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

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

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 _____

Date _____

Typed or printed name _____

Registration No. _____ Ex 1004



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.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/231,717	04/15/2021	Walter Ernest Power II	TETH115	1069
EXAMINER				
BRADFORD, CANDACE L				
ART UNIT			PAPER NUMBER	
3634				
DATE MAILED: 07/26/2022				

44088 7590 07/26/2022
KAUFHOLD DIX PATENT LAW
P. O. BOX 89626
SIOUX FALLS, SD 57109

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 30 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. 17/231,717	Applicant(s) Power et al.	
	Examiner DANIEL P CAHN	Art Unit 3634	AIA (FITF) Status Yes

-- 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 04/11/2022.
☐ 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 14. 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. ☐ Notice of References Cited (PTO-892) 2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____. 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____. 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.	5. ☒ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____.
--	---

/DANIEL P CAHN/
Supervisory Patent Examiner, Art Unit 3634

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In line 21 of page 3, within claim 14, the phrase "a pair ends" is deleted and replaced with --a pair of ends--.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: although each and every element may be known in the prior art, the examiner finds that hindsight would be required to construct the specific final apparatus as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL P CAHN whose telephone number is (571)270-5616. The examiner can normally be reached M-F 10-8.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KATHERINE MITCHELL can be reached on 5712727069. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: <https://patentcenter.uspto.gov>. Visit <https://www.uspto.gov/patents/apply/patent-center> for more information about Patent Center and <https://www.uspto.gov/patents/docx> for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Art Unit: 3634

Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or
571-272-1000.

/DANIEL P CAHN/

Supervisory Patent Examiner, Art Unit 3634

Issue Classification 	Application/Control No. 17/231,717	Applicant(s)/Patent Under Reexamination Power et al.
	Examiner DANIEL P CAHN	Art Unit 3634

CPC						
Symbol					Type	Version
A62B	/	35	/	0075	F	2013-01-01
A62B	/	35	/	0037	I	2013-01-01

CPC Combination Sets						
Symbol				Type	Set	Ranking
	/		/			

/CANDACE L BRADFORD/ Examiner, Art Unit 3634 (Assistant Examiner)	(Date)	Total Claims Allowed: 1	
/DANIEL P CAHN/ Supervisory Patent Examiner, Art Unit 3634 (Primary Examiner)	15 July 2022 (Date)	O.G. Print Claim(s) 14	O.G. Print Figure 3

Issue Classification 	Application/Control No. 17/231,717	Applicant(s)/Patent Under Reexamination Power et al.
	Examiner DANIEL P CAHN	Art Unit 3634

INTERNATIONAL CLASSIFICATION			
CLAIMED			
A62B	/	35	/ 00
NON-CLAIMED			
	/		/

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

/CANDACE L BRADFORD/ Examiner, Art Unit 3634 (Assistant Examiner)		Total Claims Allowed: 1	
/DANIEL P CAHN/ Supervisory Patent Examiner, Art Unit 3634 (Primary Examiner)		15 July 2022 (Date)	O.G. Print Claim(s) 14
			O.G. Print Figure 3

Issue Classification 	Application/Control No. 17/231,717	Applicant(s)/Patent Under Reexamination Power et al.
	Examiner DANIEL P CAHN	Art Unit 3634

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		10												
	2		11												
	3		12												
	4		13												
	5	1	14												
	6														
	7														
	8														
	9														

/CANDACE L BRADFORD/ Examiner, Art Unit 3634 (Assistant Examiner)	(Date)	Total Claims Allowed: 1	
/DANIEL P CAHN/ Supervisory Patent Examiner, Art Unit 3634 (Primary Examiner)	15 July 2022 (Date)	O.G. Print Claim(s) 14	O.G. Print Figure 3

Search Notes 	Application/Control No. 17/231,717	Applicant(s)/Patent Under Reexamination Power et al.
	Examiner DANIEL P CAHN	Art Unit 3634

CPC - Searched*		
Symbol	Date	Examiner
A62B35/0037, 0075	06/14/2021	CB
D07B1/185, 148, 162	02/15/2022	CB
D04C1/12	02/15/2022	CB

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
CB CPC search, text, inventor, b/f, PLUS search BRS attached	06/09/2021	CB
search updated	10/22/2021	CB
conf. w/ CC	10/27/2021	CB
reviewed previous search and prior art found	07/15/2022	dpc

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
same as	above	02/12/2022	CB

/CANDACE L BRADFORD/ Examiner, Art Unit 3634	/DANIEL P CAHN/ Supervisory Patent Examiner, Art Unit 3634
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RESPONSE UNDER 37 CFR 1.116
Expedited Procedure
Docket No. TETH115

5 IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of)
Walter Ernest Power II)
Serial No.: 17/231,717)
Filed: 04/15/2021)
10 For: Bridge Rope Assembly)
Examiner: Bradford, Candace L.)
Group Art Unit: 3634)
Attorney: Brendan B. Dix)

15 Mail Stop AF
Honorable Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

20 I CERTIFY THAT THIS PAPER (ALONG WITH ANY REFERENCED TO AS BEING
ATTACHED OF ENCLOSED) IS BEING TRANSMITTED TO THE COMMISSIONER FOR
PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 ON April 11, 2022, VIA THE
USPTO-EFS-WEB FILING SYSTEM. By: /brendanbdix/

25 FEE CALCULATION: No Additional Fees Due. Upon entry of the below amendment,
the total number of claims will be 20 or less, and the number of independent claims will
be 3 or less.

RESPONSE UNDER 1.116

30 **Expedited Procedure--Examining Group Art Unit 3634**

In response to the Final Action mailed February 24, 2022, and in order to place
this case in condition for immediate allowance or in better form for appeal, applicant
hereby requests the entry of the following amendment to the application:

35

Table of Contents

Amendments in the Claims: page 2

Amendments in the Specification: none

In the Abstract: none

40 Remarks: page 4

Conclusion: page 6

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	1	("20080000719").pn.	(US-PGPUB; USPAT)	OR	ON	ON	2022/02/12 03:46 PM
L2	1	("4962929").pn.	(USPAT)	OR	ON	ON	2022/02/12 03:46 PM
L3	69	prusik\$3 AND knot	(USPAT)	OR	ON	ON	2022/02/12 03:59 PM
L4	161	prusik\$3 AND knot	(US-PGPUB; USPAT)	OR	ON	ON	2022/02/12 03:59 PM
L5	122	("330087" "1924596" "2600395" "3884190" "4099750" "4252084").pn. OR ("4962929").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/02/12 04:13 PM
L6	30	("20080000719" "20080179136" "2303954" "3738449" "6712181" "20090255756" "8584799" "0330087" "4036101" "8356691" "5699657" "4962929" "7182361" "8061479" "5062344" "4036101" "20070102240" "2303954" "5970697" "10258814" "8292028" "10604892" "4099750" "9320925" "20100213004" "2600395" "5050704" "9162091" "20210101032" "0330087" "5062344" "9162091" "9808659" "20070102240" "20150297937" "5970697" "7814938" "10604892" "20150297937" "5699657").P N.	(US-PGPUB; USPAT)	OR	ON	ON	2022/07/15 08:07 PM
L7	4	("2007/0102240").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/07/15 08:08 PM
L8	259	("2549382" "2600395" "4036101" "4099750" "4974488" "5062344").pn. OR ("5699657").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/07/15 08:09 PM

PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.

Bibliographic Data

Application No: 17/231,717

Foreign Priority claimed: ☐ Yes ☒ No

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

Verified and Acknowledged: /CANDACE L BRADFORD/

/CB/

Examiner's Signature

Initials

Title: Bridge Rope Assembly

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
04/15/2021	248	3634	TETH115
RULE			

APPLICANTS

Tethrd LLC, Carver, MN,

INVENTORS

Walter Ernest Power II, Carver, MN, UNITED STATES

Gregory Alan Godfrey, Richmond Hill, GA, UNITED STATES

Carl Eugene Kossuth III, Rolla, MO, UNITED STATES

CONTINUING DATA

This application is a CON of 17022844 09/16/2020ABN

This application is a CON of 16736345 01/07/2020ABN

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

04/21/2021

**** SMALL ENTITY ****

STATE OR COUNTRY

UNITED STATES

ADDRESS

KAUFHOLD DIX PATENT LAW

P. O. BOX 89626

SIOUX FALLS, SD 57109

UNITED STATES

FILING FEE RECEIVED

\$3,000

Electronic Acknowledgement Receipt

EFS ID:	45445317
Application Number:	17231717
International Application Number:	
Confirmation Number:	1069
Title of Invention:	Bridge Rope Assembly
First Named Inventor/Applicant Name:	Walter Ernest Power
Customer Number:	44088
Filer:	Brendan Bennett Dix
Filer Authorized By:	
Attorney Docket Number:	TETH115
Receipt Date:	11-APR-2022
Filing Date:	15-APR-2021
Time Stamp:	16:22:23
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Response After Final Action	TETH115FinalOA.pdf	33067	no	6
			e87c53a40e2e09880b6399ab3230b4081e8f6d33		

Ex. 1004

Warnings:

Information:	
Total Files Size (in bytes):	33067
<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>	

RESPONSE UNDER 37 CFR 1.116
Expedited Procedure
Docket No. TETH115

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Group Art Unit: 3634)
Attorney: Brendan B. Dix)

15 Mail Stop AF
Honorable Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

20 I CERTIFY THAT THIS PAPER (ALONG WITH ANY REFERENCED TO AS BEING
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PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 ON April 11, 2022, VIA THE
USPTO-EFS-WEB FILING SYSTEM. By: /brendanbdix/

25 FEE CALCULATION: No Additional Fees Due. Upon entry of the below amendment,
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Amendments in the Specification: none

In the Abstract: none

40 Remarks: page 4

Conclusion: page 6

Amendments in the Claims: (struck-through parts deleted and underlined parts added)

1. (canceled)

5 2. (canceled)

3. (canceled)

4. (canceled)

10

5. (canceled)

6. (canceled)

15 7. (canceled)

8. (canceled)

9. (canceled)

20

10. (canceled)

11. (canceled)

25 12. (canceled)

13. (canceled)

30 14. (currently amended) A bridge rope assembly configured to couple together a tree rope to a first bridge loop and a second bridge loop on a harness, the bridge rope assembly including:

5 a main body comprising a rope having a first end and a second end, the main body
having a splice therein to form an eye loop in the main body, the eye loop
being configured to engage the first bridge loop, the main body
comprising a first portion including the first end and a second portion
10 including the second end, the first portion extending through the second
portion of the main body such that the first end is positioned within the
second portion adjacent to the second end, a distance between the first and
second ends being less than 2.0 inches, the rope having a length from the
first end to the second end between 72.0 inches and 126.0 inches, a
15 distance of the eye loop to the second end being between 24.0 inches and
40.0 inches;

a securing member being positioned on the main body at a juncture of the first
and second ends to retain the first and second ends at a static position
relative to each other;

15 the main body including a stop knot in the second portion adjacent to the second
end;

a friction hitch being positioned on the main body between the stop knot and the
eye loop, the friction hitch being configured to engage the second bridge
loop, the friction hitch comprising a closed loop, the closed loop
20 comprising a single rope being formed into the closed loop with a splice,
the splice having a pair ends, each end of the pair of ends being buried into
the closed loop a distance of at least 40% of a total circumference of the
closed loop, the single rope of the closed loop having a length between
40.0 inches and 60.0 inches, the closed loop having a total circumference
25 of between 20.0 inches and 30.0 inches;

the main body and the friction hitch each being comprised of UHMWPE.

REMARKS

Section 1 of the Office Action

Claim 14 is objected to because of informalities.

- 5 Claim 14 has been amended to clarify the limitations relating to the pair of ends.
Claim 14 has been amended to reference one total circumference in the claim.
Withdrawal of the rejection/objection is respectfully requested by the applicant.

Section 2 of the Office Action

- 10 Claims 1 through 5 and 7 through 13 are rejected under 35 USC 112(b) or 35
USC 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point
out and distinctly claim the subject matter which the inventor or a joint inventor regards
as the invention.

Claims 1 through 5 and 7 through 13 have been canceled.

- 15 Withdrawal of the rejection/objection is respectfully requested by the applicant.

Section 3 of the Office Action

Claims 1 through 3, 7 through 9, 12, and 13 are rejected under 35 USC 103 as
being unpatentable over Jones (20080000719) in view of Melton, Jr. (4962929).

- 20 Claims 1 through 3, 7 through 9, 12, and 13 have been canceled.

Withdrawal of the rejection/objection is respectfully requested by the applicant.

Section 4 of the Office Action

- 25 Claims 4 and 5 are rejected under 35 USC 103 as being unpatentable over Jones
(20080000719) in view of Melton, Jr. (4962929), in view of Swierski et al.
(20070114095).

Claims 4 and 5 have been canceled.

Withdrawal of the rejection/objection is respectfully requested by the applicant.

Section 5 of the Office Action

Claims 10 and 11 are rejected under 35 USC 103 as being unpatentable over Jones (20080000719) in view of Melton, Jr. (4962929), in view of Burkinshaw (20150297937).

5 Claims 10 and 11 have been canceled.

Withdrawal of the rejection/objection is respectfully requested by the applicant.

Section 6 of the Office Action

Claim 14 is allowed, with the claim objections above being corrected.

10 Claim 14 has been amended and is believed to be in condition for allowance.

Withdrawal of the rejection/objection is respectfully requested by the applicant.

CONCLUSION

In light of the foregoing amendments and remarks, early consideration and allowance of this application are most courteously solicited.

5

Respectfully submitted,

/brendanbdix/

Date: 04/11/22

10 Brendan B. Dix (Reg. No. 37,313)
P.O. Box 89626
Sioux Falls, SD 57109
(605) 334-1571 FAX (605) 334-1574

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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 17/231,717		Filing Date 04/15/2021		☐ To be Mailed			
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO											
APPLICATION AS FILED - PART I											
		(Column 1)		(Column 2)							
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A					
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A		N/A		N/A					
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A					
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 = *				x \$50 =					
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 = *				x \$240 =					
☐ 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))											
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL					
APPLICATION AS AMENDED - PART II											
		(Column 1)		(Column 2)		(Column 3)					
AMENDMENT	04/11/2022	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 1	Minus	** 20	= 0			x \$50 =		0	
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 3	= 0			x \$240 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))										
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
								TOTAL ADD'L FEE		0	
		(Column 1)		(Column 2)		(Column 3)					
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=			x \$0 =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=			x \$0 =			
	☐ Application Size Fee (37 CFR 1.16(s))										
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
								TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.								LIE			
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".								/TARA A WASHINGTON/			
*** 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 number found in the appropriate box in column 1.											

This collection of information is required by 37 CFR 1.16. 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, 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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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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17/231,717

04/15/2021

Walter Ernest Power II

TETH115

1069

44088 7590 02/24/2022
KAUFHOLD DIX PATENT LAW
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EXAMINER

BRADFORD, CANDACE L

ART UNIT	PAPER NUMBER
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3634

NOTIFICATION DATE	DELIVERY MODE
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02/24/2022

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jason@kaufholdlaw.com

Office Action Summary

Application No.

17/231,717

Applicant(s)

Power, Walter Ernest

Examiner

CANDACE L BRADFORD

Art Unit

3634

AIA (FITF) Status

Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/4/22.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ 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.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-5 and 7-14 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-5 and 7-13 is/are rejected.
- 8) ☒ Claim(s) 14 is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, 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.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ 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)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date ____.
- 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 4) ☐ Other: ____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claim Objections

Claim 14 is objected to because of the following informalities:

Regarding claim 14, line 24, the applicant recites "a pair ends" this reads awkwardly, it appears it be a grammatical error. Appropriate correction is required.

Regarding claim 14, lines 26 and 27, the applicant recites "the closed loop having a total circumference", is this the same total circumference recited in line 25? Appropriate clarification is required.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 and 7-13 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention.

Claim 1 recites the limitation "the stop knot" in line 12. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 5, line 2, the applicant recites “a stop knot” it is unclear to the examiner if the applicant is referring to the stop knot of claim 1 or an additional stop knot. Appropriate clarification is required.

Dependent claims not directly named are rejected for being dependent on a rejected claim.

Claim Rejections - 35 USC § 103

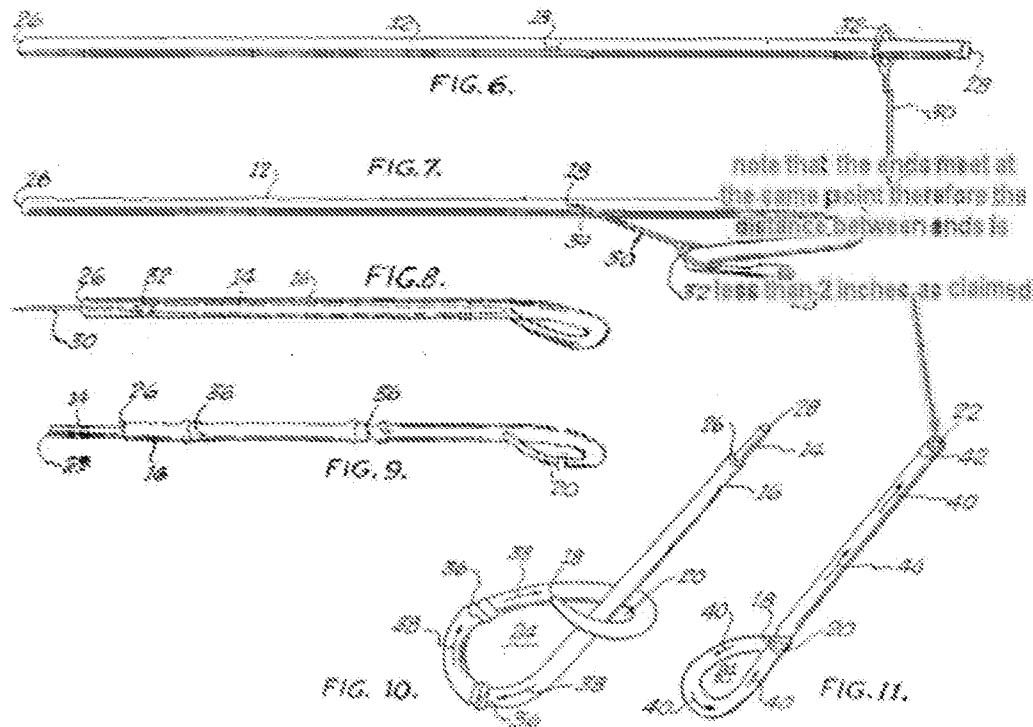
The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 7-9, 12 and 13 are rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Melton Jr. (4962929). Jones discloses a main body 10, as best seen in Figure 1, comprising a rope 12, having a first end and a second end, the main body forming an eye loop 16, in the main body, the eye loop being configured to engage the first bridge loop, a friction hitch 28, being positioned on the main body between the stop knot 20, and the eye loop, as best seen in Figure 1, the friction hitch being configured to engage the second bridge loop, the friction hitch comprising a closed loop (via the knot of the friction hitch as seen in fig. 1), the closed loop comprising a single rope being formed into the closed loop, but fails to disclose the main body having a splice therein, the first portion extending through the

second portion of the main body and wherein a distance between the first and second ends being less than 2.0 inches.

Melton teaches the utility of a rope having a splice therein to form eye loop 24, as best seen in Figures 6-11,



the rope comprising a first portion 14, including the first end 28, and a second portion 16, including the second end 26, the first portion 14, extending through the second portion 16, of the rope such that the first end is positioned within the second portion adjacent to the second end, a distance between the first and second ends being less than 2.0 inches, as best seen in Figure 11 (note that the ends of 14 and 16 are at the same point therefore less than 2 inches).

The use of a spliced rope is used in the art to enhance the sturdiness, comfortability and aesthetics of the equipment component by providing a desired color

and layering to improve the durability and appearance of the apparatus. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to replace the main body of Jones with a rope having a splice as taught by Melton Jr. so as to enhance the sturdiness and aesthetics of the equipment component by providing a desired color to improve the strength and appearance of the apparatus.

Regarding claim 2 Jones discloses wherein the rope has a length from the first end to the second end between 72.0 inches and 126.0 inches, as recited in paragraph [0018].

Regarding claims 3 and 12 Jones doesn't explicitly state that a distance of the eye loop to the second end is between 24.0 inches and 40.0 inches, however, Jones does explain in paragraph [0018] that "those skilled in the art will understand that the length of the strap can be longer or shorter and the width can be wider or narrower and still be within the scope of the present invention" and in combination with the fact that eye 16 can be slid to any distance along the strap/rope 12 included but not limited to 24-40 inches from the second end, it would have been obvious to one of ordinary skill in the art at the time of the effective filing date of the claimed invention to have provided the claimed length as between 24-40 inches in order to provide a specific desired length for many reasons such as but not limited to a particular intended use with a particular size user or object or the like.

Regarding claim 7 Jones in view Melton as advanced above is silent towards the length of the rope. The examiner takes OFFICIAL NOTICE that it would have been obvious to one of ordinary skill in the art to have the single rope of the closed loop

having a length between 40.0 inches and 60.0 inches to provide an adequate amount of rope allow for proper attachment to the harness. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have the closed loop of Jones in view of Melton with a length between 40.0 inches and 60.0 inches so as to provide an adequate amount of rope to allow for proper attachment to the harness.

Regarding claim 8 Jones discloses wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches, as recited in paragraph [0019].

Regarding claim 9 Jones discloses wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches, as recited in paragraph [0019].

Regarding claim 13 Jones discloses wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches, as recited in paragraph [0019].

Claims 4 and 5 are rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Melton Jr. (4962929) in view of Swierski et al. (20070114095). Jones in view of Melton Jr. fails to disclose a securing member. Swierski et al. teaches the utility of a securing member 20, being positioned on the main body 10, at a juncture of the first and second ends to retain the first and second ends at a static position relative to each other, as best seen in Figure 2.

The use of securing member is used in the art to prevent movement of the rope. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to provide the end of the main body of Jones in view of Melton Jr. with a securing member as taught by Swierski et al. so as to prevent movement of the rope/wire.

Regarding claim 5 Jones discloses wherein the main body includes a stop knot 20, in the second portion adjacent to the second end.

Claims 10 and 11 are rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Melton Jr. (4962929) in view of Burkinshaw (20150297937). Jones in view of Melton Jr. as advanced above fails to disclose wherein the main body and the friction hitch each are comprised of UHMWPE. Burkinshaw teaches the utility of the apparatus comprised of UHMWPE, as recited in paragraph [0049]. The use of UHMWPE is used in the art due to its resistance to abrasion. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to make the apparatus of Jones in view of Melton Jr. of UHMWPE as taught by Burkinshaw due to its resistance to abrasion.

Regarding claim 11 Jones in view of Melton Jr. as advanced above fails to disclose wherein the main body is comprised of UHMWPE. Burkinshaw teaches the utility of the apparatus comprised of UHMWPE, as recited in paragraph [0049]. The use of UHMWPE is used in the art due to its resistance to abrasion. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to make the apparatus of Jones in view of Melton Jr. of UHMWPE as taught by Burkinshaw due to its resistance to abrasion.

Response to Arguments

Applicant's arguments filed 2/4/22 have been fully considered but they are not persuasive. The applicant's attention is drawn to page 5 of the remarks. The applicant notes that claim 1 has been amended to include language similar to that of claim 6 and further notes that Claim 1 and its dependent claims are believed to be in condition for

allowance. The examiner would like to note that the applicants amendment to claim 1 was not sufficient to place claims in condition for allowance. The examiner notes that the applicant amendment to claim 1 has necessitated the rejection as advanced above.

The After Final Consideration Pilot 2.0 (AFCP 2.0) has been extended through September 30th, 2022.

Allowable Subject Matter

Claim 14 is allowed, with a claim objection to be corrected.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CANDACE L BRADFORD whose telephone number is (571)272-8967. The examiner can normally be reached Monday-Friday 9-5.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Cahn can be reached on 571 270 5616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: <https://patentcenter.uspto.gov>. Visit <https://www.uspto.gov/patents/apply/patent-center> for more information about Patent Center and <https://www.uspto.gov/patents/docx> for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CANDACE L BRADFORD/
Examiner, Art Unit 3634

/DANIEL P CAHN/
Supervisory Patent Examiner, Art Unit 3634

<i>Notice of References Cited</i>	Application/Control No. 17/231,717		Applicant(s)/Patent Under Reexamination Power et al.	
	Examiner CANDACE L BRADFORD		Art Unit 3634	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20150297937-A1	10-2015	BURKINSHAW; COLIN M	A63B23/1218	482/139
*	B	US-6712181-B2	03-2004	Nichols; Steve	A62B1/16	182/5
*	C	US-0330087-A	11-1885	n/a	F16G3/00	57/201
*	D	US-2600395-A	06-1952	JOSEPH DOMOJ JOHN	D07B1/185	124/90
*	E	US-5699657-A	12-1997	Paulson; William Thomas	D07B1/185	57/22
*	F	US-9162091-B2	10-2015	Kuhnert; Bradley A.	A62B35/0068	1/1
*	G	US-7814938-B2	10-2010	Davis, Jr.; Willie M.	A62B1/16	174/115
*	H	US-20210101032-A1	04-2021	Power, II; Walter Ernest	A62B35/0012	1/1
*	I	US-5970697-A	10-1999	Jacobs; William J. B.	F16L3/137	57/22
*	J	US-5062344-A	11-1991	Gerker; Thomas F.	D07B1/185	87/8
*	K	US-20070102240-A1	05-2007	Wilson; Jonathan L.	A62B1/16	182/5
*	L	US-2303954-A	12-1942	ROKE ALBERT I	E04G21/3276	248/228.7
*	M	US-20100213004-A1	08-2010	Petty; Clifford D.	A62B35/0068	182/5

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P	GB-1420783-A	01-1976	GB	n/a	A62B35/0037
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	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.

<i>Notice of References Cited</i>	Application/Control No. 17/231,717		Applicant(s)/Patent Under Reexamination Power et al.	
	Examiner CANDACE L BRADFORD		Art Unit 3634	Page 2 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-5050704-A	09-1991	Olsson; Ronny	A62B35/0018	182/135
*	B	US-20080000719-A1	01-2008	JONES; Dennis K.	A62B35/0075	182/3
*	C	US-3738449-A	06-1973	Arancio; James A.	A62B35/0037	182/7
*	D	US-4036101-A	07-1977	Burnett; Ralph G.	F16G11/14	87/8
*	E	US-10604892-B1	03-2020	Caliri; John Stephen	D07B1/148	1/1
*	F	US-7182361-B2	02-2007	Lewoczko; Myron M.	B66F1/00	254/131
*	G	US-4962929-A	10-1990	Melton, Jr.; Eugene R.	A63B69/38	224/267
*	H	US-4099750-A	07-1978	McGrew; James D.	D07B1/185	114/221R
	I					
	J					
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Search Notes</i> 	Application/Control No. 17/231,717	Applicant(s)/Patent Under Reexamination Power et al.
	Examiner CANDACE L BRADFORD	Art Unit 3634

CPC - Searched*		
Symbol	Date	Examiner
A62B35/0037, 0075	06/14/2021	CB
D07B1/185,148,162	02/15/2022	CB
D04C1/12	02/15/2022	CB

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
CB CPC search, text, inventor, b/f, PLUS search BRS attached	06/09/2021	CB
search updated	10/22/2021	CB
conf. w/ CC	10/27/2021	CB

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
same as	above	02/12/2022	CB

/CANDACE L BRADFORD/ Examiner, Art Unit 3634	<div style="text-align: right;">Ex. 1004</div> <div style="text-align: right;">Crüzr v. Tethrd</div>
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F16G 11/00

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(54) IMPROVEMENTS IN OR RELATING TO A BODY HARNESS

(71) I, JAMES AGOSTINO ARANCIO, of 202-04 32nd Avenue, Bayside, New York 11361, a citizen of the United States of America, do hereby declare the invention, for which I pray that patent may be granted to me, and the method by which it is to be performed to be particularly described in any by the following statement:—

This invention relates to a body harness for use, for example, by firemen, or for rescue, escaping or searching operations. The harness may be used by a fireman to descend from one floor of a building, to the floor below if he, or other people, are trapped in a burning building. The firemen can descend while holding one person to bring him down.

Descent devices are known which comprise an anchored flexible line or rope operatively controlling a harness in descent.

According to the present invention there is provided a body harness comprising support means, which support means comprise a waist support means for engagement about a waist of a wearer and leg support means for engagement about the leg(s) of the wearer, the support means having a first end portion and a second end portion, means for detachably connecting the first and second end portions, which means for detachably connecting comprise a first connector member connected to the first or second end portion and engaging means on the other of the first or second end portion engagable by the first connector member, means for selectively adjusting the waist support means and the leg support means and a second connector member, the second connector member being a hook member being mounted directly or indirectly on the said other end portion and being movable relative to the engaging means and being adapted for slidable en-

[Price 33p]

gagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector member engages the engaging means.

Advantageously, there is provided a body harness comprising a flexible waist belt and a flexible leg belt, each belt having a first end portion and a second end portion, means for interconnecting the pair of first end portions of the belts, means for interconnecting the pair of second end portions of the belts, means for detachably connecting the interconnected pair of first end portions of the belts to the interconnected pair of second end portions of the belts at the front of a body of a wearer, which means for detachably connecting comprise a first connector member connected to one pair of interconnected end portions, the first connector member being a first connector hook member, and means on the other pair of interconnected end portions hookingly engageable by the first connector hook member, means for selectively adjusting the length of each belt and a second connector hook member, the second connector hook member being mounted directly or indirectly on the other interconnected pair of end portions and being movable relative to the hookingly engageable means and being adapted for slidable engagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector hook member hookingly engages the hookingly engageable means.

Advantageously, the means for interconnecting the first end portions comprises stitching attaching the first end portions to each other, and advantageously the means for interconnecting the second end

portions comprises a first buckle, a second buckle and means for interconnecting the first and second buckles such that, in use of the harness, one second end portion 5 adjustably passes around an element of the first buckle and the other second end portion passes around an element of the second buckle. Preferably, the means for detachably connecting the interconnected 10 first end portions to the interconnected second end portions comprises the first buckle and a third buckle, which third buckle has an element for engaging a loop at the stitched together first end portions, 15 the first or third buckle having the first connector member for engaging an element of the third or first buckle, respectively. The first connector member is preferably a hook member and advantageously a snap 20 lock hook.

Preferably, there is provided a harness and a coat openable at the front and having front free edges, means being provided for detachably attaching the harness to the 25 inside of the back of the coat and to the inside of the coat adjacent the free edges thereof. Advantageously, the means for detachably attaching the harness to the coat comprises a plurality of loop members connected to the harness and means for 30 quickly detachably attaching the loop members to the coat, one of the loop members preferably, comprising a loop which loop is slidable on an intermediate 35 portion of the waist belt.

The invention enables the provision of a body harness, in use of which no knots are required in a suspension line. The line is for example, secured to a substantial object, 40 or the line is looped around an anchoring object. The line is then wrapped several times around a hook on the harness that a fireman or rescuer is wearing, so that the wearer can descend while his 45 weight is supported by the anchored line. The wearer pulls the free end of the line to stop and feeds the line upwardly in short increments, to allow descent. The wearer can move around and work while the harness is not being used for descent purposes. 50

The invention enables the provision of a harness which is detachably attached inside a fireman's coat, and comprises a dangling 55 hook which can readily be moved to the outside of the coat so that a line or rope can be readily wrapped therearound for descent purposes. The harness can be used with or without the coat. The coat is a 60 holder for the harness to keep it ready for use but yet keeps the harness concealed. The weight of the harness may be quite small. When using the harness for descent, the weight of the body of the wearer is on 65 the harness, and not on the coat. The line or

rope can be folded compactly into a plastics film bag which can be conveniently kept in a pocket of the coat. When it is desired to use the rope, the package is 70 taken out of the pocket, the plastics bag ripped open, and the rope taken out for use.

The harness may comprise an adjustable waist belt or strap, and an adjustable leg 75 belt or strap for encircling the legs of the wearer at the buttocks the leg belt becoming a seat for the fireman while he descends. These straps or belts are preferably loose on the body of the wearer, so as not to hinder movement when the apparatus is 80 not being used for descent.

These straps or belts may be adjusted to the wearer, and once adjusted properly, not too tightly, the wearer can work freely 85 without being hindered by the harness.

The invention enables the provision of a harness which is strong, rugged and safe, relatively inexpensive to manufacture, easy to use, comfortable to wear when not in use, and which shall yet be practical and 90 efficient to a high degree.

Often the need for a rope is called for at a fire and it is necessary to send back for it. Too often the rope is obtained too late to be effective and for this reason other 95 implements or methods are devised to substitute for it. With this in mind a light compact rope or suspension line unit to be carried by all firemen and ready for immediate use has been designed. It has been 100 designed to eliminate time consuming knots.

The harness may be attached (detachably) inside the fire fighter's turnout coat and may comprise a ladder hook 105 which can be readily moved to the outside of the coat so that the required 3 or 4 turns of a line or rope can easily be taken for descent purposes. The harness can be used with or without the coat. The coat 110 may be used as a holder for the harness to keep it ready for use but yet conceals the harness. The weight of the harness may be approximately 2 pounds. When using the harness for descent, the stress is normally 115 on the harness only, and not on the coat.

For a better understanding of the present invention and to show how the same may be carried into effect reference will now be made, by way of example, to the accompanying drawings in which:— 120

Figure 1 shows a perspective view, of a harness according to the present invention, being used by a fireman for descent,

Figure 2 shows a perspective view on an 125 enlarged scale of the harness of Figure 1.

Figure 3 shows a perspective view of the harness without the coat, on a wearer's body during descent,

Figure 4 shows an enlarged cross-section 130

tional view taken on the line 4-4 of Figure 3.

Figure 5 shows an enlarged cross-sectional view taken on the line 5-5 of Figure 2.

Figure 6 shows a perspective view of a line or rope with safety snap hook, in a package.

Figure 7 shows a perspective view showing a fireman's descent on a modified harness in accordance with the present invention.

Figure 8 shows an enlarged inside view of a fireman's turnout coat with the harness of Figure 7.

Figure 9 shows a perspective view of the harness of Figure 8 on a body but without the coat.

Figure 10 shows an enlarged cross-sectional view taken on line 10-10 of Figure 9.

Figure 11 shows an enlarged cross-sectional view taken on line 11-11 of Figure 9.

Figure 12 shows an enlarged cross-sectional view taken on line 12-12 of Figure 8.

Figure 13 shows an enlarged perspective view of the lower end of the suspension line of Figure 7, and

Figure 14 shows an enlarged perspective view of the suspension line of Figure 7, packaged.

Referring now in detail to Figures 1 to 6 of the drawings, numeral 10 designates apparatus including the body harness according to the invention, shown in use by a fireman 11 for purposes of descent in Figure 1 from a window 12.

The apparatus 10 comprises generally a coat 14, a body harness 15 detachably or removably mounted thereon, and an anchoring line or rope 16.

The coat 14 may be usual fireman's coat or, for example, any coat having a body portion 20, arms 21, arm holes 21a and being split down the front forming side or free edges 22. The coat 14 is modified only to the extent that it is provided on the inside thereof with male snap fastener members 25 along its centreline, at the back below the arm holes 21a, and also at the sides in inwardly spaced relation to the edges 22, all at about the same level. Three substantially similar loops are detachably attached to the three snap fastener members 25 respectively, on the coat, one being a center loop 26, one a side loop 27 and another a side loop 28. The centre loop 26 comprises a strip of cloth or other suitable material folded in half about a transverse fold line (see Figure 5), the two folded portions being attached together by interengaging snap fastener elements 30, mediately of the ends thereof, and attached together at the ends thereof by a female snap fastener member 31 which can snap onto the male snap

fastener element 25. The loops 27, 28 are similarly attached together and similarly detachably attached to the male fastener members 25 adjacent edges 22 of the coat. These loops can be snapped onto or removed from the coat. They are located inside the coat.

The harness 15 comprises a flexible waist belt or strap 35, looped at one end as at 36. The looped end is stitched back in place, as by stitching 37. The loop 36 passes through an eye 40 of a connector member such as a safety snap hook 41, which may be like the safety snap hook shown in Figure No. 3387 of North and Judd Manufacturing Company general hardware catalog No. 262 (New Britain Conn., 06050).

This safety snap hook comprises a hook 42 fixed to the eye 40, with a torsion spring pressed pawl or latch 43 pivoted thereto and engaging inside the tip of the hook. The loop 28 also passes through eye 40 as shown in Figure 3. Other snap hooks may be employed.

Stitched to the inside of belt 35, short of its other end, as at 44, is a strip loop 45. Loop 45 engages around the second strap 46 of a buckle 47 which may be like the Tabler buckle shown in Figure 01136 of page 39 of the North and Judd catalog No. 262. The buckle has a first strap 48, a third strap 49 and a fourth strap 50 in addition to the second strap 46. The straps 48 and 50 are outside straps. The end portion 35a of belt 35 passes through loop 27, then through a swivel loop 52 of a connector hook member such as a loose swivel safety snap hook 53 which may be like the one shown on page 40 of the Star Brank Tackle Blocks and Fittings for Heavy Hardware, Public Utility and Marine Catalog No. 115 of Boston an Lockport Block Company, Inc. of 100 Condor Street, East Boston, Massachusetts 02128, listed under No. 4185 G. In this snap hook 53, the loop 52 is swivelled on a hook portion 54 provided with a spring pressed snap pawl or latch 55.

The end portion 35a of belt 35, after passing through swivel loop 52, again passes through loop 27 (Figure 4) and around strap 49 of buckle 47, then again through loop 27. It will now be understood that the length of belt 35 can be adjusted to fit the wearer.

It will be understood that the snap hook 53 may be engaged with or snapped onto any anchoring means such as a ring on a strap looped onto a rung of a ladder or to any other object to serve as a safety measure to hold the wearer securely while his hands are free to operate any apparatus.

The harness 15 further comprises a flexible leg belt 60. One end of belt 60 is

like the adjustable end 35a of belt 35. It has a loop, like loop 45, attached thereto and similarly looped around a strap of a buckle like buckle 47. It also has one end passing through loop 27, through the swivel loop 52 of safety snap hook 53, then back through the loop 27, then around a strap of the buckle, and back through the loop 27. The belt 60 passes around the legs of the wearer loosely so that the leg belt or strap can be pulled below the buttocks to permit the wearer to sit thereon when suspended, as explained hereinafter. At the other end of belt 60 is a loop 62 passing through eye 40 of safety snap hook 41. The swivel loop 52, therefore, is a means for interconnecting one pair of ends of the waist and leg belt and the eye 40 is a means for interconnecting the other pair of ends of the waist and leg belt.

When the coat is worn and buckled or closed at the front, the swivel hook 53 hangs down at the middle near the front split in the coat. The harness hangs from the coat. Its weight is only a few pounds. It is loose enough on the body of the wearer so as not to hinder movement or the work being done by the fireman. The weight of the harness being small does not impede the wearer's work. When the harness is not being used for purposes of descent, it just stays in the coat but is always ready for use.

The suspension line 16 may comprise a rope or other flexible element 70, to one end of which is attached a safety snap hook 71 which may be like the hook 41 or like the hook 53 as shown in Figure 3. The rope 70 may be made of nylon, 3/8" in diameter and spliced to the safety snap hook, or it may be of any other suitable material and of suitable tensile strength, length and diameter. Any suitable flexible line or cord will do.

The rope may be compactly folded into a clear plastics film bag 75 (Figure 6), which may be carried in a pocket of the coat.

The suspension line may thus consist of a length of nylon line, to which a forged steel safety snap hook is spliced to one end and a loop eye spliced to the other end. It is folded for quick use and is packaged in a plastics bag. Features such as compactness, lightness in weight and great strength make this unit practical in many aspects of fire fighting. It has been designed to work in conjunction with the harness. The main function of the safety snap hook is to eliminate time consuming knots.

To use the apparatus for descent for example from a window, the bag 75 is ripped open, the hook of the line 16 is passed around any suitable, substantial, fixed ob-

ject such as a riser 76, and the hook is then snapped onto the rope. The hook 53 is then pulled out from the coat, and the rope is wrapped several times (3 or 4 times) around the hook portion 54 as shown in Figure 3. The fireman lets himself out of the window holding the loose end of the rope in one hand, as shown in Figure 1, and the taut part of the rope is held with his other hand. To stop, the user pulls the free end of the rope. To descend, the user feeds the rope up toward the hook 53. When the harness is in use, the hook 42 detachable engages the swivel loop 52 thereby interconnecting the ends of the waist and leg belts at the front of the body of the fireman.

The rope should be strong enough to permit the fireman to carry a person being rescued.

In a majority of cases, where a fireman or others are trapped on a burning floor, it is only necessary to descend one floor. Hence rope lengths of 30 feet to 50 feet are usually sufficient.

This apparatus can be used for rescue operations other than those which occur in fires.

The harness may be used without the coat and is detachable from the coat. No knots are required. The harness is adjustable for various sized users. The rope can be of any desired length.

In Figures 7 to 14, there is illustrated a modified form of the invention. The apparatus or device of Figures 7 to 14 comprise a harness 100, a fireman's turnout coat 101 and a suspension line 102.

The suspension line or rope may be wound as shown in Figure 6, and packaged in a clear plastics bag 103 with its neck constricted and tied by a string 104, all as shown in Figure 14. At one end of the suspension line is a snap lock hook 105. The other end of the line may be folded back and spliced on at 106, to form a stop and a loop 107. A metal plate 108 has a hole for the line or rope to go through. The plate 108 can contact stop 106. Thus, if a fireman is sliding down line or rope 102, he won't slide off, since the plate 108 prevents sliding off. To anchor the line, the upper end of the rope or line is wrapped about a pipe or any other fixed object, and the snap hook 105 engaged with the rope or line.

The harness 100 comprises a waist belt 111 and a leg belt 112. These may be made of canvas or leather or of any other suitable flexible material. One end 111a of belt 111 is folded back onto itself as shown in Figure 11, and stitched to the belt as at 115, to provide an end loop or eye 118, and a front loop or eye 119. The loop or eye 119 is narrower than the belt

as shown in Figure 9. The adjacent end 112a of belt 112 is inclined upwardly and interposed between belt 111 and the folded back end portion 111a of the belt, and
 5 stitched thereto by lines of stitching 116. A strap 120 has its lower end interposed between belt ends 112a and 111a and stitched thereto as by stitching 121. At the upper end of strap 120 is a female snap
 10 fastener member 123 for the purpose hereinafter appearing.

For engagement with the suspension line 102 there is provided a hook member 125 which comprises an eye 126 through which
 15 the eye or loop 119 passes freely so as to allow relative movement between the eye 126 and the belt 111. Member 125 further comprises a hook 127 integral with the eye 126, and a spring pressed snap lock or
 20 latch 128 pivoted to the neck of the hook, for closing the hook. As shown in Figure 9, the suspension line may be wrapped about hook 127. The rope is paid out to allow descent and pulled down, below the
 25 hook, to brake the descent.

A first buckle 130 has an end transverse strap 131 passing through eye or loop 118, an end loop 132 and an intermediate cross-
 strap 133.

Means are provided to interconnect the opposite ends of belts 111, 112 to each other, to allow selective adjustment of the lengths of the belts; and to detachably connect the interconnected opposite ends of the
 30 belts to the buckle 130. To this end there is provided a second buckle 140 having at one end a hook 141 provided with a spring pressed snap lock or latch to close the hook. Extending from hook 141 is a
 40 buckle portion 142 comprising parallel end portions 143, 144 interconnected by parallel side portions 145. An intermediate, transverse slider pin or rung 146 has its ends bifurcated and slidably engaging the side portions
 45 145 of the second buckle. The opposite end 111b of the waist belt 111 is wrapped around slider pin 146 and folded back at 111c against the outside of the belt. The length of belt 111 may be individually
 50 adjusted. After adjustment, the folded back portion may be detachably fixed in place against flapping and to maintain the adjustment, by a removable snap fastener 148 as shown in Figure 9. A
 55 second strap 150 may be looped about belt 111 and its folded back portion 111c, to be disposed close to the second buckle 140. After adjustment of the length of belt 111, strap 150 may be detachably fixed to the
 60 belt by a detachable snap fastener member or rivet 151. Strap 150 has a female snap fastener member 152 at its upper end for the purpose hereinafter described.

There is further provided a third buckle
 65 153 which has two end cross straps 154,

interconnected to a pair of parallel side portions 156. Straps 144 and 155 of buckles 140, 153 are interconnected by a flexible strap 157. On side portions 156 is
 70 slidably mounted a cross-pin 159.

The opposite end 112b of leg belt 112 is wrapped around pin 159 and folded back at 160 against the outside of the belt. The length of belt 112 may be adjusted. After
 75 adjustment, belt end 160 may be detachably fastened to the main body of the belt by a snap fastener or rivet 161.

The harness may be detachably supported inside the fireman's turnout coat 101, similar to coat 14 of Figure 2, at
 80 waist height. This is accomplished by means of the straps 120 and 150. The female fastener members on the straps are snapped onto complementary snap fastener members attached to the coat adjacent the
 85 split front edges 170 of the coat and located at the inside of the coat, at waist height.

A third strap 172 carries a female snap fastener member 173 which may be snap
 90 fastened to a male snap fastener member 174 riveted to the coat at the middle of the back at waist height. Snap fastener member 174 is similar to the male snap fastener members attached to the coat near
 95 the split edges 170 for engagement with the snap fastener members 123, 152 on straps 120, 150, and are similarly riveted to the coat.

Strap 172 has a loop 172a slidably receiving an intermediate portion of the waist
 100 belt 111. The hook member 125 may be removably strapped to the inside of coat 101 by a strap 180 having snap fastener members 181 adapted to snap onto complementary snap fastener members on the
 105 coat. Strap 180 is used when the harness is worn but not being used, in order to keep the hook member from swinging around. Strap 180 can easily have one end detached to allow the hook to pass out
 110 between the split edges 170 of the coat, for engagement with the suspension line.

It will thus be seen that there is provided an article in which the several
 115 provisions of this invention may be achieved, and which is well adapted to meet the conditions of practical use.

WHAT WE CLAIM IS:—

1. A body harness comprising support
 120 means, which support means comprise a waist support means for engagement about a waist of a wearer and leg support means for engagement about the leg(s) of the
 125 wearer, the support means having a first end portion and a second end portion, means for detachably connecting the first and second end portions, which means for detachably connecting comprise a first connector member connected to the first or
 130

second end portion and engaging means on the other of the first or second end portion engagable by the first connector member, means for selectively adjusting the waist support means and the leg support means and a second connector member, the second connector member being a hook member being mounted directly or indirectly on said other end portion and being movable relative to the engaging means and being adapted for slidable engagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector member engages the engaging means.

2. A harness according to Claim 1, wherein the support means comprises two first end portions and two second end portions, the harness further comprising means for interconnecting the first end portions and means for interconnecting the second end portions.

3. A body harness comprising a flexible waist belt and a flexible leg belt, each belt having a first end portion and a second end portion, means for interconnecting the pair of first end portions of the belts, means for interconnecting the pair of second end portions of the belts, means for detachably connecting the interconnected pair of first end portions of the belts to the interconnected pair of second end portions of the belts at the front of the body of a wearer, which means for detachably connecting comprise a first connector member connected to one pair of interconnected end portions, the first connector member being a first connector hook member, and means on the other pair of interconnected end portions hookingly engagable by the first connector hook member, means for selectively adjusting the length of each belt and a second connector hook member, the second connector hook member being mounted directly or indirectly on said other interconnected pair of end portions and being movable relative to the hookingly engageable means and being adapted for slidable engagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector hook member hookingly engages the hookingly engageable means.

4. A harness according to Claim 3, wherein at least one interconnected pair of end portions are interconnected such that the two end portions are not directly attached to each other and are capable of movement relative to each other and wherein, in use of the harness, the second

connector hook member is located at the front of the body of the wearer when the interconnected pair of first end portions are connected to the interconnected pair of second end portions.

5. A harness according to Claim 2, 3 or 4, wherein the means for interconnecting the first end portions comprises stitching attaching the first end portions to each other.

6. A harness according to any one of Claims 2 to 5, wherein the means for interconnecting the second end portions comprises a first buckle, a second buckle and means for interconnecting the first and second buckles such that, in use of the harness, one second end portion adjustably passes around an element of the first buckle and the other second end portion passes around an element of the second buckle.

7. A harness according to Claim 6, when dependent upon Claim 5, wherein the means for detachably connecting the interconnected first end portions to the interconnected second end portions comprises the first buckle and a third buckle, which third buckle has an element for engaging a first loop at the stitched together first end portions, the first or third buckle having the first connector member for engaging an element of the third or first buckle, respectively.

8. A harness according to any one of Claims 3 to 7, which further comprises means for attaching the second end portions of the belts to the main body of the respective belts after adjustment of the lengths of the belts.

9. A harness according to any one of Claims 5 to 8, which further comprises a loop or second loop at the stitched together first end portions for engaging the second connector hook member.

10. A harness according to any one of the preceding claims, wherein the first connector member comprises a snap lock hook.

11. A harness according to any one of the preceding claims, wherein the second connector hook member comprises a hook having a snap lock.

12. A harness according to any one of the preceding claims, in combination with a suspension line for winding around and slidably contacting, in use of the harness, the second connector hook member in a manner allowing the paying out of the line as the body lowers.

13. A harness in combination with a suspension line according to Claim 12, wherein the suspension line comprises a flexible elongate element having a snap hook at one end thereof.

14. A harness in combination with a

suspension line according to Claim 13, which further comprises a stop at another end of the element and a plate having a hole therein through which hole, in use of the harness and line, the element passes, the plate being located adjacent the stop.

15. A harness according to any one of the preceding claims, and a coat, means being provided for detachably holding the second connector hook member to the inside of the coat.

16. A harness according to any one of the preceding claims, and a coat openable at the front and having front free edges, means being provided for detachably attaching the harness to the inside of the back of the coat and to the inside of the coat adjacent the free edges thereof.

17. A harness and coat according to Claim 16, wherein the means for detachably attaching the harness to the back of the coat and adjacent the front edges thereof are substantially at the same level.

18. A harness and coat according to Claim 16 or 17, wherein the means for detachably attaching the harness to the coat comprises a plurality of loop members connected to the harness and means for quickly detachably attaching the loop members to the coat.

19. A harness and coat according to Claim 18, wherein one of the loop members comprises a loop which loop is

slidable on an intermediate portion of the waist belt or waist support means.

20. A harness according to Claim 19, wherein other loop members are located adjacent the first and second end portions of the waist belt or waist support means.

21. A body harness, substantially as hereinbefore described with reference to, and as shown in, Figures 1 to 6 of the accompanying drawings.

22. A body harness, substantially as hereinbefore described with reference to, and as shown in, Figures 7 to 14 of the accompanying drawings.

23. A body harness attached to a coat, substantially as hereinbefore described with reference to, and as shown in, Figures 1 to 6 of the accompanying drawings.

24. A body harness attached to a coat, substantially as hereinbefore described with reference to, and as shown in, Figures 7 to 14 of the accompanying drawings.

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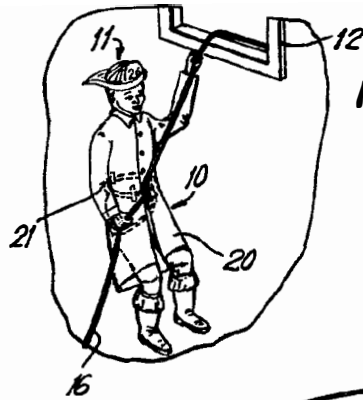


FIG. 1

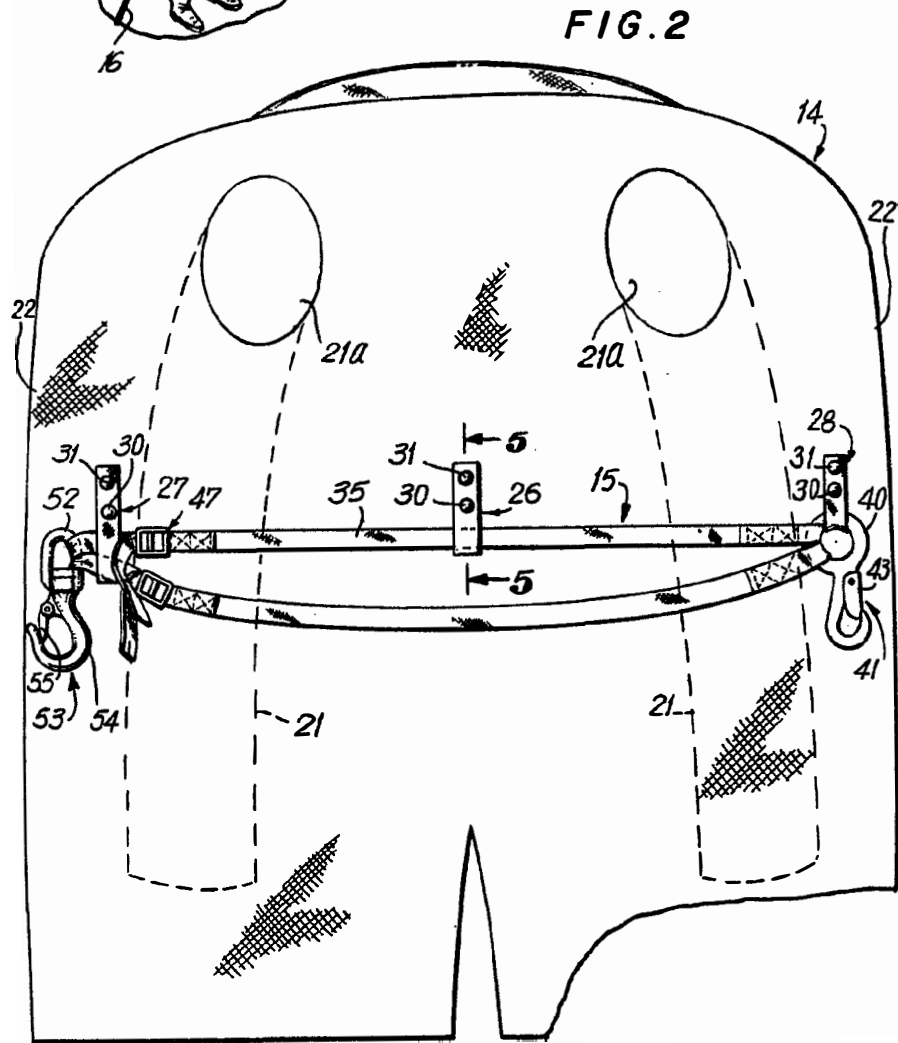
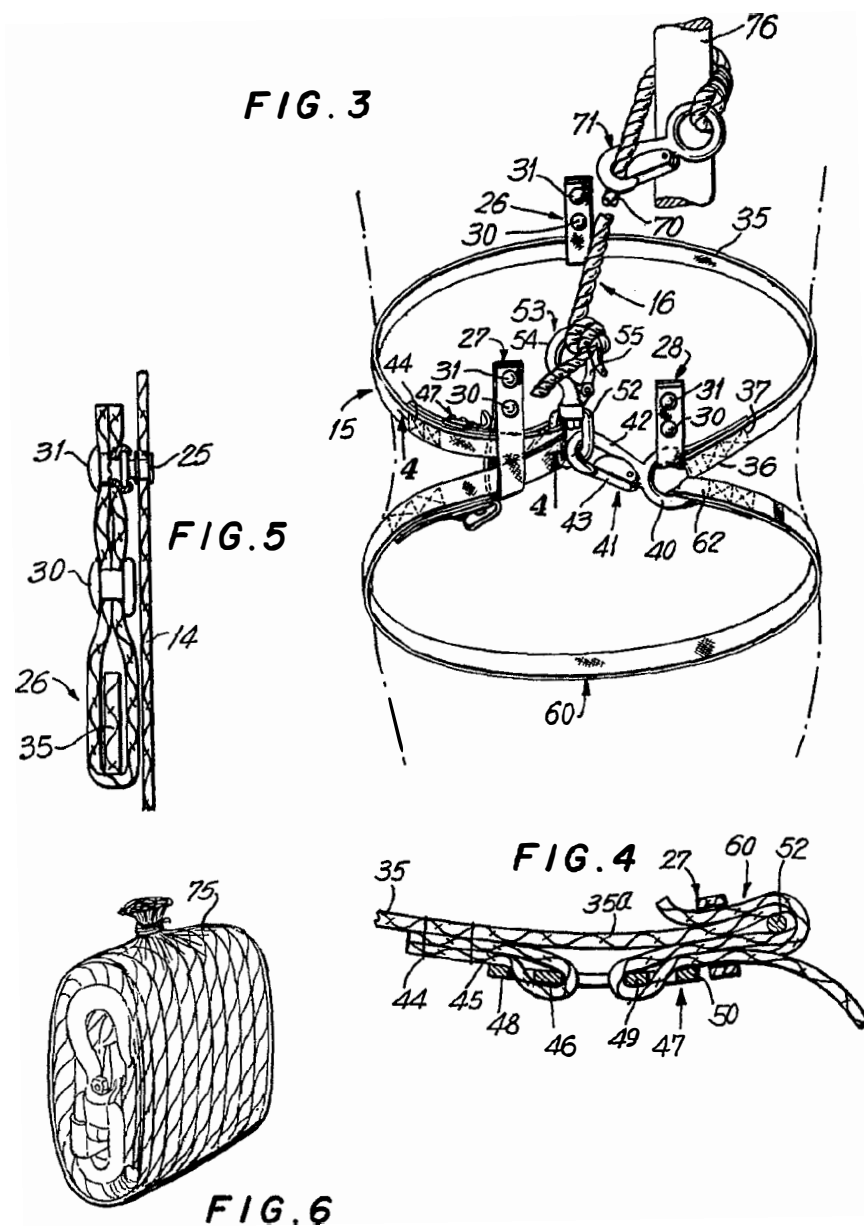


FIG. 2



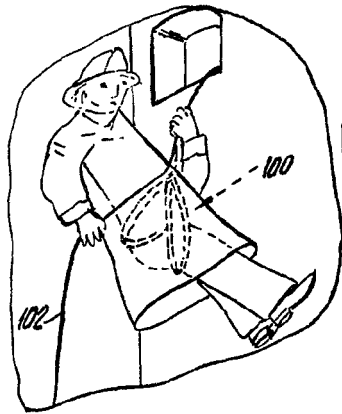


FIG. 7

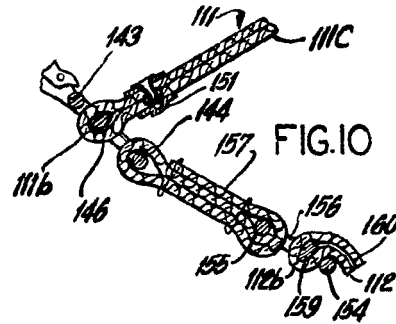


FIG. 10

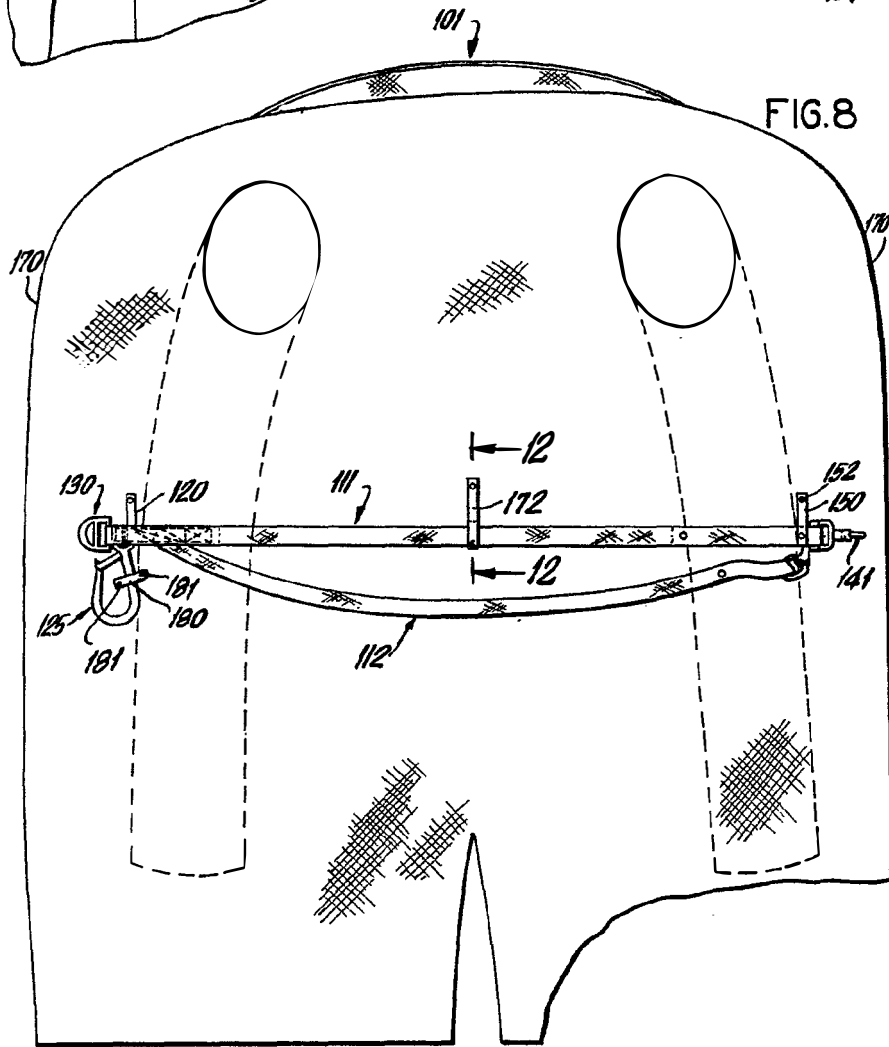


FIG. 8

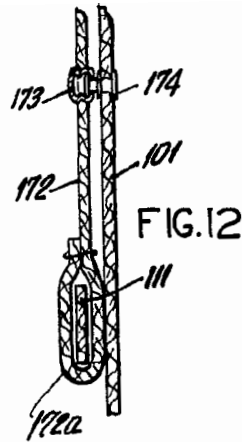


FIG. 12

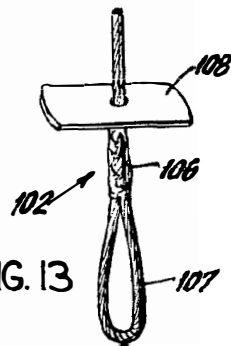


FIG. 13

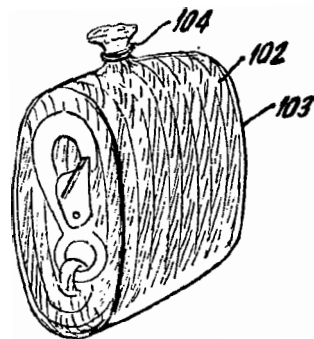


FIG. 14

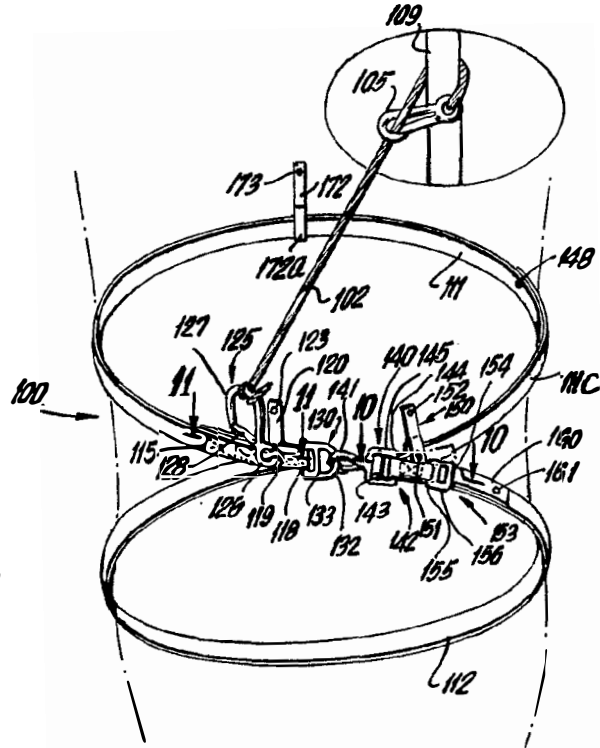


FIG. 9

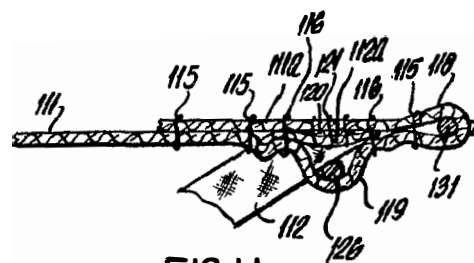


FIG. 11

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	35	("10258814" "20080179 136" "20090255756" "8 061479" "8292028" "83 56691" "8584799" "932 0925" "9808659").PN.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/09 10:16 AM
L2	1013	A62B35/0075.cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/09 10:18 AM
L3	1402	A62B35/0037.cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/09 10:18 AM
L4	6	("2008/0000719").URP N.	(USPAT)	OR	OFF	OFF	2021/06/13 08:31 AM
L5	1013	A62B35/0075.cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 08:32 AM
L6	1403	A62B35/0037.cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 08:32 AM
L7	2223	L5 or L6	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 08:32 AM
L8	0	((bridge adj rope) and splice and (eye adj loop) and (stop adj knot))	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 08:46 AM
L9	0	((rope) and splice and (eye adj loop) and (stop adj knot))	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 08:46 AM
L10	16	((rope) and splice and (eye adj loop) and (knot))	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 08:46 AM
L11	195	kossuth.in.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 08:48 AM
L12	28	("0312085" "0422345" "0642889" "1351734" "1852887" "2979028" "2979153").PN. OR ("3738449").URPN.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2021/06/13 08:54 AM

Ex 1004

L13	6	("2008/0000719").URP N.	(USPAT)	OR	OFF	OFF	2021/06/13 08:55 AM
L14	25	("2796953" "2834525" "3840091" "4712646").PN. OR ("5050704").URPN.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2021/06/13 08:56 AM
L15	4	("2010/0213004").URP N.	(USPAT)	OR	OFF	OFF	2021/06/13 08:57 AM
L16	16	("2303954").URPN.	(USPAT)	OR	OFF	OFF	2021/06/13 08:58 AM
L17	3	("2007/0102240").URP N.	(USPAT)	OR	OFF	OFF	2021/06/13 08:58 AM
L18	284	("2600395" "4099750" "4962929" "4974488").PN. OR ("5062344").URPN.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2021/06/13 08:59 AM
L19	161	("0330087" "2600395" "4962929" "5062344" "5540703").PN. OR ("5970697").URPN.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2021/06/13 09:03 AM
L20	34	("20030159882" "20050189170" "20060059858" "20080000719" "20080135119" "20080283137" "2670762" "2776385" "3211473" "3374013" "3431947" "3794079" "4249713" "4470433" "5073682" "5226456" "5513826" "5789701" "5901756" "5933914" "6308741" "6712181" "7357222").PN. OR ("7814938").URPN.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2021/06/13 09:06 AM
L21	25	("1971571" "20040200666" "20050139419" "20060207828" "20090314578" "20100051382" "20110214941" "4103758" "4478311" "4687074" "4923048" "4951778" "5050704" "5052514" "6223854" "6637547" "6874596" "6973995" "6981571" "7163081").PN. OR ("9162091").URPN.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2021/06/13 09:07 AM
L22	234	("2549382" "2600395" "4036101" "4099750" "4974488"	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2021/06/13 09:09 AM Ex. 1004

		"5062344").PN. OR ("5699657").URPN.					
L23	246	("2600395").URPN.	(USPAT)	OR	OFF	OFF	2021/06/13 09:09 AM
L24	142	("330087").URPN.	(USPAT)	OR	OFF	OFF	2021/06/13 09:11 AM
L25	37	("0421120" "0502962" "0830134" "1117656" "1550900" "1729945" "1835068" "2189671" "2225865" "2946619" "3998561" "4139956" "4667772" "5060758" "5113551" "5310274" "5383259" "5735329" "5839541" "5947229" "6059335").PN. OR ("6712181").URPN.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2021/06/13 09:11 AM
L26	18	(US-20080000719-\$ or US-20100213004-\$ or US-20070102240-\$).did. or (US-3738449-\$ or US-5050704-\$ or US-2303954-\$ or US- 5062344-\$ or US- 5970697-\$ or US- 7814938-\$ or US- 9162091-\$ or US- 5699657-\$ or US- 6712181-\$).did. or (US- 2600395-\$ or US- 0330087-\$).did. or (GB- 1420783-\$ or FR- 1602226-\$ or DE- 455971-\$).did. or (US- 20210101032-\$).did.	(US-PGPUB; USPAT; USOCR; FPRS; DERWENT)	OR	OFF	OFF	2021/06/13 09:16 AM
L27	0	L26 and UHMWPE	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 09:16 AM
L28	20542	UHMWPE	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 09:17 AM
L29	3	UHMWPE and rope and bridge and harness	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 09:18 AM
L30	1182	UHMWPE and rope	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 09:18 AM
L31	76	UHMWPE and rope and harness	(US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	ON	2021/06/13 09:19 AM

			JPO; DERWENT; IBM_TDB)				
L32	10	L26 and (inch\$4 or length)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 09:29 AM
L33	19	(US-20080000719-\$ or US-20100213004-\$ or US-20070102240-\$ or US-20150297937-\$).did. or (US-3738449-\$ or US-5050704-\$ or US-2303954-\$ or US-5062344-\$ or US-5970697-\$ or US-7814938-\$ or US-9162091-\$ or US-5699657-\$ or US-6712181-\$).did. or (US-2600395-\$ or US-0330087-\$).did. or (GB-1420783-\$ or FR-1602226-\$ or DE-455971-\$).did. or (US-20210101032-\$).did.	(US-PGPUB; USPAT; USOCR; FPRS; DERWENT)	OR	OFF	OFF	2021/06/14 10:12 AM
L34	1	L33 and UHMWPE	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/14 10:13 AM
L35	19	(US-20080000719-\$ or US-20100213004-\$ or US-20070102240-\$ or US-20150297937-\$).did. or (US-3738449-\$ or US-5050704-\$ or US-2303954-\$ or US-5062344-\$ or US-5970697-\$ or US-7814938-\$ or US-9162091-\$ or US-5699657-\$ or US-6712181-\$).did. or (US-2600395-\$ or US-0330087-\$).did. or (GB-1420783-\$ or FR-1602226-\$ or DE-455971-\$).did. or (US-20210101032-\$).did.	(US-PGPUB; USPAT; USOCR; FPRS; DERWENT)	OR	OFF	OFF	2021/06/15 02:18 PM
L36	12	L35 and (inch\$4 or length or mm)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/15 02:19 PM
L37	240	"4036101"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY,	OR	ON	ON	2021/10/22 04:29 PM Ex. 1004

			CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L38	546	(rope AND splice AND (inch OR inches) AND ((first ADJ end) pr (second ADJ end)) AND adjacent)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/10/22 04:36 PM
L39	22	((US-5062344-A OR US-6712181-B2 OR US-5699657-A OR US-9162091-B2 OR US-7814938-B2 OR US-5970697-A OR US-2303954-A OR US-5050704-A OR US-3738449-A OR US-10604892-B1 OR US-7182361-B2).did. AND USPT.dbnm.) OR ((US-20150297937-A1 OR US-20070102240-A1 OR US-20100213004-A1 OR US-20080000719-A1).did. AND PGPB.dbnm.) OR ((US-0330087-A OR US-2600395-A).did. AND USOC.dbnm.) OR ((US-20210101032-A1 OR US-4036101-A).did. AND DWPI.dbnm.) OR ((GB-1420783-A OR DE-455971-C OR FR-1602226-A).did. AND FPRS.dbnm.)	(USPAT; US-PGPUB; FPRS; USOCR; IBM_TDB; EPO; JPO; DERWENT; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN))	OR	ON	ON	2021/10/22 04:47 PM

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L40	8	L39 AND (inch OR inches)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/10/22 04:47 PM
L41	293	("2600395" "4099750" "4962929" "4974488").pn. OR ("5062344").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2021/10/22 04:48 PM
L42	167	("330087" "2600395" "4962929" "5062344" "5540703").pn. OR ("5970697").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2021/10/22 04:49 PM
L43	119	("330087" "1924596" "2600395" "3884190" "4099750" "4252084").pn. OR ("4962929").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2021/10/22 04:53 PM
L44	25	((FR-1602226-A OR DE-455971-C OR GB-1420783-A).did. AND FPRS.dbnm.) OR ((US-20150297937-A1 OR US-20070102240-A1 OR US-20100213004-A1 OR US-20080000719-A1).did. AND PGPB.dbnm.) OR ((US-6712181-B2 OR US-5699657-A OR US-9162091-B2 OR US-7814938-B2 OR US-5970697-A OR US-5062344-A OR US-2303954-A OR US-5050704-A OR US-3738449-A OR US-10604892-B1 OR US-7182361-B2 OR US-	(USPAT; US-PGPUB; FPRS; USOCR; IBM_TDB; EPO; JPO; DERWENT; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN))	OR	ON	ON	2021/11/05 01:46 PM Ex. 1004

		2600395-A OR US-4962929-A OR US-4099750-A).did. AND USPT.dbnm.) OR ((US-0330087-A OR US-2600395-A).did. AND USOC.dbnm.) OR ((US-20210101032-A1 OR US-4036101-A).did. AND DWPI.dbnm.)					
L45	0	L44 AND crimp	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/11/05 01:46 PM
L46	6	L7 AND crimp	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/11/05 01:48 PM
L47	46	L7 AND crimp\$4	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT;	OR	ON	ON	2021/11/05 02:00 PM

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CB

			IBM_TDB)				
L48	1	L44 AND crimp\$4	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/11/05 02:00 PM
L49	3	(bridge AND rope AND tree AND body AND splice AND distance AND friction AND hitch AND stop AND knot AND loop).clm.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/02/12 12:13 PM
L50	1354	D07B1/185	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/02/15 01:48 PM
L51	2528	D07B1/148	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS,	OR	ON	ON	2022/02/15 01:48 PM Ex. 1004

			IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L52	5561	D07B1/162	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/02/15 01:48 PM
L53	6162	D04C1/12	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/02/15 01:48 PM
L54	14556	L50 OR L51 OR L52 OR I53	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2022/02/15 01:49 PM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N1	1	(bridge AND rope AND tree AND body AND splice AND distance AND friction AND hitch AND stop AND knot AND loop).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/02/12 12:14 PM

Electronic Acknowledgement Receipt

EFS ID:	44923679
Application Number:	17231717
International Application Number:	
Confirmation Number:	1069
Title of Invention:	Bridge Rope Assembly
First Named Inventor/Applicant Name:	Walter Ernest Power
Customer Number:	44088
Filer:	Brendan Bennett Dix
Filer Authorized By:	
Attorney Docket Number:	TETH115
Receipt Date:	04-FEB-2022
Filing Date:	15-APR-2021
Time Stamp:	17:26:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Arguments/Remarks Made in an Amendment	TETH115SecondOA.pdf	34507	no	7
			26333b40080697b565172b3ab349f0bdb3071c5		

Ex. 1004

Warnings:

70

Crüzr v. Tethrd

Information:	
Total Files Size (in bytes):	34507
<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>	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of)
Walter Ernest Power II)
Serial No.: 17/231,717)
Filed: 04/15/2021)
For: Bridge Rope Assembly)
Examiner: Candace L Bradford)
Group Art Unit: 3634)
Attorney: Sean A. Kaufhold)

Mail Stop Non-Fee Amendment
Honorable Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I CERTIFY THAT THIS PAPER (ALONG WITH ANY REFERENCED TO AS BEING ATTACHED OF ENCLOSED) IS BEING TRANSMITTED TO THE COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 ON February 4, 2022, VIA THE USPTO-EFS-WEB FILING SYSTEM. By: /brendanbdix/

FEE CALCULATION: No Additional Fees Due. Upon entry of the below amendment, the total number of claims will be 20 or less, and the number of independent claims will be 3 or less.

AMENDMENT

Responsive to the Office Action mailed on November 15, 2021.

Table of Contents

Amendments in the Claims: page 2
Amendments in the Specification: none
In the Abstract: none
Remarks: page 5
Conclusion: page 7

Amendments in the Claims: (struck-through parts deleted and underlined parts added)

1. (currently amended) A bridge rope assembly configured to couple together a tree rope to a first bridge loop and a second bridge loop on a harness, the bridge rope assembly including:

a main body comprising a rope having a first end and a second end, the main body having a splice therein to form an eye loop in the main body, the eye loop being configured to engage the first bridge loop, the main body comprising a first portion including the first end and a second portion including the second end, the first portion extending through the second portion of the main body such that the first end is positioned within the second portion adjacent to the second end, a distance between the first and second ends being less than 2.0 inches; and

a friction hitch being positioned on the main body between the stop knot and the eye loop, the friction hitch being configured to engage the second bridge loop, the friction hitch comprising a closed loop, the closed loop comprising a single rope being formed into the closed loop.

2. (original) The bridge rope assembly according to claim 1, wherein the rope has a length from the first end to the second end between 72.0 inches and 126.0 inches.

3. (original) The bridge rope assembly according to claim 1, wherein a distance of the eye loop to the second end is between 24.0 inches and 40.0 inches.

4. (original) The bridge rope assembly according to claim 3, further including a securing member being positioned on the main body at a juncture of the first and second ends to retain the first and second ends at a static position relative to each other.

5. (original) The bridge rope assembly according to claim 4, wherein the main body includes a stop knot in the second portion adjacent to the second end.

6. (canceled)

7. (currently amended) The bridge rope assembly according to claim ~~[[6]]~~ 1, wherein the single rope of the closed loop has a length between 40.0 inches and 60.0 inches.

8. (original) The bridge rope assembly according to claim 7, wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches.

9. (currently amended) The bridge rope assembly according to claim ~~[[6]]~~ 1, wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches.

10. (original) The bridge rope assembly according to claim 9, wherein the main body and the friction hitch each are comprised of UHMWPE.

11. (original) The bridge rope assembly according to claim 1, wherein the main body is comprised of UHMWPE.

12. (original) The bridge rope assembly according to claim 9, wherein a distance of the eye loop to the second end is between 24.0 inches and 40.0 inches.

13. (original) The bridge rope assembly according to claim 12, wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches.

14. (previously presented) A bridge rope assembly configured to couple together a tree rope to a first bridge loop and a second bridge loop on a harness, the bridge rope assembly including:

a main body comprising a rope having a first end and a second end, the main body having a splice therein to form an eye loop in the main body, the eye loop

being configured to engage the first bridge loop, the main body comprising a first portion including the first end and a second portion including the second end, the first portion extending through the second portion of the main body such that the first end is positioned within the second portion adjacent to the second end, a distance between the first and second ends being less than 2.0 inches, the rope having a length from the first end to the second end between 72.0 inches and 126.0 inches, a distance of the eye loop to the second end being between 24.0 inches and 40.0 inches;

a securing member being positioned on the main body at a juncture of the first and second ends to retain the first and second ends at a static position relative to each other;

the main body including a stop knot in the second portion adjacent to the second end;

a friction hitch being positioned on the main body between the stop knot and the eye loop, the friction hitch being configured to engage the second bridge loop, the friction hitch comprising a closed loop, the closed loop comprising a single rope being formed into the closed loop with a splice having a pair ends each being buried into the closed loop a distance of at least 40% of a total circumference of the closed loop, the single rope of the closed loop having a length between 40.0 inches and 60.0 inches, the closed loop having a total circumference of between 20.0 inches and 30.0 inches;

the main body and the friction hitch each being comprised of UHMWPE.

REMARKS

Section 1 of the Office Action

Claims 1 through 3 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 20080000719 to Jones in view of U.S. Patent 4962929 to Melton, Jr.

Claim 1 has been amended to be similar to claim 6 as presented in the response filed September 23, 2021. The claim has been expanded by the deletion of limitations relating to a splice. Specifically, claim 1 as now presented is the same as claim 6 except for the deletion of the closed loop being formed with “a splice having a pair ends each being buried into the closed loop a distance of at least 40% of a total circumference of the closed loop”. While claim 6 was indicated to be allowable, Applicant respectfully submits splicing to form the loop would not be necessary to define over the collective teaching of the cited references. It is respectfully submitted the collective teaching of the cited references does not disclose, teach, suggest, or contemplate the closed loop structure consistent with the claim limitations regardless of formation by splicing. Therefore, claim 1 as presented is believed to be allowable. By virtue of dependence on claim 1, claims 2 and 3 are believed to be allowable.

Withdrawal of the rejection is respectfully requested by the applicant.

Section 2 of the Office Action

Claims 4 and 5 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 20080000719 to Jones in view of U.S. Patent 4962929 to Melton, Jr., and further in view of U.S. Patent Publication No. 20070114095 to Swierski et al.

By virtue of dependence on claim 1, claims 4 and 5 are believed to be allowable.

Withdrawal of the rejection is respectfully requested by the applicant.

Section 3 of the Office Action

Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 20080000719 to Jones in view of U.S. Patent 4962929 to Melton, Jr., and further in view of U.S. Patent Publication No. 20150297937 to Burkinshaw.

By virtue of dependence on claim 1, claim 11 is believed to be allowable.
Withdrawal of the rejection is respectfully requested by the applicant.

Section 4 of the Office Action

Claim 14 is allowed.

Section 5 of the Office Action

Claims 6 through 10, 12 and 13 are objected to, but would be allowable if rewritten.

Claim 6 has been canceled in favor of amended claim 1 as noted above. While claim 1 is not the equivalent of claim 6, claim 1 is believed to be allowable. By virtue of dependence on claim 1, claims 7 through 10, 12, and 13 are believed to be allowable.

Withdrawal of the objection is respectfully requested by the applicant.

CONCLUSION

In light of the foregoing amendments and remarks, early consideration and allowance of this application are most courteously solicited.

Respectfully submitted,

/brendanbdix/

Date: 02/04/22

Brendan B. Dix (Reg. No. 37,313)

P.O. Box 89626

Sioux Falls, SD 57109

(605) 334-1571 FAX (605) 334-1574

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/231,717	Filing Date 04/15/2021	☐ To be Mailed
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ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *		x \$50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *		x \$240 =	
☐ 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))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED - PART II

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	02/04/2022		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	*	13	Minus	** 20	= 0
	Independent (37 CFR 1.16(h))	*	2	Minus	*** 3	= 0
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						0
AMENDMENT			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))					
TOTAL ADD'L FEE						
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/VENESSA JONES/
*** 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 number found in the appropriate box in column 1.						

This collection of information is required by 37 CFR 1.16. 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, 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.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 17/231,717		Filing Date 04/15/2021		☐ To be Mailed	
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO									
APPLICATION AS FILED - PART I									
FOR		(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE (\$)		FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A	N/A					
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A	N/A	N/A					
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A	N/A					
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 = *		x \$50 =					
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 = *		x \$240 =					
☐ 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))									
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL					
APPLICATION AS AMENDED - PART II									
AMENDMENT	02/04/2022	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 13	Minus	** 20	= 0	x \$50 =		0	
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0	x \$240 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		0	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =			
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						LIE			
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/VENESSA JONES/			
*** 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 number found in the appropriate box in column 1.									

This collection of information is required by 37 CFR 1.16. 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, 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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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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17/231,717

04/15/2021

Walter Ernest Power II

TETH115

1069

44088 7590 11/15/2021
KAUFHOLD DIX PATENT LAW
P. O. BOX 89626
SIOUX FALLS, SD 57109

EXAMINER

BRADFORD, CANDACE L

ART UNIT

PAPER NUMBER

3634

NOTIFICATION DATE

DELIVERY MODE

11/15/2021

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jason@kaufholdlaw.com

Office Action Summary

Application No.

17/231,717

Applicant(s)

Power et al.

Examiner

CANDACE L BRADFORD

Art Unit

3634

AIA (FITF) Status

Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 9/23/21.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2a) ☐ This action is **FINAL**.

2b) ☒ This action is non-final.

3) ☐ 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.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☒ Claim(s) 1-14 is/are pending in the application.

5a) Of the above claim(s) ____ is/are withdrawn from consideration.

6) ☒ Claim(s) 14 is/are allowed.

7) ☒ Claim(s) 1-5 and 11 is/are rejected.

8) ☒ Claim(s) 6-10 and 12-13 is/are objected to.

9) ☐ Claim(s) ____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, 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.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☒ The drawing(s) filed on 4/15/21 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ 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)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

3) ☒ Interview Summary (PTO-413)

Paper No(s)/Mail Date ____.

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)

4) ☐ Other: ____.

Paper No(s)/Mail Date ____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

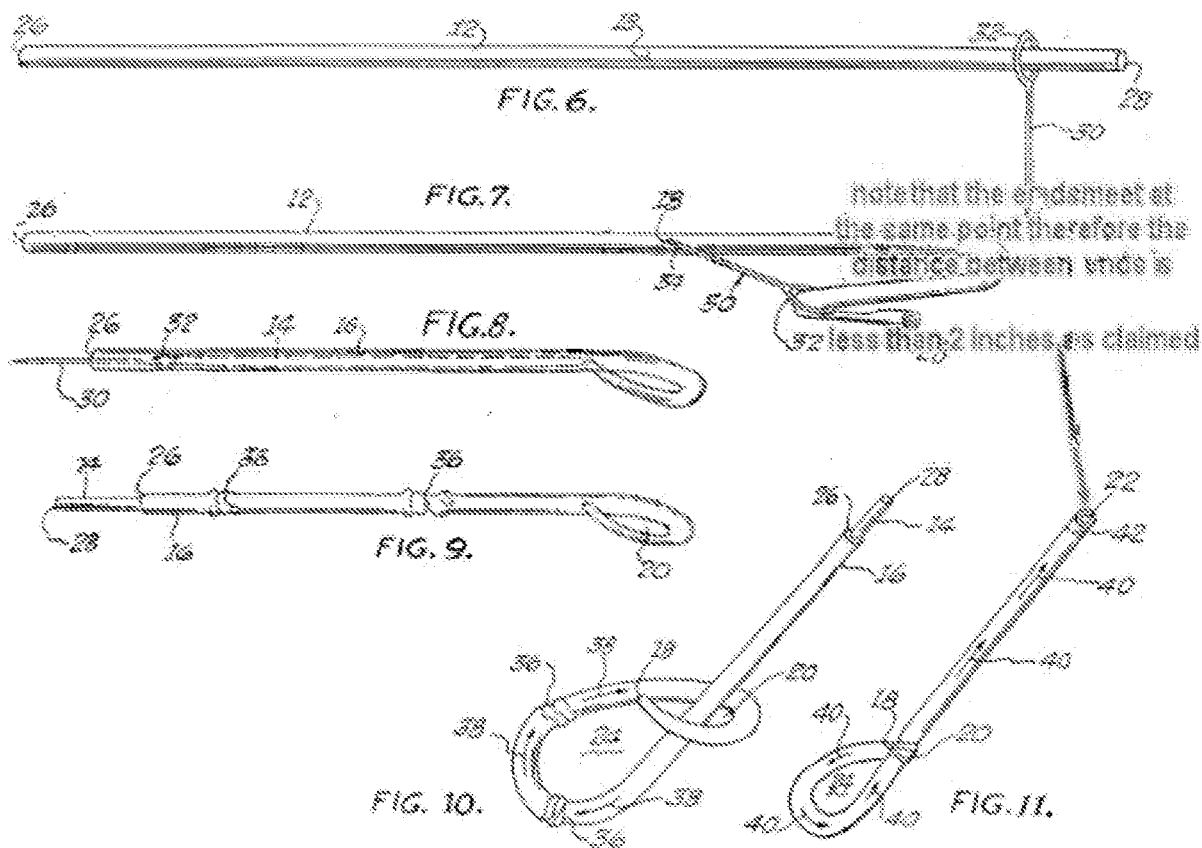
A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Melton Jr. (4962929).

Jones discloses a main body 10, as best seen in Figure 1, comprising a rope 12, having a first end and a second end, the eye loop 16, being configured to engage the first bridge loop,

but fails to disclose the main body having a splice therein, the first portion extending through the second portion of the main body and fails to disclose a distance between the first and second ends being less than 2.0 inches.

Melton Jr. teaches the utility of a rope having a splice therein to form an eye loop 24, as best seen in Figures 6-11,



the rope comprising a first portion 14, including the first end 28, and a second portion 16, including the second end 26, the first portion 14, extending through the second portion 16, of the main body such that the first end is positioned within the second portion adjacent to the second end, a distance between the first and second ends being less than 2.0 inches, as best seen in Figure 11 (note that the ends of 14 and 16 are at the same point therefore less than 2 inches). The use of a spliced rope is used in the art to enhance the sturdiness, comfortability and aesthetics of the equipment component by providing a desired color and layering to improve the durability and

appearance of the apparatus. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to replace the main body of Jones with a rope having a splice as taught by Melton Jr. so as to enhance the sturdiness and aesthetics of the equipment component by providing a desired color to improve the strength and appearance of the apparatus.

Regarding claim 2 Jones discloses wherein the rope has a length from the first end to the second end between 72.0 inches and 126.0 inches, as recited in paragraph [0018].

Regarding claim 3 Jones discloses wherein a distance of the eye loop to the second end is between 24.0 inches and 40.0 inches, as recited in paragraph [0018]. Note that eye 16 can be slid to any distance along the strap /rope 12 included but not limited to 24-40 inches from the second end.

Claims 4 and 5 are rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Melton Jr. (4962929) in view of Swierski et al. (20070114095). Jones in view of Melton Jr. fails to disclose a securing member. Swierski et al. teaches the utility of a securing member 20, being positioned on the main body 10, at a juncture of the first and second ends to retain the first and second ends at a static position relative to each other, as best seen in Figure 2.

The use of securing member is used in the art to prevent movement of the rope. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to provide the end of the main body of

Jones in view of Melton Jr. with a securing member as taught by Swierski et al. so as to prevent movement of the rope/wire.

Regarding claim 5 Jones discloses wherein the main body includes a stop knot 20, in the second portion adjacent to the second end.

Claim 11 is rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Melton Jr. (4962929) in view of Burkinshaw (20150297937). Jones in view of Melton Jr. as advanced above fails to disclose wherein the main body is comprised of UHMWPE. Burkinshaw teaches the utility of the apparatus comprised of UHMWPE, as recited in paragraph [0049]. The use of UHMWPE is used in the art due to its resistance to abrasion. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to make the apparatus of Jones in view of Melton Jr. of UHMWPE as taught by Burkinshaw due to its resistance to abrasion.

Response to Arguments

Applicant's arguments with respect to claim(s) have been considered but are moot because the new ground of rejection does not rely on the combination of references applied in the prior rejection of record for any teaching or matter specifically challenged in the argument.

A proposed Examiner's Amendment was made by both Examiner Bradford and Mr. Dix however an agreement was not able to be reached.

Allowable Subject Matter

Claim 14 is allowed.

Claims 6-10, 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CANDACE L BRADFORD whose telephone number is (571)272-8967. The examiner can normally be reached Monday-Friday 9-5.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Cahn can be reached on 571 270 5616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: <https://patentcenter.uspto.gov>. Visit <https://www.uspto.gov/patents/apply/patent-center> for more information about Patent Center and <https://www.uspto.gov/patents/docx> for information about filing in DOCX format. For

additional questions, contact the Electronic Business Center (EBC) at 866-217-9197

(toll-free). If you would like assistance from a USPTO Customer Service

Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

***/CANDACE L BRADFORD/
Examiner, Art Unit 3634***

***/COLLEEN M CHAVCHAVADZE/
Primary Examiner, Art Unit 3634***

<i>Examiner-Initiated Interview Summary</i>	Application No. 17/231,717	Applicant(s) Power, Walter Ernest		
	Examiner CANDACE L BRADFORD	Art Unit 3634	AIA (First Inventor to File) Status Yes	Page 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	Title	Type
CANDACE L BRADFORD	Examiner	Telephonic
Brendan Dix	Attorney	

Date of Interview: 04 November 2021

Issues Discussed:

Proposed Amendment(s)

A proposed Examiner's Amendment was made by both Examiner Bradford and Mr. Dix however an agreement was not able to be reached.

/CANDACE L BRADFORD/ Examiner, Art Unit 3634	/COLLEEN M CHAVCHAVADZE/ Primary Examiner, Art Unit 3634
<p>Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04</p> <p>Please further see: MPEP 713.04 Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b) 37 CFR § 1.2 Business to be transacted in writing</p>	

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

<i>Notice of References Cited</i>	Application/Control No. 17/231,717		Applicant(s)/Patent Under Reexamination Power et al.	
	Examiner CANDACE L BRADFORD		Art Unit 3634	Page 1 of 2

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-5062344-A	11-1991	Gerker; Thomas F.	D04C1/12	87/8
*	B	US-20150297937-A1	10-2015	BURKINSHAW; COLIN M	A63B23/12	482/124
*	C	US-6712181-B2	03-2004	Nichols; Steve	A62B1/16	182/192
*	D	US-0330087-A	11-1885	n/a	A61B17/0401	474/253
*	E	US-2600395-A	06-1952	JOSEPH DOMOJ JOHN	D07B1/185	87/13
*	F	US-5699657-A	12-1997	Paulson; William Thomas	B65H69/06	28/142
*	G	US-9162091-B2	10-2015	Kuhnert; Bradley A.	A62B35/0012	1/1
*	H	US-7814938-B2	10-2010	Davis, Jr.; Willie M.	A62B1/16	138/106
*	I	US-20210101032-A1	04-2021	Power, II; Walter Ernest	A62B35/0012	1/1
*	J	US-5970697-A	10-1999	Jacobs; William J. B.	D07B1/185	289/1.5
*	K	US-20070102240-A1	05-2007	Wilson; Jonathan L.	A62B1/14	182/5
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*	M	US-20100213004-A1	08-2010	Petty; Clifford D.	A62B35/0068	182/5

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	N	GB-1420783-A	01-1976	GB	n/a	A62B35/0075
	O	DE-455971-C	02-1928	DE	n/a	A62B35/0075
	P	FR-1602226-A	10-1970	FR	n/a	D07B1/162
	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.

Notice of References Cited	Application/Control No. 17/231,717		Applicant(s)/Patent Under Reexamination Power et al.	
	Examiner CANDACE L BRADFORD		Art Unit 3634	Page 2 of 2

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*	A	US-5050704-A	09-1991	Olsson; Ronny	A62B35/0018	182/9
*	B	US-20080000719-A1	01-2008	JONES; Dennis K.	A62B35/0075	182/3
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*	F	US-7182361-B2	02-2007	Lewoczko; Myron M.	B66F1/00	254/131
*	G	US-4962929-A	10-1990	Melton, Jr.; Eugene R.	A63B69/38	119/770
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NON-PATENT DOCUMENTS

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*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.

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	35	("10258814" "20080179136" "20090255756" "8061479" "8292028" "8356691" "8584799" "9320925" "9808659").PN.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/09 10:16 AM
L2	1013	A62B35/0075.cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/09 10:18 AM
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L4	6	("2008/0000719").URP N.	(USPAT)	OR	OFF	OFF	2021/06/13 08:31 AM
L5	1013	A62B35/0075.cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 08:32 AM
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L15	4	("2010/0213004").URP N.	(USPAT)	OR	OFF	OFF	2021/06/13 08:57 AM
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		"5062344").PN. OR ("5699657").URPN.					
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L24	142	("330087").URPN.	(USPAT)	OR	OFF	OFF	2021/06/13 09:11 AM
L25	37	("0421120" "0502962" "0830134" "1117656" "1550900" "1729945" "1835068" "2189671" "2225865" "2946619" "3998561" "4139956" "4667772" "5060758" "5113551" "5310274" "5383259" "5735329" "5839541" "5947229" "6059335").PN. OR ("6712181").URPN.	(US-PGPUB; USPAT; USOCR)	OR	OFF	OFF	2021/06/13 09:11 AM
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L28	20542	UHMWPE	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 09:17 AM
L29	3	UHMWPE and rope and bridge and harness	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 09:18 AM
L30	1182	UHMWPE and rope	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 09:18 AM
L31	76	UHMWPE and rope and harness	(US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	ON	2021/06/13 09:19 AM

			JPO; DERWENT; IBM_TDB)				
L32	10	L26 and (inch\$4 or length)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/13 09:29 AM
L33	19	(US-20080000719-\$ or US-20100213004-\$ or US-20070102240-\$ or US-20150297937-\$).did. or (US-3738449-\$ or US-5050704-\$ or US-2303954-\$ or US-5062344-\$ or US-5970697-\$ or US-7814938-\$ or US-9162091-\$ or US-5699657-\$ or US-6712181-\$).did. or (US-2600395-\$ or US-0330087-\$).did. or (GB-1420783-\$ or FR-1602226-\$ or DE-455971-\$).did. or (US-20210101032-\$).did.	(US-PGPUB; USPAT; USOCR; FPRS; DERWENT)	OR	OFF	OFF	2021/06/14 10:12 AM
L34	1	L33 and UHMWPE	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/14 10:13 AM
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L36	12	L35 and (inch\$4 or length or mm)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/06/15 02:19 PM
L37	240	"4036101"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY,	OR	ON	ON	2021/10/22 04:29 PM Ex. 1004

			CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
L38	546	(rope AND splice AND (inch OR inches) AND ((first ADJ end) pr (second ADJ end)) AND adjacent)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/10/22 04:36 PM
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L40	8	L39 AND (inch OR inches)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2021/10/22 04:47 PM
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PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.



⑪ 1.602.226

BRÈVET D'INVENTION

- ②① N° du procès verbal de dépôt 180.570 - Paris.
②② Date de dépôt 24 décembre 1968, à 10 h 15 mn.
Date de l'arrêté de délivrance 26 octobre 1970.
④⑥ Date de publication de l'abrégé descriptif au
Bulletin Officiel de la Propriété Industrielle. 4 décembre 1970 (n° 49).
⑤① Classification internationale A 62 b//B 60 r.

⑤④ **Étrier d'accrochage amovible pour ceinture de sécurité ou sangles analogues.**

⑦② Invention :

⑦① Déposant : LINDEROTH Hans, résidant en France (Paris).

Mandataire :

③⑦ Priorité conventionnelle :

③② ③③ ③① *Brevet d'invention dont la délivrance a été ajournée en exécution de l'article 11,
§ 7, de la loi du 5 juillet 1844, modifiée par la loi du 7 avril 1902.*

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La présente invention concerne, d'une façon générale, les étriers d'accrochage amovible des ceintures de sécurité et sangles analogues; elle a plus particulièrement pour objet un étrier déformable, mais non élastique, alliant la souplesse à une grande résistance mécanique.

5 On connaît une catégorie de ces étriers, faits d'un seul fil métallique ou fer rond, pratiquement indéformable, inadaptable aux efforts qui peuvent lui être appliqués selon des composantes très diverses (pression, traction, torsion, &c.)

D'autres, par exemple en corde textile ou câble souple, sont fabriqués, 10 au contraire, en matières souples, qui n'en permettent pas la fixation avec une seule main, alors que c'est la façon la plus rapide et la plus aisée d'attacher la boucle et, pour le conducteur d'une voiture en marche, la seule façon sans abandonner le volant.

L'étrier selon l'invention réunit, comme on l'a dit, la souplesse non 15 élastique, c'est-à-dire la déformabilité, et la résistance aux efforts de pression et de torsion, absorbant ses derniers grâce à sa structure interne, qui consiste en un corps (moyau) en fil de fer entouré de tressés composites planétaires, en sorte que:

a) l'étrier s'adapte à des points d'attache différents (selon le type 20 de carrosserie;

b) l'étrier s'adapte à la position plus ou moins avancée du siège du conducteur;

c) l'étrier peut être employé pour des sièges très serrés ou pour des banquettes avant ou arrière, en permettant toujours l'accrochage de la 25 boucle d'une seule main.

L'invention consiste essentiellement à constituer la longueur de l'étrier par une combinaison d'éléments concentriques ou planétaires comprenant:

1. un moyau en fil de fer raide, mais déformable, non élastique, qui 30 assure le maintien de l'étrier dans la position qui lui est donnée par l'utilisateur, et la résistance d'appui (contrebutée) au moment de l'accrochage de la boucle à verrou escamotable.

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2. une gaine intermédiaire, fait de plusieurs tresses souples, non élastiques, disposées autour du noyau axial de façon telle qu'elle apparaissent planétaires en section transversale d'ensemble. Chacune de ces tresses est elle-même constituée par plusieurs fils d'acier, de verre ou d'une matière équivalente, de petit diamètre, torsadés entre eux de façon classique. Ces tresses souples augmentent la résistance de l'étrier, sans en compromettre la souplesse;

3. une gaine tubulaire extérieure en matière plastique souple, sur les longueurs des deux branches latérales de l'étrier, entre les boucles terminales d'ancrage fixe et le demi-tore rigide sur lequel la boucle vient se verrouiller amovible;

4. la gaine hémitorique ci-dessus mentionnée, faite, de préférence, en acier rigide (éventuellement trempé), protégeant la partie arquée du sommet de l'étrier, celle qui est appelée à être saisie par la boucle à mécanisme verrouilleur automatique de la ceinture ou de la sangle à accrocher.

Les raccordements des gaines souples sur cette partie arquée et sur les boucles terminales peuvent être assurés par tout moyen convenable, connu ou adapté à l'une ou l'autre des applications inventives.

Le dessin annexé montre un exemple non limitatif d'application pratique de l'invention. On voit:

Fig.1, une vue générale de l'étrier selon l'invention;

Fig.2, sa coupe transversale agrandie, selon II-II de la fig.1.

La longueur totale de l'étrier comprend, de l'intérieur vers l'extérieur (fig.2):

- a) le noyau central 1, en fil de fer raide, déformable, non élastique;
- b) les tresses composites planétaires 2, au nombre arbitraire de six, chaque tresse étant, comme on l'a dit, faite d'un certain nombre de minces fils torsadés entre eux;
- c) la gaine extérieure 3. Sur la fig.2, il s'agit de la gaine rigide hémitorique, que prolongent (fig.1) les gaines souples 3a et 3b des branches latérales de l'étrier.

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.. Lors de la fabrication, le noyau filiforme 1 et les tresses planétaires 2 sont enfilés dans la gaine rigide 3, qui est encore rectiligne, et qui est arquée ensuite (sauf quand elle a été trempée). Cet arc rigide peut recevoir des crochets ou au moins une boucle à verrouillage automatique 5 (non représentée, car elle n'entre pas, en soi, dans le cadre du présent brevet).

Dans l'exemple décrit, les gaines souples 3a et 3b des branches de l'étrier sont avantageusement liées aux extrémités de l'arc rigide par soudure à chaud ou colmatage de la matière plastique; mais ce moyen classique n'est pas exclusif. 10

Chaque branche de l'étrier se termine respectivement par un anneau 4a, 4b, qui en permet l'ancrage sur tel crochet fixe (non représenté). Dans l'exemple décrit, ces anneaux et leurs pièces de raccordement sont enrobés par la même matière plastique que les branches latérales de l'étrier. 15

Une variante constructive peut consister à lier ensemble les deux extrémités des branches de l'étrier, par enrobage en matière plastique, bague rapportée, enroulement d'un lien souple, ou plusieurs de ces moyens en combinaison, de façon que les deux branches soient ancrées sur le même élément fixe.

Résumé

20 Etrier d'accrochage amovible pour ceinture de sécurité ou sangles analogues, comportant essentiellement deux branches souples réunies par une partie arquée rigide, la structure générale de cet étrier se décomposant comme suit:

a) un noyau axial en fil de fer raide, mais déformable et non élastique, 25 qui assure le maintien de l'étrier dans la position qui lui est donnée par l'utilisateur, et sa résistance d'appui lors de l'accrochage de la boucle à verrou escamotable;

b) un gainage intermédiaire, fait de plusieurs tresses souples, non élastiques, entourant planétairement le noyau central pour augmenter la 30 résistance de l'étrier, sans en compromettre la souplesse;

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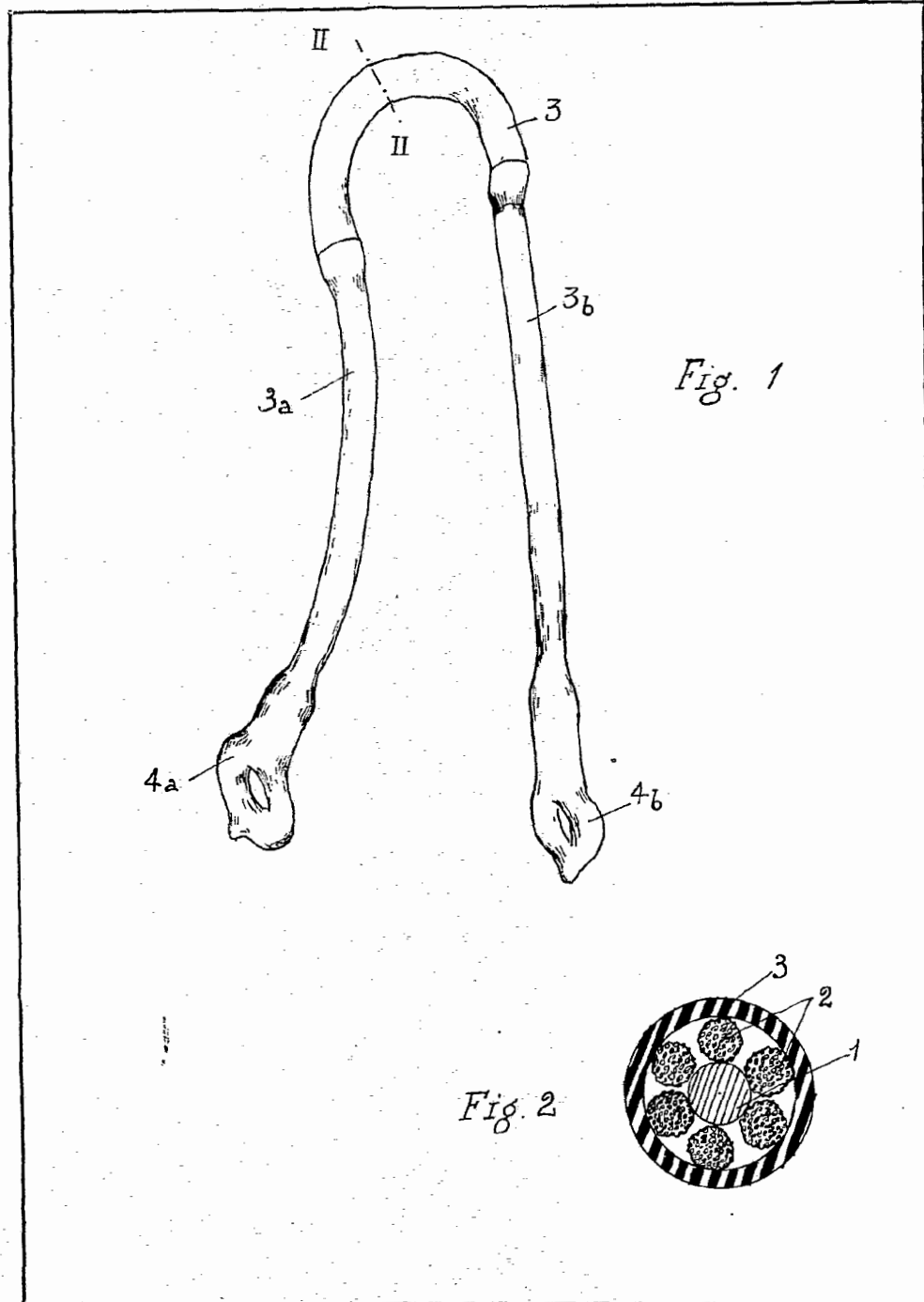
., c) une gaine tubulaire rigide, arquée, enveloppant le sommet de l'étrier et appelée à être saisie par la boucle à verrou escamotable de la ceinture ou sangle à accrocher..

Les branches latérales souples, dotées, à leur extrémité libre, d'un élément d'accrochage connu en soi, peuvent être réunies ensemble, par ces extrémités, pour être fixées en un même point d'accrochage.

Hans LINDEROTH

1602226

Pl. Unique



DEUTSCHES REICH



AUSGEGEBEN AM
14. FEBRUAR 1928

REICHSPATENTAMT
PATENTCHRIFT

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Mines Domaniales de Potasse d'Alsace in Wittelsheim.

Sicherheitsgürtel mit Dämpfungsfeder.

Mines Domaniales de Potasse d'Alsace in Wittelsheim.

Sicherheitsgürtel mit Dämpfungsfeder.

Patentiert im Deutschen Reiche vom 21. April 1925 ab.

Die Priorität der Anmeldung in Frankreich vom 5. März 1925 ist in Anspruch genommen.

Gegenstand der Erfindung ist ein Sicherheitsgürtel, der insbesondere für die in Bergwerksschächten beschäftigten Grubenarbeiter bestimmt ist und sich von den bekannten Vorrichtungen dieser Art dadurch unterscheidet, daß zur Stoßdämpfung beim Fall des Arbeiters eine Feder zwischen die beiden Enden einer am Seil vorgesehenen Schleife eingeschaltet ist, die an zwei an den Schleifenenden angebrachten Knoten angreift.

Abb. 1 zeigt den ganzen Gürtel mit Halteseil, Abb. 2 die Verbindung des Halteseils mit dem Gürtel.

An den z. B. aus Hanf hergestellten ganz geschlossenen Gürtel a sind an der Vorderseite zwei Riemen b^1, b^2 , die in Schnallen c^1, c^2 eingesteckt werden können, zum Anpassen des Gürtels an den Leib des Arbeiters angebracht. Beim Zusammenschnallen des Gürtels faltet sich der zwischen den Riemen und den Schnallen liegende Gürtelteil d , wie Abb. 1 zeigt. Vom Gürtel gehen zwei Tragbänder e^1, e^2 aus, die über die Schultern des Arbeiters verlaufen und gekreuzt sind. Die Schnallen f^1, f^2 dienen zur Einstellung der Tragbänder, die an der Vorderseite des Gürtels mittels der Karabinerhaken g^1, g^2 befestigt sind.

Das Halteseil h ist am Gürtel in folgender Weise befestigt: Der Gürtel ist an der Rückseite zwei- oder mehrfach zusammengefaltet, um an dieser Stelle eine größere Starrheit zu erhalten (Abb. 2, a^1, a^2). Dieser zusammengefaltete Gürtelteil wird von dem freien Ende h^1 des Seiles h umschlungen, und dieses

freie Seilende h^1 wird mit dem anderen Seilteil h durch Verspleißen bei h^2 (vgl. Abb. 1) verbunden. Ferner werden zu beiden Seiten des den Gürtel umschließenden Seilteiles zwei Platten j^1, j^2 , z. B. aus Leder, angebracht und mit dem Gürtel verbunden. Auf diese Weise wird eine sehr feste und zuverlässige Verbindung von Seil und Gürtel erreicht.

Am oberen Ende des Seiles ist eine Schleife k gebildet, an deren Enden zwei Knoten k^1, k^2 angebracht sind, zwischen die eine Feder l eingefügt ist, wie Abb. 1 erkennen läßt. Im Falle eines Sturzes des Arbeiters wird der auftretende Stoß durch die Feder l gedämpft. Wird die Feder l vollständig gespannt oder bricht sie, so wird das Seilstück der Schleife k aufgenommen, so daß ein Unfall nicht möglich ist.

Der neue Sicherheitsgürtel kann nicht nur bei Grubenarbeiten, sondern auch sonst überall da Verwendung finden, wo es sich darum handelt, einen Arbeiter bei einer mit Absturzgefahr verbundenen Beschäftigung zuverlässig zu halten.

PATENTANSPRUCH:

Sicherheitsgürtel mit Dämpfungsfeder, insbesondere für die in Bergwerksschächten beschäftigten Grubenarbeiter, dadurch gekennzeichnet, daß die Dämpfungsfeder (l) in das am Gürtel (a) befestigte Seil (h) oberhalb des Gürtels eingeschaltet ist und an zwei an den Enden einer Seilschleife (k) angebrachten Knoten (k^1, k^2) angreift.

Hierzu 1 Blatt Zeichnungen.

Abb. 1.

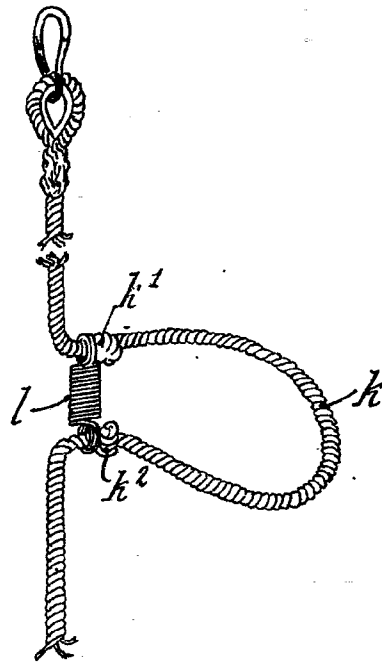
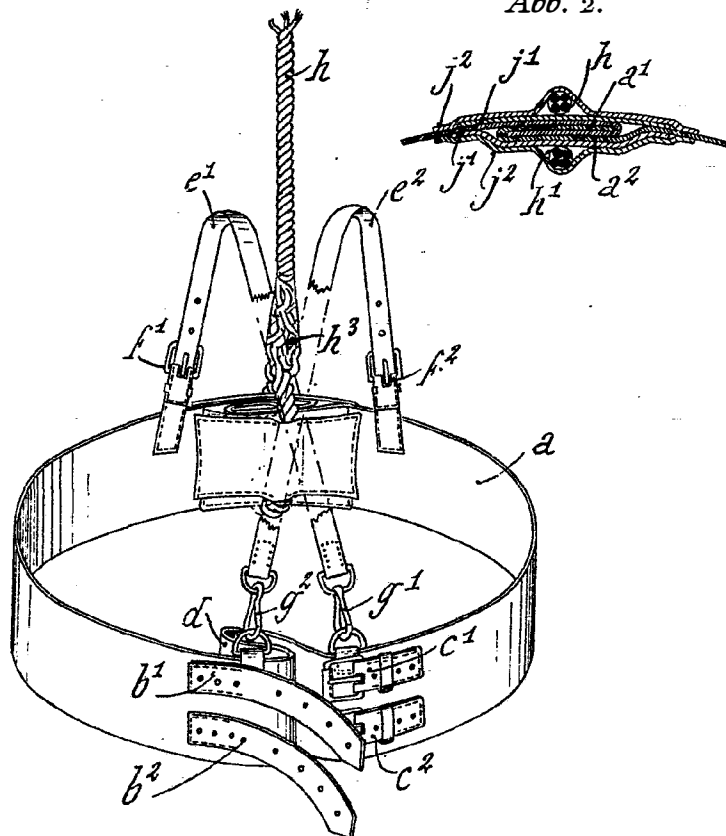


Abb. 2.



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(54) IMPROVEMENTS IN OR RELATING TO A BODY HARNESS

(71) I, JAMES AGOSTINO ARANCIO, of 202-04 32nd Avenue, Bayside, New York 11361, a citizen of the United States of America, do hereby declare the invention, for which I pray that patent may be granted to me, and the method by which it is to be performed to be particularly described in any by the following statement:—

This invention relates to a body harness for use, for example, by firemen, or for rescue, escaping or searching operations. The harness may be used by a fireman to descend from one floor of a building, to the floor below if he, or other people, are trapped in a burning building. The firemen can descend while holding one person to bring him down.

Descent devices are known which comprise an anchored flexible line or rope operatively controlling a harness in descent.

According to the present invention there is provided a body harness comprising support means, which support means comprise a waist support means for engagement about a waist of a wearer and leg support means for engagement about the leg(s) of the wearer, the support means having a first end portion and a second end portion, means for detachably connecting the first and second end portions, which means for detachably connecting comprise a first connector member connected to the first or second end portion and engaging means on the other of the first or second end portion engageable by the first connector member, means for selectively adjusting the waist support means and the leg support means and a second connector member, the second connector member being a hook member being mounted directly or indirectly on the said other end portion and being movable relative to the engaging means and being adapted for slidable en-

[Price 33p]

gement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector member engages the engaging means.

Advantageously, there is provided a body harness comprising a flexible waist belt and a flexible leg belt, each belt having a first end portion and a second end portion, means for interconnecting the pair of first end portions of the belts, means for interconnecting the pair of second end portions of the belts, means for detachably connecting the interconnected pair of first end portions of the belts to the interconnected pair of second end portions of the belts at the front of a body of a wearer, which means for detachably connecting comprise a first connector member connected to one pair of interconnected end portions, the first connector member being a first connector hook member, and means on the other pair of interconnected end portions hookingly engageable by the first connector hook member, means for selectively adjusting the length of each belt and a second connector hook member, the second connector hook member being mounted directly or indirectly on the other interconnected pair of end portions and being movable relative to the hookingly engageable means and being adapted for slidable engagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector hook member hookingly engages the hookingly engageable means.

Advantageously, the means for interconnecting the first end portions comprises stitching attaching the first end portions to each other, and advantageously the means for interconnecting the second end

portions comprises a first buckle, a second buckle and means for interconnecting the first and second buckles such that, in use of the harness, one second end portion 5 adjustably passes around an element of the first buckle and the other second end portion passes around an element of the second buckle. Preferably, the means for detachably connecting the interconnected 10 first end portions to the interconnected second end portions comprises the first buckle and a third buckle, which third buckle has an element for engaging a loop at the stitched together first end portions, 15 the first or third buckle having the first connector member for engaging an element of the third or first buckle, respectively. The first connector member is preferably a hook member and advantageously a snap 20 lock hook.

Preferably, there is provided a harness and a coat openable at the front and having front free edges, means being provided for detachably attaching the harness to the 25 inside of the back of the coat and to the inside of the coat adjacent the free edges thereof. Advantageously, the means for detachably attaching the harness to the coat comprises a plurality of loop members connected to the harness and means for 30 quickly detachably attaching the loop members to the coat, one of the loop members preferably, comprising a loop which loop is slidable on an intermediate portion of the waist belt.

The invention enables the provision of a body harness, in use of which no knots are required in a suspension line. The line is for example, secured to a substantial object, or the line is looped around an anchoring object. The line is then wrapped 40 several times around a hook on the harness that a fireman or rescuer is wearing, so that the wearer can descend while his weight is supported by the anchored line. 45 The wearer pulls the free end of the line to stop and feeds the line upwardly in short increments, to allow descent. The wearer can move around and work while the harness is not being used for descent purposes. 50

The invention enables the provision of a harness which is detachably attached inside a fireman's coat, and comprises a dangling 55 hook which can readily be moved to the outside of the coat so that a line or rope can be readily wrapped therearound for descent purposes. The harness can be used with or without the coat. The coat is a 60 holder for the harness to keep it ready for use but yet keeps the harness concealed. The weight of the harness may be quite small. When using the harness for descent, the weight of the body of the wearer is on 65 the harness, and not on the coat. The line or

rope can be folded compactly into a plastics film bag which can be conveniently kept in a pocket of the coat. When it is desired to use the rope, the package is 70 taken out of the pocket, the plastics bag ripped open, and the rope taken out for use.

The harness may comprise an adjustable waist belt or strap, and an adjustable leg 75 belt or strap for encircling the legs of the wearer at the buttocks the leg belt becoming a seat for the fireman while he descends. These straps or belts are preferably loose on the body of the wearer, so as not to hinder movement when the apparatus is 80 not being used for descent.

These straps or belts may be adjusted to the wearer, and once adjusted properly, not too tightly, the wearer can work freely 85 without being hindered by the harness.

The invention enables the provision of a harness which is strong, rugged and safe, relatively inexpensive to manufacture, easy to use, comfortable to wear when not in use, and which shall yet be practical and 90 efficient to a high degree.

Often the need for a rope is called for at a fire and it is necessary to send back for it. Too often the rope is obtained too late to be effective and for this reason other 95 implements or methods are devised to substitute for it. With this in mind a light compact rope or suspension line unit to be carried by all firemen and ready for immediate use has been designed. It has been 100 designed to eliminate time consuming knots.

The harness may be attached (detachably) inside the fire fighter's turnout coat and may comprise a ladder hook 105 which can be readily moved to the outside of the coat so that the required 3 or 4 turns of a line or rope can easily be taken for descent purposes. The harness can be used with or without the coat. The coat 110 may be used as a holder for the harness to keep it ready for use but yet conceals the harness. The weight of the harness may be approximately 2 pounds. When using the harness for descent, the stress is normally 115 on the harness only, and not on the coat.

For a better understanding of the present invention and to show how the same may be carried into effect reference will now be made, by way of example, to the accompanying drawings in which:— 120

Figure 1 shows a perspective view, of a harness according to the present invention, being used by a fireman for descent,

Figure 2 shows a perspective view on an enlarged scale of the harness of Figure 1. 125

Figure 3 shows a perspective view of the harness without the coat, on a wearer's body during descent,

Figure 4 shows an enlarged cross-section 130

tional view taken on the line 4-4 of Figure 3,

Figure 5 shows an enlarged cross-sectional view taken on the line 5-5 of Figure 2,

Figure 6 shows a perspective view of a line or rope with safety snap hook, in a package,

Figure 7 shows a perspective view showing a fireman's descent on a modified harness in accordance with the present invention,

Figure 8 shows an enlarged inside view of a fireman's turnout coat with the harness of Figure 7,

Figure 9 shows a perspective view of the harness of Figure 8 on a body but without the coat,

Figure 10 shows an enlarged cross-sectional view taken on line 10-10 of Figure 9,

Figure 11 shows an enlarged cross-sectional view taken on line 11-11 of Figure 9,

Figure 12 shows an enlarged cross-sectional view taken on line 12-12 of Figure 8,

Figure 13 shows an enlarged perspective view of the lower end of the suspension line of Figure 7, and

Figure 14 shows an enlarged perspective view of the suspension line of Figure 7, packaged.

Referring now in detail to Figures 1 to 6 of the drawings, numeral 10 designates apparatus including the body harness according to the invention, shown in use by a fireman 11 for purposes of descent in Figure 1 from a window 12.

The apparatus 10 comprises generally a coat 14, a body harness 15 detachably or removably mounted thereon, and an anchoring line or rope 16.

The coat 14 may be usual fireman's coat or, for example, any coat having a body portion 20, arms 21, arm holes 21a and being split down the front forming side or free edges 22. The coat 14 is modified only to the extent that it is provided on the inside thereof with male snap fastener members 25 along its centreline, at the back below the arm holes 21a, and also at the sides in inwardly spaced relation to the edges 22, all at about the same level. Three substantially similar loops are detachably attached to the three snap fastener members 25 respectively, on the coat, one being a center loop 26, one a side loop 27 and another a side loop 28. The centre loop 26 comprises a strip of cloth or other suitable material folded in half about a transverse fold line (see Figure 5), the two folded portions being attached together by interengaging snap fastener elements 30, medially of the ends thereof, and attached together at the ends thereof by a female snap fastener member 31 which can snap onto the male snap

fastener element 25. The loops 27, 28 are similarly attached together and similarly detachably attached to the male fastener members 25 adjacent edges 22 of the coat. These loops can be snapped onto or removed from the coat. They are located inside the coat.

The harness 15 comprises a flexible waist belt or strap 35, looped at one end as at 36. The looped end is stitched back in place, as by stitching 37. The loop 36 passes through an eye 40 of a connector member such as a safety snap hook 41, which may be like the safety snap hook shown in Figure No. 3387 of North and Judd Manufacturing Company general hardware catalog No. 262 (New Britain Conn., 06050).

This safety snap hook comprises a hook 42 fixed to the eye 40, with a torsion spring pressed pawl or latch 43 pivoted thereto and engaging inside the tip of the hook. The loop 28 also passes through eye 40 as shown in Figure 3. Other snap hooks may be employed.

Stitched to the inside of belt 35, short of its other end, as at 44, is a strip loop 45. Loop 45 engages around the second strap 46 of a buckle 47 which may be like the Tabler buckle shown in Figure 01136 of page 39 of the North and Judd catalog No. 262. The buckle has a first strap 48, a third strap 49 and a fourth strap 50 in addition to the second strap 46. The straps 48 and 50 are outside straps. The end portion 35a of belt 35 passes through loop 27, then through a swivel loop 52 of a connector hook member such as a loose swivel safety snap hook 53 which may be like the one shown on page 40 of the Star Brank Tackle Blocks and Fittings for Heavy Hardware, Public Utility and Marine Catalog No. 115 of Boston and Lockport Block Company, Inc. of 100 Condor Street, East Boston, Massachusetts 02128, listed under No. 4185 G. In this snap hook 53, the loop 52 is swivelled on a hook portion 54 provided with a spring pressed snap pawl or latch 55.

The end portion 35a of belt 35, after passing through swivel loop 52, again passes through loop 27 (Figure 4) and around strap 49 of buckle 47, then again through loop 27. It will now be understood that the length of belt 35 can be adjusted to fit the wearer.

It will be understood that the snap hook 53 may be engaged with or snapped onto any anchoring means such as a ring on a strap looped onto a rung of a ladder or to any other object to serve as a safety measure to hold the wearer securely while his hands are free to operate any apparatus.

The harness 15 further comprises a flexible leg belt 60. One end of belt 60 is

like the adjustable end 35a of belt 35. It has a loop, like loop 45, attached thereto and similarly looped around a strap of a buckle like buckle 47. It also has one end passing through loop 27, through the swivel loop 52 of safety snap hook 53, then back through the loop 27, then around a strap of the buckle, and back through the loop 27. The belt 60 passes around the legs of the wearer loosely so that the leg belt or strap can be pulled below the buttocks to permit the wearer to sit thereon when suspended, as explained hereinafter. At the other end of belt 60 is a loop 62 passing through eye 40 of safety snap hook 41. The swivel loop 52, therefore, is a means for interconnecting one pair of ends of the waist and leg belt and the eye 40 is a means for interconnecting the other pair of ends of the waist and leg belt.

When the coat is worn and buckled or closed at the front, the swivel hook 53 hangs down at the middle near the front split in the coat. The harness hangs from the coat. Its weight is only a few pounds. It is loose enough on the body of the wearer so as not to hinder movement or the work being done by the fireman. The weight of the harness being small does not impede the wearer's work. When the harness is not being used for purposes of descent, it just stays in the coat but is always ready for use.

The suspension line 16 may comprise a rope or other flexible element 70, to one end of which is attached a safety snap hook 71 which may be like the hook 41 or like the hook 53 as shown in Figure 3. The rope 70 may be made of nylon, 3/8" in diameter and spliced to the safety snap hook, or it may be of any other suitable material and of suitable tensile strength, length and diameter. Any suitable flexible line or cord will do.

The rope may be compactly folded into a clear plastics film bag 75 (Figure 6), which may be carried in a pocket of the coat.

The suspension line may thus consist of a length of nylon line, to which a forged steel safety snap hook is spliced to one end and a loop eye spliced to the other end. It is folded for quick use and is packaged in a plastics bag. Features such as compactness, lightness in weight and great strength make this unit practical in many aspects of fire fighting. It has been designed to work in conjunction with the harness. The main function of the safety snap hook is to eliminate time consuming knots.

To use the apparatus for descent for example from a window, the bag 75 is ripped open, the hook of the line 16 is passed around any suitable, substantial, fixed ob-

ject such as a riser 76, and the hook is then snapped onto the rope. The hook 53 is then pulled out from the coat, and the rope is wrapped several times (3 or 4 times) around the hook portion 54 as shown in Figure 3. The fireman lets himself out of the window holding the loose end of the rope in one hand, as shown in Figure 1, and the taut part of the rope is held with his other hand. To stop, the user pulls the free end of the rope. To descend, the user feeds the rope up toward the hook 53. When the harness is in use, the hook 42 detachable engages the swivel loop 52 thereby interconnecting the ends of the waist and leg belts at the front of the body of the fireman.

The rope should be strong enough to permit the fireman to carry a person being rescued.

In a majority of cases, where a fireman or others are trapped on a burning floor, it is only necessary to descend one floor. Hence rope lengths of 30 feet to 50 feet are usually sufficient.

This apparatus can be used for rescue operations other than those which occur in fires.

The harness may be used without the coat and is detachable from the coat. No knots are required. The harness is adjustable for various sized users. The rope can be of any desired length.

In Figures 7 to 14, there is illustrated a modified form of the invention. The apparatus or device of Figures 7 to 14 comprise a harness 100, a fireman's turnout coat 101 and a suspension line 102.

The suspension line or rope may be wound as shown in Figure 6, and packaged in a clear plastics bag 103 with its neck constricted and tied by a string 104, all as shown in Figure 14. At one end of the suspension line is a snap lock hook 105. The other end of the line may be folded back and spliced on at 106, to form a stop and a loop 107. A metal plate 108 has a hole for the line or rope to go through. The plate 108 can contact stop 106. Thus, if a fireman is sliding down line or rope 102, he won't slide off, since the plate 108 prevents sliding off. To anchor the line, the upper end of the rope or line is wrapped about a pipe or any other fixed object, and the snap hook 105 engaged with the rope or line.

The harness 100 comprises a waist belt 111 and a leg belt 112. These may be made of canvas or leather or of any other suitable flexible material. One end 111a of belt 111 is folded back onto itself as shown in Figure 11, and stitched to the belt as at 115, to provide an end loop or eye 118, and a front loop or eye 119. The loop or eye 119 is narrower than the belt 130

as shown in Figure 9. The adjacent end 112a of belt 112 is inclined upwardly and interposed between belt 111 and the folded back end portion 111a of the belt, and
 5 stitched thereto by lines of stitching 116. A strap 120 has its lower end interposed between belt ends 112a and 111a and stitched thereto as by stitching 121. At the upper end of strap 120 is a female snap
 10 fastener member 123 for the purpose hereinafter appearing.

For engagement with the suspension line 102 there is provided a hook member 125 which comprises an eye 126 through which
 15 the eye or loop 119 passes freely so as to allow relative movement between the eye 126 and the belt 111. Member 125 further comprises a hook 127 integral with the eye 126, and a spring pressed snap lock or
 20 latch 128 pivoted to the neck of the hook, for closing the hook. As shown in Figure 9, the suspension line may be wrapped about hook 127. The rope is paid out to allow descent and pulled down, below the
 25 hook, to brake the descent.

A first buckle 130 has an end transverse strap 131 passing through eye or loop 118, an end loop 132 and an intermediate cross-
 strap 133.

30 Means are provided to interconnect the opposite ends of belts 111, 112 to each other, to allow selective adjustment of the lengths of the belts; and to detachably connect the interconnected opposite ends of the
 35 belts to the buckle 130. To this end there is provided a second buckle 140 having at one end a hook 141 provided with a spring pressed snap lock or latch to close the hook. Extending from hook 141 is a
 40 buckle portion 142 comprising parallel end portions 143, 144 interconnected by parallel side portions 145. An intermediate, transverse slider pin or rung 146 has its ends bifurcated and slidably engaging the side portions
 45 145 of the second buckle. The opposite end 111b of the waist belt 111 is wrapped around slider pin 146 and folded back at 111c against the outside of the belt. The length of belt 111 may be individually
 50 adjusted. After adjustment, the folded back portion may be detachably fixed in place against flapping and to maintain the adjustment, by a removable snap fastener 148 as shown in Figure 9. A
 55 second strap 150 may be looped about belt 111 and its folded back portion 111c, to be disposed close to the second buckle 140. After adjustment of the length of belt 111, strap 150 may be detachably fixed to the
 60 belt by a detachable snap fastener member or rivet 151. Strap 150 has a female snap fastener member 152 at its upper end for the purpose hereinafter described.

There is further provided a third buckle 65 153 which has two end cross straps 154,

interconnected to a pair of parallel side portions 156. Straps 144 and 155 of buckles 140, 153 are interconnected by a flexible strap 157. On side portions 156 is
 70 slidably mounted a cross-pin 159.

The opposite end 112b of leg belt 112 is wrapped around pin 159 and folded back at 160 against the outside of the belt. The length of belt 112 may be adjusted. After
 75 adjustment, belt end 160 may be detachably fastened to the main body of the belt by a snap fastener or rivet 161.

The harness may be detachably supported inside the fireman's turnout coat 101, similar to coat 14 of Figure 2, at
 80 waist height. This is accomplished by means of the straps 120 and 150. The female fastener members on the straps are snapped onto complementary snap fastener members attached to the coat adjacent the
 85 split front edges 170 of the coat and located at the inside of the coat, at waist height.

A third strap 172 carries a female snap fastener member 173 which may be snap
 90 fastened to a male snap fastener member 174 riveted to the coat at the middle of the back at waist height. Snap fastener member 174 is similar to the male snap fastener members attached to the coat near
 95 the split edges 170 for engagement with the snap fastener members 123, 152 on straps 120, 150, and are similarly riveted to the coat.

Strap 172 has a loop 172a slidably receiving an intermediate portion of the waist
 100 belt 111. The hook member 125 may be removably strapped to the inside of coat 101 by a strap 180 having snap fastener members 181 adapted to snap onto complementary snap fastener members on the
 105 coat. Strap 180 is used when the harness is worn but not being used, in order to keep the hook member from swinging around. Strap 180 can easily have one end detached to allow the hook to pass out between the split edges 170 of the coat, for
 110 engagement with the suspension line.

It will thus be seen that there is provided an article in which the several
 115 provisions of this invention may be achieved, and which is well adapted to meet the conditions of practical use.

WHAT WE CLAIM IS:—

1. A body harness comprising support means, which support means comprise a
 120 waist support means for engagement about a waist of a wearer and leg support means for engagement about the leg(s) of the wearer, the support means having a first
 125 end portion and a second end portion, means for detachably connecting the first and second end portions, which means for detachably connecting comprise a first connector member connected to the first or 130

second end portion and engaging means on the other of the first or second end portion engagable by the first connector member, means for selectively adjusting the waist support means and the leg support means and a second connector member, the second connector member being a hook member being mounted directly or indirectly on said other end portion and being movable relative to the engaging means and being adapted for slidable engagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector member engages the engaging means.

2. A harness according to Claim 1, wherein the support means comprises two first end portions and two second end portions, the harness further comprising means for interconnecting the first end portions and means for interconnecting the second end portions.

3. A body harness comprising a flexible waist belt and a flexible leg belt, each belt having a first end portion and a second end portion, means for interconnecting the pair of first end portions of the belts, means for interconnecting the pair of second end portions of the belts, means for detachably connecting the interconnected pair of first end portions of the belts to the interconnected pair of second end portions of the belts at the front of the body of a wearer, which means for detachably connecting comprise a first connector member connected to one pair of interconnected end portions, the first connector member being a first connector hook member, and means on the other pair of interconnected end portions hookingly engagable by the first connector hook member, means for selectively adjusting the length of each belt and a second connector hook member, the second connector hook member being mounted directly or indirectly on said other interconnected pair of end portions and being movable relative to the hookingly engageable means and being adapted for slidable engagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector hook member hookingly engages the hookingly engageable means.

4. A harness according to Claim 3, wherein at least one interconnected pair of end portions are interconnected such that the two end portions are not directly attached to each other and are capable of movement relative to each other and wherein, in use of the harness, the second

connector hook member is located at the front of the body of the wearer when the interconnected pair of first end portions are connected to the interconnected pair of second end portions.

5. A harness according to Claim 2, 3 or 4, wherein the means for interconnecting the first end portions comprises stitching attaching the first end portions to each other.

6. A harness according to any one of Claims 2 to 5, wherein the means for interconnecting the second end portions comprises a first buckle, a second buckle and means for interconnecting the first and second buckles such that, in use of the harness, one second end portion adjustably passes around an element of the first buckle and the other second end portion passes around an element of the second buckle.

7. A harness according to Claim 6, when dependent upon Claim 5, wherein the means for detachably connecting the interconnected first end portions to the interconnected second end portions comprises the first buckle and a third buckle, which third buckle has an element for engaging a first loop at the stitched together first end portions, the first or third buckle having the first connector member for engaging an element of the third or first buckle, respectively.

8. A harness according to any one of Claims 3 to 7, which further comprises means for attaching the second end portions of the belts to the main body of the respective belts after adjustment of the lengths of the belts.

9. A harness according to any one of Claims 5 to 8, which further comprises a loop or second loop at the stitched together first end portions for engaging the second connector hook member.

10. A harness according to any one of the preceding claims, wherein the first connector member comprises a snap lock hook.

11. A harness according to any one of the preceding claims, wherein the second connector hook member comprises a hook having a snap lock.

12. A harness according to any one of the preceding claims, in combination with a suspension line for winding around and slidably contacting, in use of the harness, the second connector hook member in a manner allowing the paying out of the line as the body lowers.

13. A harness in combination with a suspension line according to Claim 12, wherein the suspension line comprises a flexible elongate element having a snap hook at one end thereof.

14. A harness in combination with a

suspension line according to Claim 13, which further comprises a stop at another end of the element and a plate having a hole therein through which hole, in use of the harness and line, the element passes, the plate being located adjacent the stop.

15. A harness according to any one of the preceding claims, and a coat, means being provided for detachably holding the second connector hook member to the inside of the coat.

16. A harness according to any one of the preceding claims, and a coat openable at the front and having front free edges, means being provided for detachably attaching the harness to the inside of the back of the coat and to the inside of the coat adjacent the free edges thereof.

17. A harness and coat according to Claim 16, wherein the means for detachably attaching the harness to the back of the coat and adjacent the front edges thereof are substantially at the same level.

18. A harness and coat according to Claim 16 or 17, wherein the means for detachably attaching the harness to the coat comprises a plurality of loop members connected to the harness and means for quickly detachably attaching the loop members to the coat.

19. A harness and coat according to Claim 18, wherein one of the loop members comprises a loop which loop is

slidable on an intermediate portion of the waist belt or waist support means. 35

20. A harness according to Claim 19, wherein other loop members are located adjacent the first and second end portions of the waist belt or waist support means.

21. A body harness, substantially as hereinbefore described with reference to, and as shown in, Figures 1 to 6 of the accompanying drawings. 40

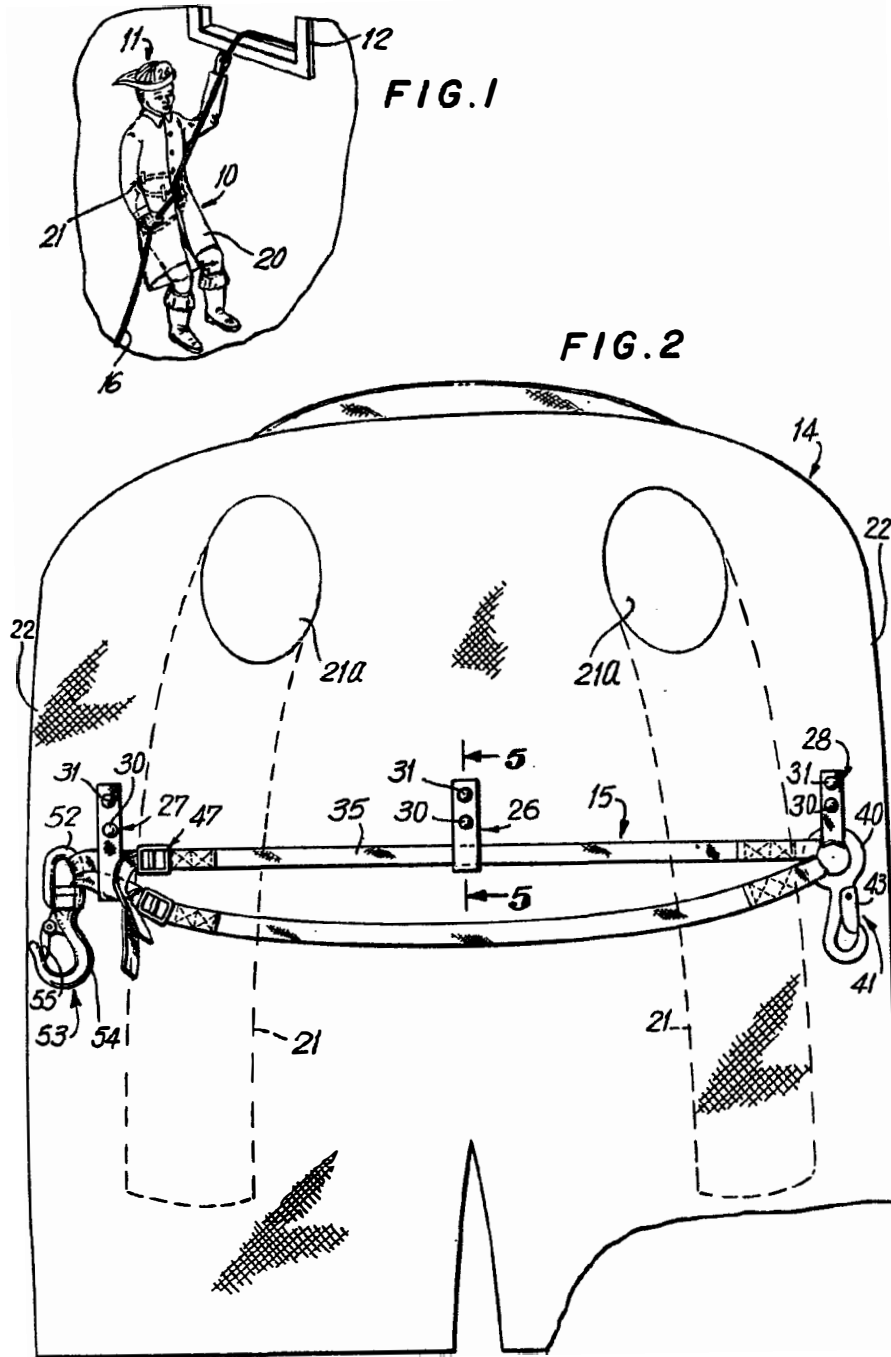
22. A body harness, substantially as hereinbefore described with reference to, and as shown in, Figures 7 to 14 of the accompanying drawings. 45

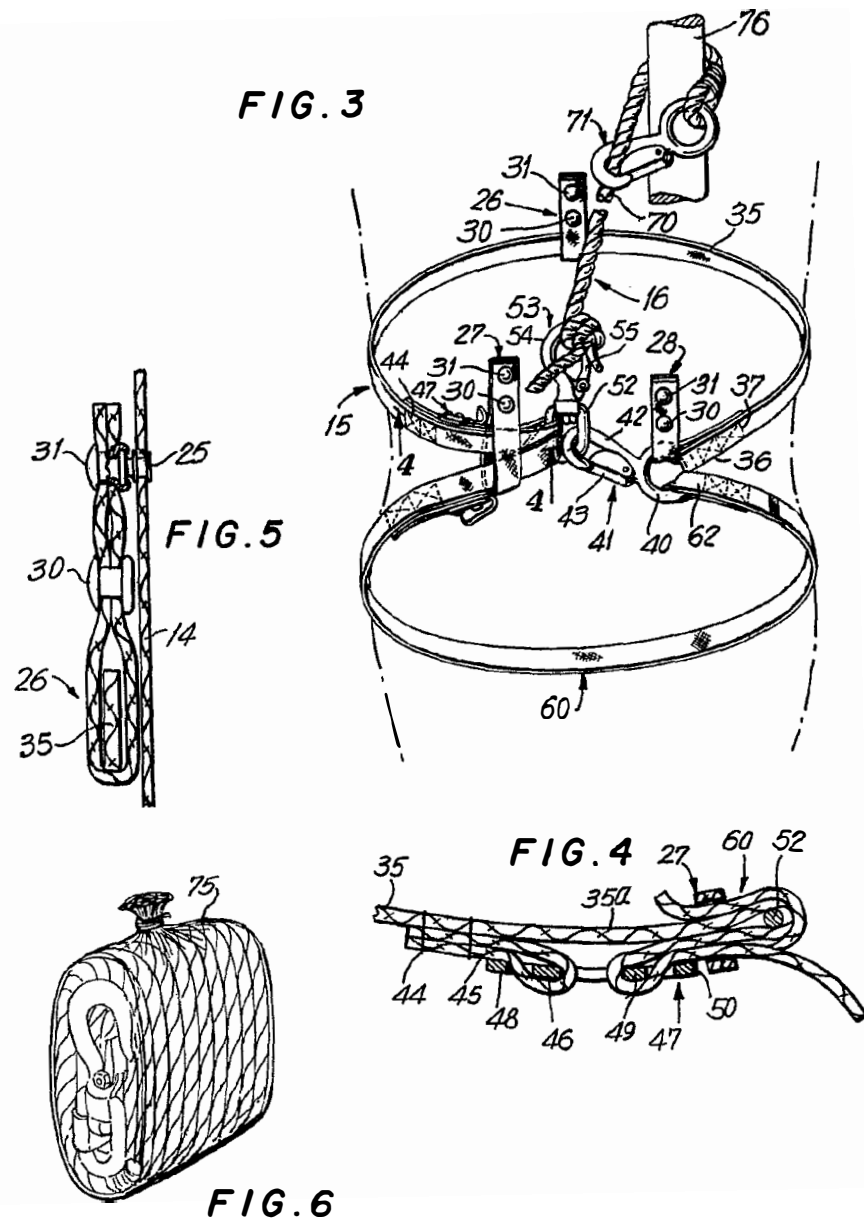
23. A body harness attached to a coat, substantially as hereinbefore described with reference to, and as shown in, Figures 1 to 50 6 of the accompanying drawings.

24. A body harness attached to a coat, substantially as hereinbefore described with reference to, and as shown in, Figures 7 to 14 of the accompanying drawings. 55

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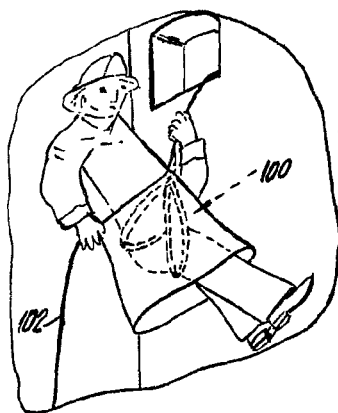


FIG. 7

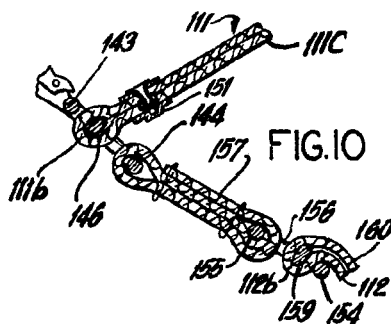


FIG. 10

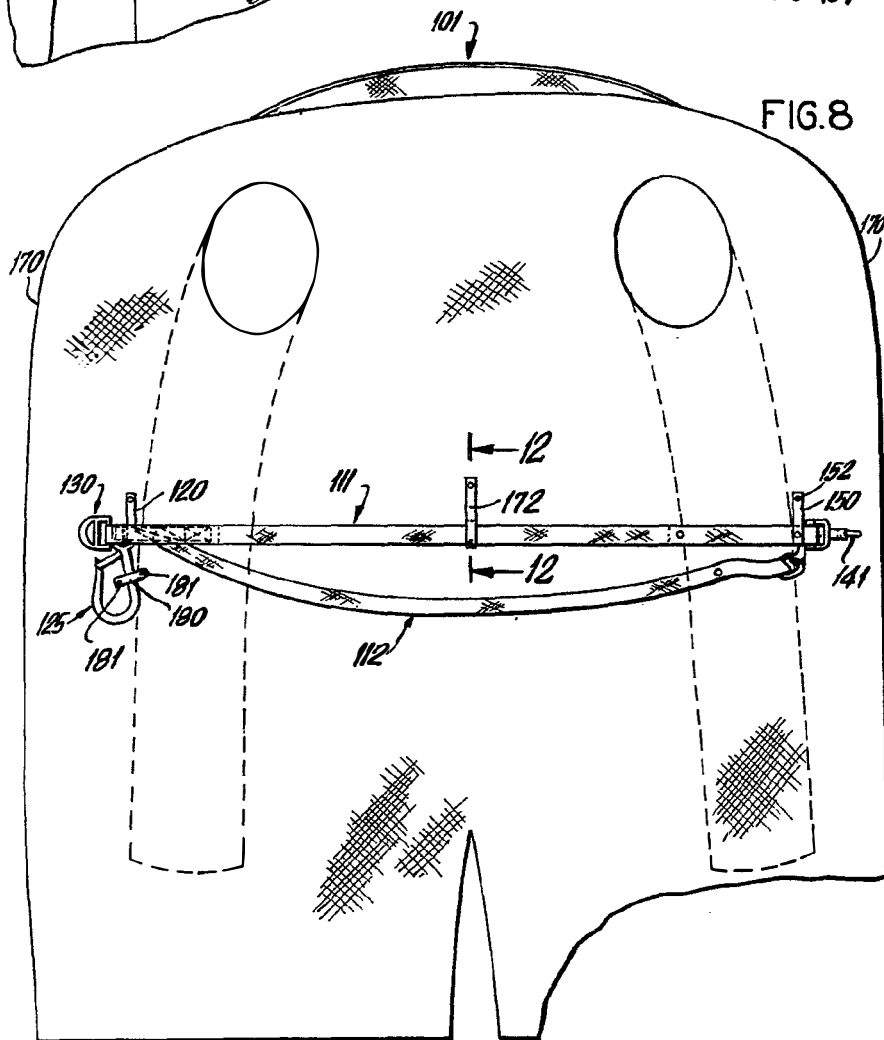
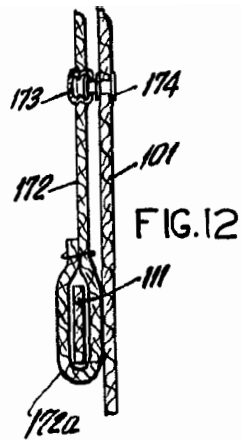
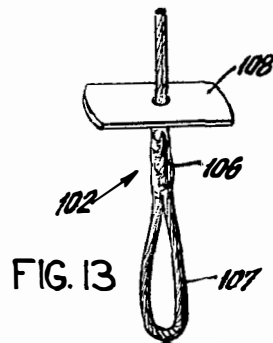
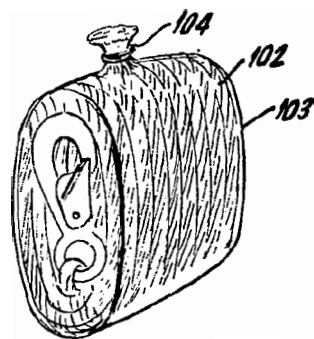
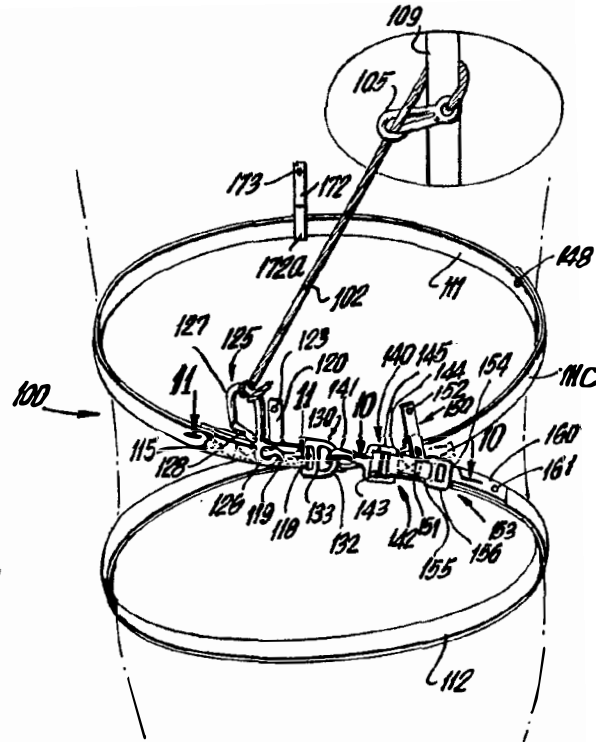
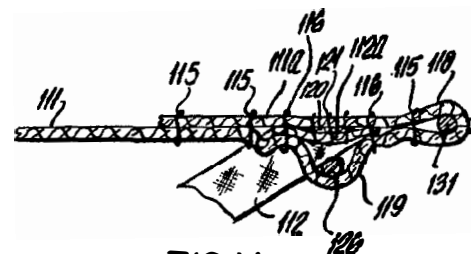


FIG. 8



Electronic Acknowledgement Receipt

EFS ID:	43851825
Application Number:	17231717
International Application Number:	
Confirmation Number:	1069
Title of Invention:	Bridge Rope Assembly
First Named Inventor/Applicant Name:	Walter Ernest Power
Customer Number:	44088
Filer:	Brendan Bennett Dix
Filer Authorized By:	
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1	Applicant Arguments/Remarks Made in an Amendment	TETH115FirstOA.pdf	40545	no	10
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of)
Walter Ernest Power II)
Serial No.: 17/231,717)
Filed: 04/15/2021)
For: Bridge Rope Assembly)
Examiner: Candace L Bradford)
Group Art Unit: 3634)
Attorney: Sean A. Kaufhold)

Mail Stop Non-Fee Amendment
Honorable Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I CERTIFY THAT THIS PAPER (ALONG WITH ANY REFERENCED TO AS BEING ATTACHED OF ENCLOSED) IS BEING TRANSMITTED TO THE COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450 ON September 23, 2021, VIA THE USPTO-EFS-WEB FILING SYSTEM. By: /brendanbdix/

FEE CALCULATION: No Additional Fees Due. Upon entry of the below amendment, the total number of claims will be 20 or less, and the number of independent claims will be 3 or less.

AMENDMENT

Responsive to the Office Action mailed on June 23, 2021.

Table of Contents

Amendments in the Claims: page 2
Amendments in the Specification: none
In the Abstract: none
Remarks: page 5
Conclusion: page 10

Amendments in the Claims: (struck-through parts deleted and underlined parts added)

1. (currently amended) A bridge rope assembly configured to couple together a tree rope to a first bridge loop and a second bridge loop on a harness, the bridge rope assembly including:

a main body comprising a rope having a first end and a second end, the main body having a splice therein to form an eye loop in the main body, the eye loop being configured to engage the first bridge loop, the main body comprising a first portion including the first end and a second portion including the second end, the first portion extending through the second portion of the main body such that the first end is positioned within the second portion adjacent to the second end, a distance between the first and second ends being less than 2.0 inches.

2. (original) The bridge rope assembly according to claim 1, wherein the rope has a length from the first end to the second end between 72.0 inches and 126.0 inches.

3. (original) The bridge rope assembly according to claim 1, wherein a distance of the eye loop to the second end is between 24.0 inches and 40.0 inches.

4. (original) The bridge rope assembly according to claim 3, further including a securing member being positioned on the main body at a juncture of the first and second ends to retain the first and second ends at a static position relative to each other.

5. (original) The bridge rope assembly according to claim 4, wherein the main body includes a stop knot in the second portion adjacent to the second end.

6. (original) The bridge rope assembly according to claim 1, further including a friction hitch being positioned on the main body between the stop knot and the eye loop, the friction hitch being configured to engage the second bridge loop, the friction hitch

comprising a closed loop, the closed loop comprising a single rope being formed into the closed loop with a splice having a pair ends each being buried into the closed loop a distance of at least 40% of a total circumference of the closed loop.

7. (original) The bridge rope assembly according to claim 6, wherein the single rope of the closed loop has a length between 40.0 inches and 60.0 inches.

8. (original) The bridge rope assembly according to claim 7, wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches.

9. (original) The bridge rope assembly according to claim 6, wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches.

10. (original) The bridge rope assembly according to claim 9, wherein the main body and the friction hitch each are comprised of UHMWPE.

11. (original) The bridge rope assembly according to claim 1, wherein the main body is comprised of UHMWPE.

12. (original) The bridge rope assembly according to claim 9, wherein a distance of the eye loop to the second end is between 24.0 inches and 40.0 inches.

13. (original) The bridge rope assembly according to claim 12, wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches.

14. (currently amended) A bridge rope assembly configured to couple together a tree rope to a first bridge loop and a second bridge loop on a harness, the bridge rope assembly including:

a main body comprising a rope having a first end and a second end, the main body having a splice therein to form an eye loop in the main body, the eye loop being configured to engage the first bridge loop, the main body

comprising a first portion including the first end and a second portion including the second end, the first portion extending through the second portion of the main body such that the first end is positioned within the second portion adjacent to the second end, a distance between the first and second ends being less than 2.0 inches, the rope having a length from the first end to the second end between 72.0 inches and 126.0 inches, a distance of the eye loop to the second end being between 24.0 inches and 40.0 inches;

a securing member being positioned on the main body at a juncture of the first and second ends to retain the first and second ends at a static position relative to each other;

the main body including a stop knot in the second portion adjacent to the second end;

a friction hitch being positioned on the main body between the stop knot and the eye loop, the friction hitch being configured to engage the second bridge loop, the friction hitch comprising a closed loop, the closed loop comprising a single rope being formed into the closed loop with a splice having a pair ends each being buried into the closed loop a distance of at least 40% of a total circumference of the closed loop, the single rope of the closed loop having a length between 40.0 inches and 60.0 inches, the closed loop having a total circumference of between 20.0 inches and 30.0 inches;

the main body and the friction hitch each being comprised of UHMWPE.

REMARKS

Section 1 of the Office Action

The drawings are objected to for failing to show limitations found in the claims. Corrected drawing sheets are required.

It is respectfully submitted case law is settled that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is silent on the issue. It follows that the specification is therefore sufficient to establish or state the proportions which are not otherwise shown in the drawing figures. As such, there is a sincere belief that the specific limitations of greater than 40% of the total length as in two of the claims is not something which requires specific showing in the drawings provided the drawings are not such that the claim limitation appears contrary to the drawings. As such, with no objection to the drawings as being contrary to or inconsistent with the written description which incorporates the specific language of the claim limitations, the drawings are not believed to be objectionable.

Withdrawal of the objection is respectfully requested by the applicant.

Section 2 of the Office Action

Claim 2 is rejected under 35 U.S.C. §112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

The rejection is not understood. Claim 2 references “the rope” and claim 1 sets forth “a rope”. It is respectfully submitted that claim 2 specifically references a specific element introduced in claim 1. No objection is presented to having a bridge rope in the preamble of claim 1 as being confusing in view of introducing a main body comprising a rope. If these terms in claim 1 are sufficiently clear in claim 1, it is not understood how reference to “the rope” as opposed to “the bridge rope” would be indefinite.

Withdrawal of the rejection is respectfully requested by the applicant.

Section 3 of the Office Action

Claims 1 and 3 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 20080000719 to Jones in view of U.S. Patent 5699657 to Paulson.

Claim 1 has been amended to clarify the structure of the invention and distinguish from the collective teaching of the cited references. Specifically, the first portion extends through the second portion of the main body such that the first end is positioned within the second portion adjacent to the second end with a distance between the first and second ends being less than 2.0 inches. These limitations are provided for in the original disclosure including the drawings as originally filed. The Figures form part of the disclosure of a patent and are capable of providing support for claim limitations that are not specifically stated in the written detailed description. (See, e.g., *Vas-Cath, Inc. v. Marhurkar*, 19 USPQ2d 1111 (Fed. Cir. 1991)). Therefore, no new matter has been introduced. It is respectfully submitted these limitations are not disclosed, taught, suggested, or contemplated within the cited references. Jones is acknowledged not to teach a first portion extending through a second portion with the first end positioned within two inches of the second end. The rejection cites Paulson Figure 4 as showing this limitation. Applicant respectfully disagrees. Paulson teaches various splicing configurations but as discussed above, it is well settled case law that the drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is silent on the issue. Paulson does not disclose any specific position of the first end relative to the second end. Figure 4 is without dimensions and the specification is silent as to specific dimensions or proportions such that there is no basis for determining Paulson teaches a first end being positioned within a second portion and within two inches of the second end. The rejection and specifically the reason expressed as to why one of ordinary skill in the art would be motivated to modify Jones in view of Paulson has nothing to do with positioning of the first end within two inches of the second end such that claim 1 such that a prima facie case for obviousness has not been properly established. Therefore, claim 1 should be allowed. By virtue of dependence on claim 1, claim 3 is believed to be allowable.

Withdrawal of the rejection is respectfully requested by the applicant.

Section 4 of the Office Action

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 20080000719 to Jones in view of U.S. Patent 5699657 to Paulson, and further in view of U.S. Patent Publication No. 20150297937 to Burkinshaw.

By virtue of dependence on claim 1, claim 2 is believed to be allowable.

Withdrawal of the rejection is respectfully requested by the applicant.

Section 5 of the Office Action

Claims 4 and 5 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 20080000719 to Jones in view of U.S. Patent 5699657 to Paulson, and further in view of U.S. Patent 2600395 to Domoj.

By virtue of dependence on claim 1, claim 4 is believed to be allowable. Further, with respect to claim 4, the rejection acknowledges Jones and Paulson do not teach the securing member as claimed. It is respectfully submitted the element 25 of Domoj is positioned only over a single end of an exposed end of rope. The claim limitation relates to the positioning of the securing member over both the first and second ends. However, with the first end being positioned within the second portion the reasoning for extending the securing member to cover both the first and second ends, i.e. to prevent detachment and fraying, would not apply to the first end which is not in a position to fray or be detached as it is within the second portion of the rope. Thus, the collective teaching of the cited references does not address the totality of the claim limitations and fails to establish obvious such that claim 4, independent of dependence on claim 1, should be allowed. By virtue of dependence on either claim 1 or claim 4, claim 5 is believed to be allowable.

Withdrawal of the rejection is respectfully requested by the applicant.

Section 6 of the Office Action

Claims 6 through 9, 12 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 20080000719 to Jones in view of U.S. Patent 5699657 to Paulson, and further in view of U.S. Patent 330087 to Binns.

By virtue of dependence on claim 1, claims 6 through 9, 12, and 13 are believed to be allowable. Further, with respect to claim 6, the rejection acknowledges Jones and Paulson do not teach the splicing of greater than 40% of the circumference of the closed loop. Again, it is well settled case law that the drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is silent on the issue. The rejection of claim 6 sets forth that Binns teaches the claim limitation but the drawings cannot show it and the specification is silent. Therefore, a prima facie case for obviousness of claim 6 is not properly established and claim 6 should be allowed independent of any determination of the allowance of claim 1.

Withdrawal of the rejection is respectfully requested by the applicant.

Section 7 of the Office Action

Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 20080000719 to Jones in view of U.S. Patent 5699657 to Paulson, and U.S. Patent 330087 to Binns, and further in view of U.S. Patent Publication No. 20150297937 to Burkinshaw.

By virtue of dependence on claim 1, claim 10 is believed to be allowable.

Withdrawal of the rejection/objection is respectfully requested by the applicant.

Section 8 of the Office Action

Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 20080000719 to Jones in view of U.S. Patent 5699657 to Paulson, and further in view of U.S. Patent Publication No. 20150297937 to Burkinshaw.

By virtue of dependence on claim 1, claim 11 is believed to be allowable.

Withdrawal of the rejection is respectfully requested by the applicant.

Section 9 of the Office Action

Claim 14 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 20080000719 to Jones in view of U.S. Patent 5699657 to Paulson, and further in view U.S. Patent 2600395 to Domoj and U.S. Patent Publication No. 20150297937 to Burkinshaw.

By virtue of being similarly amended and including the same limitations as each of claims 1, 4, and 6, claim 14 is believed to be allowable.

Withdrawal of the rejection is respectfully requested by the applicant.

CONCLUSION

In light of the foregoing amendments and remarks, early consideration and allowance of this application are most courteously solicited.

Respectfully submitted,

/brendanbdix/

Date: 09/23/21

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Sioux Falls, SD 57109

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/231,717	Filing Date 04/15/2021	☐ To be Mailed
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ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *		x \$50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *		x \$240 =	
☐ 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))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED - PART II

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	09/23/2021		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	* 14	Minus	** 20	= 0	x \$50 = 0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0	x \$240 = 0
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						0
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/231,717	04/15/2021	Walter Ernest Power II	TETH115

CONFIRMATION NO. 1069

44088
KAUFHOLD DIX PATENT LAW
P. O. BOX 89626
SIOUX FALLS, SD 57109

PUBLICATION NOTICE



OC000000127326128

Title:Bridge Rope Assembly

Publication No.US-2021-0228923-A1

Publication Date:07/29/2021

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/231,717	04/15/2021	Walter Ernest Power II	TETH115	1069

44088 7590 06/23/2021
KAUFHOLD DIX PATENT LAW
P. O. BOX 89626
SIOUX FALLS, SD 57109

EXAMINER

BRADFORD, CANDACE L

ART UNIT	PAPER NUMBER
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3634

NOTIFICATION DATE	DELIVERY MODE
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06/23/2021

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DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show the closed loop a distance of 40% of a total circumference as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Interpretation

The following is a quotation of 35 U.S.C. 112(f):

(f) Element in Claim for a Combination. – An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The following is a quotation of pre-AIA 35 U.S.C. 112, sixth paragraph:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

This application includes one or more claim limitations that do not use the word “means,” but are nonetheless being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, because the claim limitation(s) uses a generic placeholder that is coupled with functional language without reciting sufficient structure to perform the recited function and the generic placeholder is not preceded by a structural modifier. Such claim limitation(s) is/are: “the securing member” in claim 4.

Because this/these claim limitation(s) is/are being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, it/they is/are being interpreted to cover the corresponding structure described in the specification as performing the claimed function, and equivalents thereof.

If applicant does not intend to have this/these limitation(s) interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, applicant may: (1) amend the claim limitation(s) to avoid it/them being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph (e.g., by reciting sufficient structure to perform the

claimed function); or (2) present a sufficient showing that the claim limitation(s) recite(s) sufficient structure to perform the claimed function so as to avoid it/them being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention.

Claim 2 recites the limitation "the rope" in line 1. There is insufficient antecedent basis for this limitation in the claim. Is the applicant referring to the bridge rope or the rope of the main body? Appropriate clarification is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Paulson (5699657). Jones discloses a main body 10,

as best seen in Figure 1, comprising a rope 12, having a first end and a second end, the eye loop 16, being configured to engage the first bridge loop, but fails to disclose the main body having a splice therein, the first portion extending through the second portion of the main body. Paulson teaches the utility of a rope having a splice therein to form an eye loop 32, as best seen in Figures 1-5, the rope comprising a first portion 20, including the first end and a second portion 22, including the second end, the first portion extending through the second portion of the main body such that the first end is positioned adjacent to the second end, a distance between the first and second ends being less than 2.0 inches, as best seen in Figure 4. The use of a main body having a splice is used in the art to readily adjust the tightness of the eye loop. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to replace the main body of Jones with a rope having a splice as taught by Paulson so as to readily adjust the tightness of the eye loop.

Regarding claim 3 Jones discloses wherein a distance of the eye loop to the second end is between 24.0 inches and 40.0 inches, as recited in paragraph [0019].

Claim 2 is rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Paulson (5699657) in Burkinshaw (20150297937). Jones in view of Paulson is silent toward the length of the rope. Burkinshaw wherein the rope has a length from the first end to the second end between 72.0 inches and 126.0 inches, as recited in paragraph [0043]. The use of a rope having a length 72.0 inches and 126.0 inches is used in the art to allow for an averaged sized person to comfortably suspend from a tree. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have the rope of Jones

in view of Paulson with a length of 72.0 inches to 126.0 inches as taught Burkinshaw so as to allow for an averaged sized person to comfortably suspend from a tree.

Claims 4 and 5 are rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Paulson (5699657) in view of Domoj (2600395). Jones in view of Paulson as advanced above fails to disclose a securing member. Domoj teaches the utility of a securing member 25 being positioned on the main body at a juncture of the first and second ends to retain the first and second ends at a static position relative to each other, as best seen in Figure 1. The use of securing member is used in the art to prevent detachment and fraying. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to provide the end of the main body of Jones in view of Paulson with a securing member as taught by Domoj so as to prevent detachment and fraying.

Regarding claim 5 Jones discloses wherein the main body includes a stop knot 20, in the second portion adjacent to the second end.

Claims 6-9, 12, and 13 are rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Paulson (5699657) in view of Binns (330087). Jones in view of Paulson as advanced above discloses a friction hitch 22, being positioned on the main body between the stop knot and the eye loop, as best seen in Figure 1, the friction hitch being configured to engage the second bridge loop, but fails to disclose the friction hitch being a closed loop. Binns teaches the utility of a rope being a closed loop, as best seen in Figure 5, the closed loop comprising a single rope being formed into the closed loop with a splice having a pair ends each being buried into the closed loop a distance of at least 40% of a total circumference of the closed

loop. The use of a closed loop is used so that a greater strain can be applied to the apparatus. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to replace the friction hitch of Jones in view of Paulson with a friction hitch being a closed loop as taught by Binns so as that a greater strain can be applied to the apparatus.

Regarding claim 7 Jones in view of Paulson in view of Binns as advanced above fails to disclose wherein the single rope of the closed loop has a length between 40.0 inches and 60.0 inches. The examiner takes OFFICIAL NOTICE that it would have been obvious to one of ordinary skill in the art to have the single rope of the closed loop having a length between 40.0 inches and 60.0 inches to provide an adequate amount of rope allow for proper attachment to the harness. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have the closed loop of Jones in view of Paulson in view of Binns with a length between 40.0 inches and 60.0 inches so as to provide an adequate amount of rope allow for proper attachment to the harness.

Regarding claim 8 Jones disclose wherein the friction hitch has a total circumference of between 20.0 inches and 30.0 inches, as recited in paragraph [0019].

Regarding claim 9 Jones in view of Paulson in view of Binns as advanced above fails to disclose wherein the closed loop has a total circumference between 20.0 inches and 30.0 inches. The examiner takes OFFICIAL NOTICE that it would have been obvious to one of ordinary skill in the art to have the closed loop has a total circumference having a circumference between 20.0 inches and 30.0 inches to provide an adequate amount of rope allow for proper attachment to the harness. Therefore, it

would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have the closed loop of Jones in view of Paulson in view of Binns with a circumference between 20.0 inches and 30.0 inches so as to provide an adequate amount of rope allow for proper attachment to the harness.

Regarding claim 12 Jones disclose wherein a distance of the eye loop to the second end is between 24.0 inches and 40.0 inches, as recited in paragraph [0019].

Regarding claim 13 Jones in view of Paulson in view of Binns as advanced above is silent toward the circumference of the closed loop, wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches.

Claim 10 is rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Paulson (5699657) in view of Binns (330087) in view of Burkinshaw (20150297937). Jones in view of Paulson in view of Binns as advanced above fails to disclose wherein the main body and the friction hitch each are comprised of UHMWPE. Burkinshaw teaches the utility of the apparatus comprised of UHMWPE, as recited in paragraph [0049]. The use of UHMWPE is used in the art due to its resistance to abrasion. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to make the apparatus of Jones in view of Paulson in view of Binns of UHMWPE as taught by Burkinshaw due to its resistance to abrasion.

Claim 11 is rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Paulson (5699657) in view of Burkinshaw (20150297937). Jones in view of Paulson as advanced above fails to disclose wherein the main body is comprised of UHMWPE. Burkinshaw teaches the utility of the apparatus comprised of

UHMWPE, as recited in paragraph [0049]. The use of UHMWPE is used in the art due to its resistance to abrasion. Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to make the apparatus of Jones in view of Paulson in view of Binns of UHMWPE as taught by Burkinshaw due to its resistance to abrasion.

Claims 14 are rejected under 35 U.S.C. 103 as being unpatentable over Jones (20080000719) in view of Paulson (5699657) in view of Domoj (2600395) in view of Binns (330087) in view of Burkinshaw (20150297937). Jones discloses a main body 10, comprising a rope 12, having a first end and a second end, the eye loop 16, being configured to engage the first bridge loop, the main body including a stop knot 20, in the second portion adjacent to the second end; a friction hitch 22, being positioned on the main body between the stop knot and the eye loop, as best seen in Figure 1, a distance of the eye loop to the second end being between 24.0 inches and 40.0 inches, as recited in paragraph [0019], but fails to disclose the eye loop formed by splicing, a securing member, the friction hitching being a closed loop, and the main body and the friction hitch each being comprised of UHMWPE.

Paulson teaches the utility of the main body having a splice therein to form an eye loop 32, in the main body, as best seen in Figures 1-4, the main body comprising a first portion including the first end and a second portion including the second end, the first portion extending through the second portion of the main body such that the first end is positioned adjacent to the second end, a distance between the first and second ends being less than 2.0 inches. The use of a main body having a splice is used in the art to readily adjust the tightness of the eye loop.

Domoj teaches the utility of a securing member 25 being positioned on the main body at a juncture of the first and second ends to retain the first and second ends at a static position relative to each other, as best seen in Figure 1. The use of securing member is used in the art to prevent detachment and fraying of the rope end.

Binns teaches the utility of the friction hitch being configured to engage the second bridge loop, the friction hitch comprising a closed loop, the closed loop comprising a single rope being formed into the closed loop with a splice having a pair ends each being buried into the closed loop a distance of at least 40% of a total circumference of the closed loop, as best seen in Figure 5, the single rope of the closed loop having a length between 40.0 inches and 60.0 inches, the closed loop having a total circumference of between 20.0 inches and 30.0 inches. The use of a closed loop is used so that a greater strain can be applied to the apparatus. The examiner takes OFFICIAL NOTICE that it would have been obvious to one of ordinary skill in the art to have the closed loop has a total circumference having a circumference between 20.0 inches and 30.0 inches and to have the closed loop have a length between 40.0 inches and 60.0 inches to provide an adequate amount of rope allow for proper attachment to the harness.

Burkinshaw teaches the utility of the rope having a length from the first end to the second end between 72.0 inches and 126.0 inches, and the main body and the friction hitch each being comprised of UHMWPE, as recited in paragraph [0049]. The use of UHMWPE is used in the art due to its resistance to abrasion.

Therefore, it would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to replace the main body of Jones with a

rope having a splice as taught by Paulson so as to readily adjust the tightness of the eye loop, to provide the rope with a securing member as taught by Domoj so as to prevent detachment and fraying of the rope end and to have the friction hitch being a closed loop as taught by Binns so that a greater strain can be applied to the apparatus and to make the rope of UHMWPE as taught by Burkinshaw due to its resistance to abrasion.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CANDACE L BRADFORD whose telephone number is (571)272-8967. The examiner can normally be reached on Monday-Friday 9-5.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katherine Mitchell can be reached on 571 272 7069. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CANDACE L BRADFORD/
Examiner, Art Unit 3634

/ALVIN C CHIN-SHUE/
Primary Examiner, Art Unit 3634

<i>Notice of References Cited</i>	Application/Control No. 17/231,717		Applicant(s)/Patent Under Reexamination Power et al.	
	Examiner CANDACE L BRADFORD		Art Unit 3634	Page 1 of 2

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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Search Notes</i> 	Application/Control No. 17/231,717	Applicant(s)/Patent Under Reexamination Power et al.
	Examiner CANDACE L BRADFORD	Art Unit 3634

CPC - Searched*		
Symbol	Date	Examiner
A62B35/0037, 0075	06/14/2021	CB

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
CB CPC search, text, inventor, b/f, PLUS search BRS attached	06/09/2021	CB

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/CANDACE L BRADFORD/ Examiner, Art Unit 3634	<div style="text-align: right;">Ex. 1004</div>
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	35	("10258814" "20080179136" "20090255756" "8061479" "8292028" "8356691" "8584799" "9320925" "9808659").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/09 10:16
S2	1,013	A62B35/0075.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/09 10:18
S3	1,402	A62B35/0037.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/09 10:18
S4	6	("2008/0000719").URPN.	USPAT	OR	OFF	2021/06/13 08:31
S5	1,013	A62B35/0075.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 08:32
S6	1,403	A62B35/0037.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 08:32
S7	2,223	S5 or S6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2021/06/13 08:32

			DERWENT; IBM_TDB			
S8	0	((bridge adj rope) and splice and (eye adj loop) and (stop adj knot))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 08:46
S9	0	((rope) and splice and (eye adj loop) and (stop adj knot))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 08:46
S10	16	((rope) and splice and (eye adj loop) and (knot))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 08:46
S11	195	kossuth.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 08:48
S12	28	("0312085" "0422345" "0642889" "1351734" "1852887" "2979028" "2979153").PN. OR ("3738449").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/06/13 08:54
S13	6	("2008/0000719").URPN.	USPAT	OR	OFF	2021/06/13 08:55
S14	25	("2796953" "2834525" "3840091" "4712646").PN. OR ("5050704").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/06/13 08:56
S15	4	("2010/0213004").URPN.	USPAT	OR	OFF	2021/06/13 08:57
S16	16	("2303954").URPN.	USPAT	OR	OFF	2021/06/13 08:58
S17	3	("2007/0102240").URPN.	USPAT	OR	OFF	2021/06/13 08:58
S18	284	("2600395" "4099750" "4962929" "4974488").PN. OR ("5062344").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/06/13 08:59

S19	161	("0330087" "2600395" "4962929" "5062344" "5540703").PN. OR ("5970697").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/06/13 09:03
S20	34	("20030159882" "20050189170" "20060059858" "20080000719" "20080135119" "20080283137" "2670762" "2776385" "3211473" "3374013" "3431947" "3794079" "4249713" "4470433" "5073682" "5226456" "5513826" "5789701" "5901756" "5933914" "6308741" "6712181" "7357222").PN. OR ("7814938").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/06/13 09:06
S21	25	("1971571" "20040200666" "20050139419" "20060207828" "20090314578" "20100051382" "20110214941" "4103758" "4478311" "4687074" "4923048" "4951778" "5050704" "5052514" "6223854" "6637547" "6874596" "6973995" "6981571" "7163081").PN. OR ("9162091").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/06/13 09:07
S22	234	("2549382" "2600395" "4036101" "4099750" "4974488" "5062344").PN. OR ("5699657").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/06/13 09:09
S23	246	("2600395").URPN.	USPAT	OR	OFF	2021/06/13 09:09
S24	142	("330087").URPN.	USPAT	OR	OFF	2021/06/13 09:11
S25	37	("0421120" "0502962" "0830134" "1117656" "1550900" "1729945" "1835068" "2189671" "2225865" "2946619" "3998561" "4139956" "4667772" "5060758" "5113551" "5310274" "5383259" "5735329" "5839541" "5947229" "6059335").PN. OR ("6712181").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/06/13 09:11
S26	18	(US-20080000719-\$ or US-20100213004-\$ or US-20070102240-\$).did. or (US-3738449-\$ or US-5050704-\$ or US-2303954-\$ or US-5062344-\$ or US-5970697-\$ or US-7814938-\$ or US-9162091-\$ or US-5699657-\$ or US-6712181-\$).did. or (US-2600395-\$ or US-0330087-\$).did. or (GB-1420783-\$ or FR-1602226-\$ or DE-455971-\$).did. or (US-20210101032-\$).did.	US-PGPUB; USPAT; USOCR; FPRS; DERWENT	OR	OFF	2021/06/13 09:16

S27	0	S26 and UHMWPE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 09:16
S28	20,542	UHMWPE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 09:17
S29	3	UHMWPE and rope and bridge and harness	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 09:18
S30	1,182	UHMWPE and rope	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 09:18
S31	76	UHMWPE and rope and harness	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 09:19
S32	10	S26 and (inch\$4 or length)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/13 09:29
S33	19	(US-20080000719-\$ or US-20100213004-\$ or US-20070102240-\$ or US-20150297937-\$).did. or (US-3738449-\$ or US-5050704-\$ or US-2303954-\$ or US-5062344-\$ or US-5970697-\$ or US-7814938-\$ or US-9162091-\$ or US-5699657-\$ or US-6712181-\$).did. or (US-2600395-\$ or	US-PGPUB; USPAT; USOCR; FPRS; DERWENT	OR	OFF	2021/06/14 10:12

		US-0330087-\$.did. or (GB-1420783-\$ or FR-1602226-\$ or DE-455971-\$.did. or (US-20210101032-\$.did.				
S34	1	S33 and UHMWPE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/06/14 10:13

6/14/2021 11:08:31 AM

C:\Users\cbradford\Documents\EAST\Workspaces\bridge rope assembly.wsp

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	17231717
	Filing Date	4/15/21
	First Named Inventor	Walter Ernest Power II
	Art Unit	3634
	Examiner Name	bradford
	Attorney Docket Number	TETH115

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.L.B/

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	8061479		2011-11-22	Harris Jr.	
	2	8292028		2012-10-23	Wise	
	3	8356691		2013-01-22	Griffith	
	4	8584799		2013-11-19	Dennington	
	5	9320925		2016-04-26	Wise	
	6	9808659		2017-11-07	Chevalier	
	7	10258814		2019-04-16	Casebolt	
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STATEMENT BY APPLICANT**
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Application Number		
Filing Date		
First Named Inventor	Walter Ernest Power II	
Art Unit		
Examiner Name		
Attorney Docket Number	TETH115	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.L.B/

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20080179136		2008-07-31	Griffith	
	2	20090255756		2009-10-15	Green	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	WO2018111624	WO		2018-06-21	Jacob		

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NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		

If you wish to add additional non-patent literature document citation information please click the Add button.

EXAMINER SIGNATURE

Examiner Signature	/CANDACE L BRADFORD/	Date Considered	06/09/2021
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	
First Named Inventor	Walter Ernest Power II
Art Unit	
Examiner Name	
Attorney Docket Number	TETH115

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	
First Named Inventor	Walter Ernest Power II
Art Unit	
Examiner Name	
Attorney Docket Number	TETH115

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/seankaufhold/	Date (YYYY-MM-DD)	2021-04-15
Name/Print	Sean A. Kaufhold	Registration Number	46820

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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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DEUTSCHES REICH



AUSGEGEBEN AM
14. FEBRUAR 1928

REICHSPATENTAMT
PATENTSCHRIFT

№ 455 971

KLASSE **61a** GRUPPE 8

M 89350 V/61a

Tag der Bekanntmachung über die Erteilung des Patents: 26. Januar 1928.

Mines Domaniales de Potasse d'Alsace in Wittelsheim.

Sicherheitsgürtel mit Dämpfungsfeder.

Mines Domaniales de Potasse d'Alsace in Wittelsheim.

Sicherheitsgürtel mit Dämpfungsfeder.

Patentiert im Deutschen Reiche vom 21. April 1925 ab.

Die Priorität der Anmeldung in Frankreich vom 5. März 1925 ist in Anspruch genommen.

Gegenstand der Erfindung ist ein Sicherheitsgürtel, der insbesondere für die in Bergwerksschächten beschäftigten Grubenarbeiter bestimmt ist und sich von den bekannten Vorrichtungen dieser Art dadurch unterscheidet, daß zur Stoßdämpfung beim Fall des Arbeiters eine Feder zwischen die beiden Enden einer am Seil vorgesehenen Schleife eingeschaltet ist, die an zwei an den Schleifenenden angebrachten Knoten angreift.

Abb. 1 zeigt den ganzen Gürtel mit Halteseil, Abb. 2 die Verbindung des Halteseils mit dem Gürtel.

An den z. B. aus Hanf hergestellten ganz geschlossenen Gürtel a sind an der Vorderseite zwei Riemen b^1, b^2 , die in Schnallen c^1, c^2 eingesteckt werden können, zum Anpassen des Gürtels an den Leib des Arbeiters angebracht. Beim Zusammenschnallen des Gürtels faltet sich der zwischen den Riemen und den Schnallen liegende Gürtelteil d , wie Abb. 1 zeigt. Vom Gürtel gehen zwei Tragbänder e^1, e^2 aus, die über die Schultern des Arbeiters verlaufen und gekreuzt sind. Die Schnallen f^1, f^2 dienen zur Einstellung der Tragbänder, die an der Vorderseite des Gürtels mittels der Karabinerhaken g^1, g^2 befestigt sind.

Das Halteseil h ist am Gürtel in folgender Weise befestigt: Der Gürtel ist an der Rückseite zwei- oder mehrfach zusammengefaltet, um an dieser Stelle eine größere Starrheit zu erhalten (Abb. 2, a^1, a^2). Dieser zusammengefaltete Gürtelteil wird von dem freien Ende h^1 des Seiles h umschlungen, und dieses

freie Seilende h^1 wird mit dem anderen Seilteil h durch Verspleißen bei h^2 (vgl. Abb. 1) verbunden. Ferner werden zu beiden Seiten des den Gürtel umschließenden Seilteiles zwei Platten j^1, j^2 , z. B. aus Leder, angebracht und mit dem Gürtel verbunden. Auf diese Weise wird eine sehr feste und zuverlässige Verbindung von Seil und Gürtel erreicht.

Am oberen Ende des Seiles ist eine Schleife k gebildet, an deren Enden zwei Knoten k^1, k^2 angebracht sind, zwischen die eine Feder l eingefügt ist, wie Abb. 1 erkennen läßt. Im Falle eines Sturzes des Arbeiters wird der auftretende Stoß durch die Feder l gedämpft. Wird die Feder l vollständig gespannt oder bricht sie, so wird das Seilstück der Schleife k aufgenommen, so daß ein Unfall nicht möglich ist.

Der neue Sicherheitsgürtel kann nicht nur bei Grubenarbeiten, sondern auch sonst überall da Verwendung finden, wo es sich darum handelt, einen Arbeiter bei einer mit Absturzgefahr verbundenen Beschäftigung zuverlässig zu halten.

PATENTANSPRUCH:

Sicherheitsgürtel mit Dämpfungsfeder, insbesondere für die in Bergwerksschächten beschäftigten Grubenarbeiter, dadurch gekennzeichnet, daß die Dämpfungsfeder (l) in das am Gürtel (a) befestigte Seil (h) oberhalb des Gürtels eingeschaltet ist und an zwei an den Enden einer Seilschleife (k) angebrachten Knoten (k^1, k^2) angreift.

Hierzu 1 Blatt Zeichnungen.

Abb. 1.

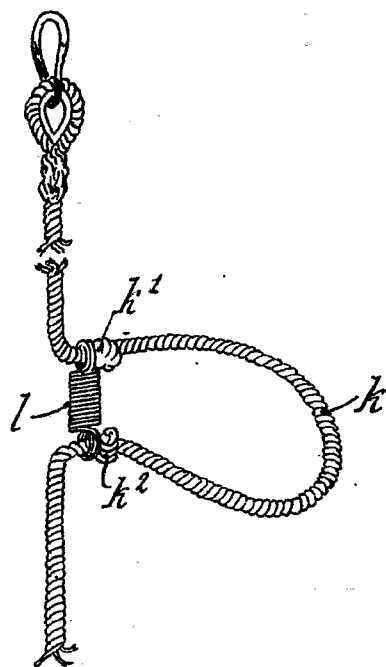
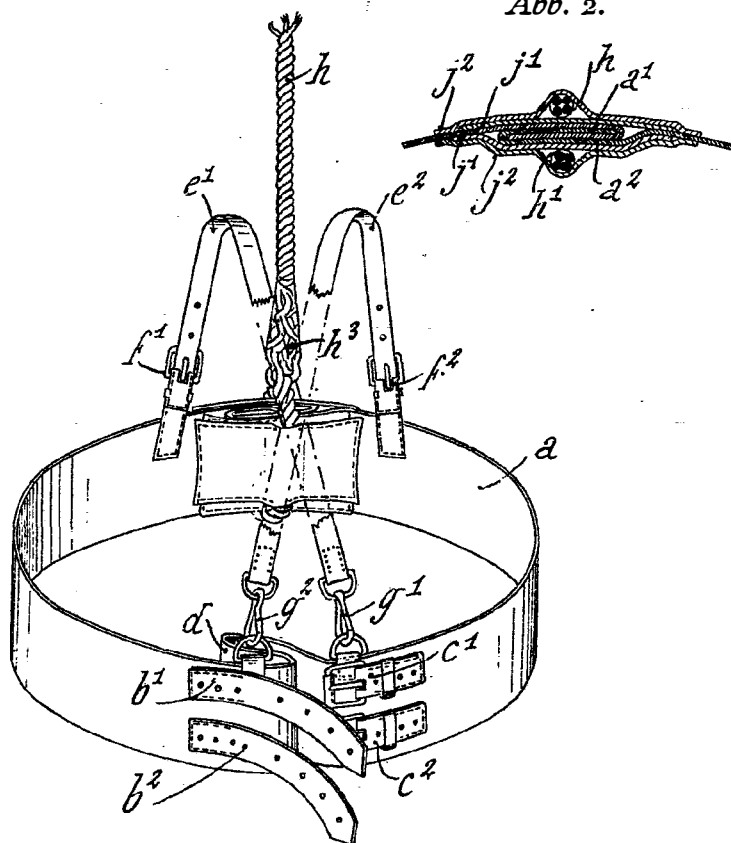


Abb. 2.



PUB-NO: DE000455971C
DOCUMENT-IDENTIFIER: DE 455971 C
TITLE: Sicherheitsguertel mit Daempfungsfeder
PUBN-DATE: February 14, 1928
PATENT-FAMILY-ID: 7321262

APPLICANT:

NAME	COUNTRY
MINES DOMANIALES DE POTASSE	

APPL-NO: DE M0089350 D

PRIORITY-DATA:

PRIORITY-NO	PRIORITY-APPL-DATE
DE M0089350 D	

CPC-CURRENT:

TYPE	CPC	DATE
CPCI	A62B35/04	20130101
CPCI	A62B35/0075	20130101
CPCI	A62B35/0006	20130101
CPCI	A62B35/00	20130101

INT-CL-CURRENT:

TYPE	IPC	DATE
IPCP	A62B35/00	20060101

RÉPUBLIQUE FRANÇAISE

MINISTÈRE
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ET SCIENTIFIQUE

INSTITUT NATIONAL
DE LA PROPRIÉTÉ INDUSTRIELLE



⑪ 1.602.226

BREVET D'INVENTION

- ②① N° du procès verbal de dépôt 180.570 - Paris.
②② Date de dépôt 24 décembre 1968, à 10 h 15 mn.
Date de l'arrêté de délivrance 26 octobre 1970.
④⑥ Date de publication de l'abrégé descriptif au
Bulletin Officiel de la Propriété Industrielle. 4 décembre 1970 (n° 49).
⑤① Classification internationale A 62 b//B 60 r.

⑤④ **Étrier d'accrochage amovible pour ceinture de sécurité ou sangles analogues.**

⑦② Invention :

⑦① Déposant : LINDEROTH Hans, résidant en France (Paris).

Mandataire :

③① Priorité conventionnelle :

③② ③③ ③① *Brevet d'invention dont la délivrance a été ajournée en exécution de l'article 11,
§ 7, de la loi du 5 juillet 1844, modifiée par la loi du 7 avril 1902.*

La présente invention concerne, d'une façon générale, les étriers d'accrochage amovible des ceintures de sécurité et sangles analogues; elle a plus particulièrement pour objet un étrier déformable, mais non élastique, alliant la souplesse à une grande résistance mécanique.

5 On connaît une catégorie de ces étriers, faits d'un seul fil métallique ou fer rond, pratiquement indéformable, inadaptable aux efforts qui peuvent lui être appliqués selon des composantes très diverses (pression, traction, torsion, &c.)

D'autres, par exemple en corde textile ou câble souple, sont fabriqués, 10 au contraire, en matières souples, qui n'en permettent pas la fixation avec une seule main, alors que c'est la façon la plus rapide et la plus aisée d'attacher la boucle et, pour le conducteur d'une voiture en marche, la seule façon sans abandonner le volant.

L'étrier selon l'invention réunit, comme on l'a dit, la souplesse non 15 élastique, c'est-à-dire la déformabilité, et la résistance aux efforts de pression et de torsion, absorbant ses derniers grâce à sa structure interne, qui consiste en un corps (noyau) en fil de fer entouré de tresses composites planétaires, en sorte que:

- a) l'étrier s'adapte à des points d'attache différents (selon le type 20 de carrosserie;
- b) l'étrier s'adapte à la position plus ou moins avancée du siège du conducteur;
- c) l'étrier peut être employé pour des sièges très serrés ou pour des banquettes avant ou arrière, en permettant toujours l'accrochage de la 25 boucle d'une seule main.

L'invention consiste essentiellement à constituer la longueur de l'étrier par une combinaison d'éléments concentriques ou planétaires comprenant:

- 1. un noyau en fil de fer raide, mais déformable, non élastique, qui 30 assure le maintien de l'étrier dans la position qui lui est donnée par l'utilisateur, et la résistance d'appui (contrebutée) au moment de l'accrochage de la boucle à verrou escamotable.

2. un ~~gâlage~~ ~~gâlage~~ intermédiaire, fait de plusieurs tresses souples, non élastiques, disposées autour du noyau axial de façon telle qu'elle apparaissent planétaires en section transversale d'ensemble. Chacune de ces tresses est elle-même constituée par plusieurs fils d'acier, de verre ou d'une matière équivalente, de petit diamètre, torsadés entre eux de façon classique. Ces tresses souples augmentent la résistance de l'étrier, sans en compromettre la souplesse;

3. une gaine tubulaire extérieure en matière plastique souple, sur les longueurs des deux branches latérales de l'étrier, entre les boucles terminales d'ancrage fixe et le demi-tore rigide sur lequel la boucle vient se verrouiller amovible;

4. la gaine hémitorique ci-dessus mentionnée, faite, de préférence, en acier rigide (éventuellement trempé), protégeant la partie arquée du sommet de l'étrier, celle qui est appelée à être saisie par la boucle à mécanisme verrouilleur automatique de la ceinture ou de la sangie à accrocher.

Les raccordements des gaines souples sur cette partie arquée et sur les boucles terminales peuvent être assurés par tout moyen convenable, connu ou adapté à l'une ou l'autre des applications inventives.

Le dessin annexé montre un exemple non limitatif d'application pratique de l'invention. On voit:

Fig.1, une vue générale de l'étrier selon l'invention;

Fig.2, sa coupe transversale agrandie, selon II-II de la fig.1.

La longueur totale de l'étrier comprend, de l'intérieur vers l'extérieur (fig.2);

- a) le noyau central 1, en fil de fer raide, déformable, non élastique;
- b) les tresses composites planétaires 2, au nombre arbitraire de six, chaque tresse étant, comme on l'a dit, faite d'un certain nombre de minces fils torsadés entre eux;
- c) la gaine extérieure 3. Sur la fig.2, il s'agit de la gaine rigide hémitorique, que prolongent (fig.1) les gaines souples 3a et 3b des branches latérales de l'étrier.

Lors de la fabrication, le noyau filiforme 1 et les tresses planétaires 2 sont enfilés dans la gaine rigide 3, qui est encore rectiligne, et qui est arquée ensuite (sauf quand elle a été trémpée). Cet arc rigide peut recevoir des crochets ou au moins une boucle à verrouillage automatique (non représentée, car elle n'entre pas, en soi, dans le cadre du présent brevet).

Dans l'exemple décrit, les gaines souples 3a et 3b des branches de l'étrier sont avantageusement liées aux extrémités de l'arc rigide par soudure à chaud ou colmatage de la matière plastique; mais ce moyen classique n'est pas exclusif.

Chaque branche de l'étrier se termine respectivement par un anneau 4a, 4b, qui en permet l'ancrage sur tel crochet fixe (non représenté). Dans l'exemple décrit, ces anneaux et leurs pièces de raccordement sont enrobés par la même matière plastique que les branches latérales de l'étrier.

Une variante constructive peut consister à lier ensemble les deux extrémités des branches de l'étrier, par enroulage en matière plastique, bague rapportée, enroulement d'un lien souple, ou plusieurs de ces moyens en combinaison, de façon que les deux branches soient ancrées sur le même élément fixe.

Résumé

Etrier d'accrochage amovible pour ceinture de sécurité ou sangles analogues, comportant essentiellement deux branches souples réunies par une partie arquée rigide, la structure générale de cet étrier se décomposant comme suit:

a) un noyau axial en fil de fer raide, mais déformable et non élastique, qui assure le maintien de l'étrier dans la position qui lui est donnée par l'utilisateur, et sa résistance d'appui lors de l'accrochage de la boucle à verrou escamotable;

b) un gainage intermédiaire, fait de plusieurs tresses souples, non élastiques, entourant planétairement le noyau central pour augmenter la résistance de l'étrier, sans en compromettre la souplesse;

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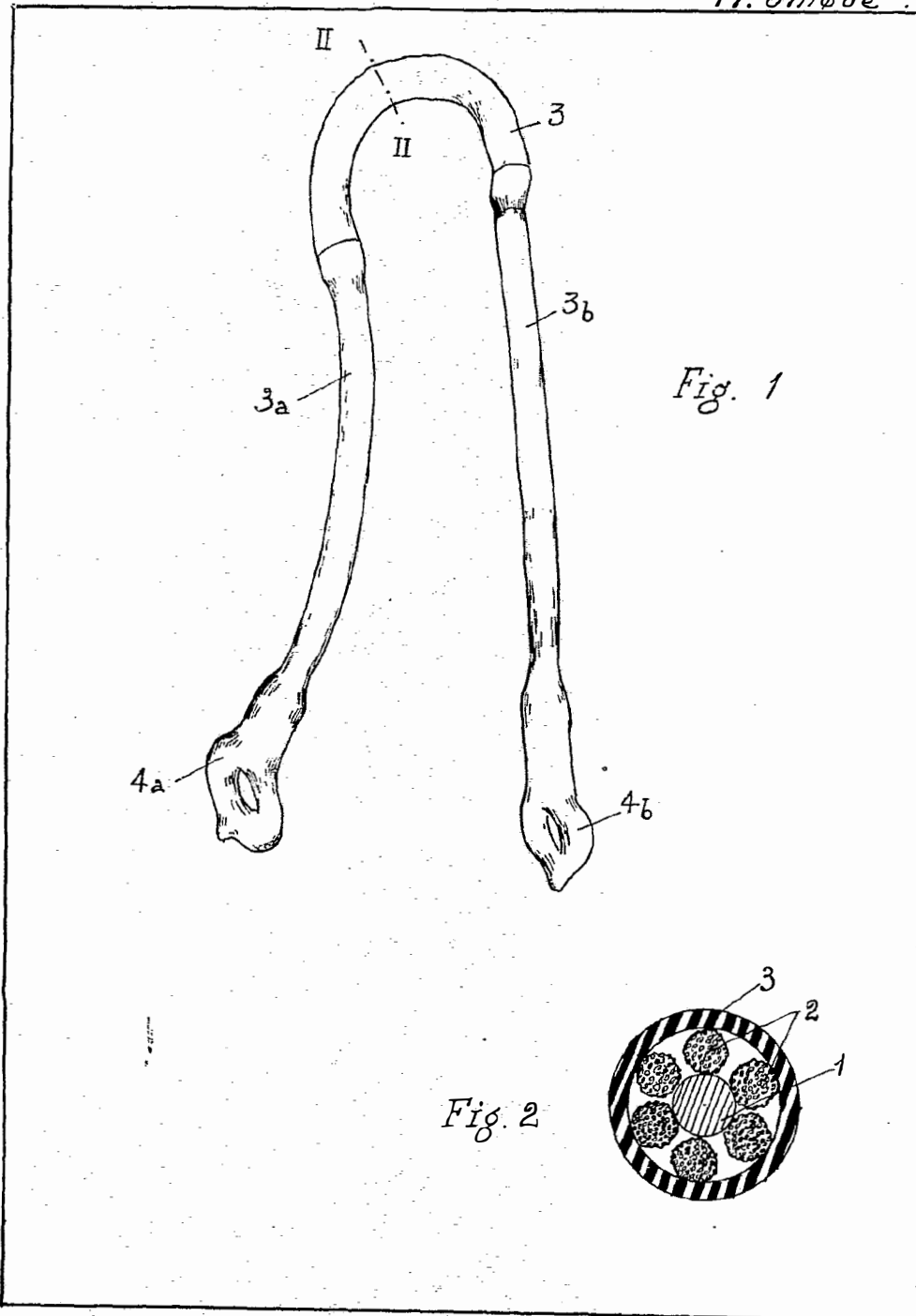
., c) une gaine tubulaire rigide, arquée, enveloppant le sommet de l'étrier et appelée à être saisie par la boucle à verrou escamotable de la ceinture ou sangle à accrocher..

Les branches latérales souples, dotées, à leur extrémité libre, d'un élément d'accrochage connu en soi, peuvent être réunies ensemble, par ces extrémités, pour être fixées en un même point d'accrochage.

Hans LINDEROTH

1602226

Pl. Unique



PUB-NO: FR001602226A
DOCUMENT-IDENTIFIER: FR 1602226 A
TITLE: TITLE NOT AVAILABLE
PUBN-DATE: October 26, 1970
PATENT-FAMILY-ID: 8659024

APPL-NO: FR 1602226D A
APPL-DATE: December 24, 1968

PRIORITY-DATA:
PRIORITY-NO PRIORITY-APPL-DATE
FR 180570 A 19681224

CPC-CURRENT:

TYPE	CPC	DATE
CPCI	A62B35/0075	20130101
CPCI	D07B1/162	20130101
CPCA	D07B2201/2059	20130101
CPCA	D07B2205/3003	20130101
CPCA	D07B2201/2044	20130101
CPCA	D07B2201/2059	20130101
CPCA	D07B2801/12	20130101
CPCA	D07B2205/3003	20130101
CPCA	D07B2801/10	20130101

CPC-COMBINATION-SET(S) :

TYPE	RANK	CPC
CPCC	##CCCCS##1 D07B2201/2059, 2 D07B2801/12;##CCCCE##	
CPCC	##CCCCS##1 D07B2205/3003, 2 D07B2801/10;##CCCCE##	

INT-CL-CURRENT:

TYPE	IPC	DATE
IPCP	A62B35/00	20060101
IPCS	D07B1/16	20060101

- (21) Application No. 19725/73 (22) Filed 25 April 1973
 (44) Complete Specification published 14 Jan. 1976
 (51) INT. CL.² A62B 35/00
 F16G 11/00
 (52) Index at acceptance
 A3V 9B2X
 D1T 3BI 3B4 3C



(54) IMPROVEMENTS IN OR RELATING TO A BODY HARNESS

(71) I, JAMES AGOSTINO ARANCIO, of 202-04 32nd Avenue, Bayside, New York 11361, a citizen of the United States of America, do hereby declare the invention, for which I pray that patent may be granted to me, and the method by which it is to be performed to be particularly described in any by the following statement:—

This invention relates to a body harness for use, for example, by firemen, or for rescue, escaping or searching operations. The harness may be used by a fireman to descend from one floor of a building, to the floor below if he, or other people, are trapped in a burning building. The firemen can descend while holding one person to bring him down.

Descent devices are known which comprise an anchored flexible line or rope operatively controlling a harness in descent.

According to the present invention there is provided a body harness comprising support means, which support means comprise a waist support means for engagement about a waist of a wearer and leg support means for engagement about the leg(s) of the wearer, the support means having a first end portion and a second end portion, means for detachably connecting the first and second end portions, which means for detachably connecting comprise a first connector member connected to the first or second end portion and engaging means on the other of the first or second end portion engageable by the first connector member, means for selectively adjusting the waist support means and the leg support means and a second connector member, the second connector member being a hook member being mounted directly or indirectly on the said other end portion and being movable relative to the engaging means and being adapted for slidable engagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector hook member hookingly engages the hookingly engagable means.

[Price 33p]

gement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector member engages the engaging means.

Advantageously, there is provided a body harness comprising a flexible waist belt and a flexible leg belt, each belt having a first end portion and a second end portion, means for interconnecting the pair of first end portions of the belts, means for interconnecting the pair of second end portions of the belts, means for detachably connecting the interconnected pair of first end portions of the belts to the interconnected pair of second end portions of the belts at the front of a body of a wearer, which means for detachably connecting comprise a first connector member connected to one pair of interconnected end portions, the first connector member being a first connector hook member, and means on the other pair of interconnected end portions hookingly engageable by the first connector hook member, means for selectively adjusting the length of each belt and a second connector hook member, the second connector hook member being mounted directly or indirectly on the other interconnected pair of end portions and being movable relative to the hookingly engagable means and being adapted for slidable engagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector hook member hookingly engages the hookingly engagable means.

Advantageously, the means for interconnecting the first end portions comprises stitching attaching the first end portions to each other, and advantageously the means for interconnecting the second end

portions comprises a first buckle, a second buckle and means for interconnecting the first and second buckles such that, in use of the harness, one second end portion 5 adjustably passes around an element of the first buckle and the other second end portion passes around an element of the second buckle. Preferably, the means for detachably connecting the interconnected 10 first end portions to the interconnected second end portions comprises the first buckle and a third buckle, which third buckle has an element for engaging a loop at the stitched together first end portions, 15 the first or third buckle having the first connector member for engaging an element of the third or first buckle, respectively. The first connector member is preferably a hook member and advantageously a snap 20 lock hook.

Preferably, there is provided a harness and a coat openable at the front and having front free edges, means being provided for detachably attaching the harness to the 25 inside of the back of the coat and to the inside of the coat adjacent the free edges thereof. Advantageously, the means for detachably attaching the harness to the coat comprises a plurality of loop members connected to the harness and means for 30 quickly detachably attaching the loop members to the coat, one of the loop members preferably, comprising a loop which loop is slidable on an intermediate 35 portion of the waist belt.

The invention enables the provision of a body harness, in use of which no knots are required in a suspension line. The line is for example, secured to a substantial object, 40 or the line is looped around an anchoring object. The line is then wrapped several times around a hook on the harness that a fireman or rescuer is wearing, so that the wearer can descend while his 45 weight is supported by the anchored line. The wearer pulls the free end of the line to stop and feeds the line upwardly in short increments, to allow descent. The wearer can move around and work while the harness is not being used for descent purposes. 50

The invention enables the provision of a harness which is detachably attached inside a fireman's coat, and comprises a dangling 55 hook which can readily be moved to the outside of the coat so that a line or rope can be readily wrapped therearound for descent purposes. The harness can be used with or without the coat. The coat is a 60 holder for the harness to keep it ready for use but yet keeps the harness concealed. The weight of the harness may be quite small. When using the harness for descent, the weight of the body of the wearer is on 65 the harness, and not on the coat. The line or

rope can be folded compactly into a plastics film bag which can be conveniently kept in a pocket of the coat. When it is desired to use the rope, the package is taken out of the pocket, the plastics bag 70 ripped open, and the rope taken out for use.

The harness may comprise an adjustable waist belt or strap, and an adjustable leg belt or strap for encircling the legs of the 75 wearer at the buttocks the leg belt becoming a seat for the fireman while he descends. These straps or belts are preferably loose on the body of the wearer, so as not to hinder movement when the apparatus is 80 not being used for descent.

These straps or belts may be adjusted to the wearer, and once adjusted properly, not too tightly, the wearer can work freely 85 without being hindered by the harness.

The invention enables the provision of a harness which is strong, rugged and safe, relatively inexpensive to manufacture, easy to use, comfortable to wear when not in use, and which shall yet be practical and 90 efficient to a high degree.

Often the need for a rope is called for at a fire and it is necessary to send back for it. Too often the rope is obtained too late to be effective and for this reason other 95 implements or methods are devised to substitute for it. With this in mind a light compact rope or suspension line unit to be carried by all firemen and ready for immediate use has been designed. It has been 100 designed to eliminate time consuming knots.

The harness may be attached (detachably) inside the fire fighter's turnout coat and may comprise a ladder hook 105 which can be readily moved to the outside of the coat so that the required 3 or 4 turns of a line or rope can easily be taken for descent purposes. The harness can be used with or without the coat. The coat 110 may be used as a holder for the harness to keep it ready for use but yet conceals the harness. The weight of the harness may be approximately 2 pounds. When using the harness for descent, the stress is normally 115 on the harness only, and not on the coat.

For a better understanding of the present invention and to show how the same may be carried into effect reference will now be made, by way of example, to the accompanying drawings in which:— 120

Figure 1 shows a perspective view, of a harness according to the present invention, being used by a fireman for descent,

Figure 2 shows a perspective view on an enlarged scale of the harness of Figure 1. 125

Figure 3 shows a perspective view of the harness without the coat, on a wearer's body during descent,

Figure 4 shows an enlarged cross-section 130

tional view taken on the line 4-4 of Figure 3,

Figure 5 shows an enlarged cross-sectional view taken on the line 5-5 of Figure 2,

Figure 6 shows a perspective view of a line or rope with safety snap hook, in a package,

Figure 7 shows a perspective view showing a fireman's descent on a modified harness in accordance with the present invention,

Figure 8 shows an enlarged inside view of a fireman's turnout coat with the harness of Figure 7,

Figure 9 shows a perspective view of the harness of Figure 8 on a body but without the coat,

Figure 10 shows an enlarged cross-sectional view taken on line 10-10 of Figure 9,

Figure 11 shows an enlarged cross-sectional view taken on line 11-11 of Figure 9,

Figure 12 shows an enlarged cross-sectional view taken on line 12-12 of Figure 8,

Figure 13 shows an enlarged perspective view of the lower end of the suspension line of Figure 7, and

Figure 14 shows an enlarged perspective view of the suspension line of Figure 7, packaged.

Referring now in detail to Figures 1 to 6 of the drawings, numeral 10 designates apparatus including the body harness according to the invention, shown in use by a fireman 11 for purposes of descent in Figure 1 from a window 12.

The apparatus 10 comprises generally a coat 14, a body harness 15 detachably or removably mounted thereon, and an anchoring line or rope 16.

The coat 14 may be usual fireman's coat or, for example, any coat having a body portion 20, arms 21, arm holes 21a and being split down the front forming side or free edges 22. The coat 14 is modified only to the extent that it is provided on the inside thereof with male snap fastener members 25 along its centreline, at the back below the arm holes 21a, and also at the sides in inwardly spaced relation to the edges 22, all at about the same level. Three substantially similar loops are detachably attached to the three snap fastener members 25 respectively, on the coat, one being a center loop 26, one a side loop 27 and another a side loop 28. The centre loop 26 comprises a strip of cloth or other suitable material folded in half about a transverse fold line (see Figure 5), the two folded portions being attached together by interengaging snap fastener elements 30, mediately of the ends thereof, and attached together at the ends thereof by a female snap fastener member 31 which can snap onto the male snap

fastener element 25. The loops 27, 28 are similarly attached together and similarly detachably attached to the male fastener members 25 adjacent edges 22 of the coat. These loops can be snapped onto or removed from the coat. They are located inside the coat.

The harness 15 comprises a flexible waist belt or strap 35, looped at one end as at 36. The looped end is stitched back in place, as by stitching 37. The loop 36 passes through an eye 40 of a connector member such as a safety snap hook 41, which may be like the safety snap hook shown in Figure No. 3387 of North and Judd Manufacturing Company general hardware catalog No. 262 (New Britain Conn., 06050).

This safety snap hook comprises a hook 42 fixed to the eye 40, with a torsion spring pressed pawl or latch 43 pivoted thereto and engaging inside the tip of the hook. The loop 28 also passes through eye 40 as shown in Figure 3. Other snap hooks may be employed.

Stitched to the inside of belt 35, short of its other end, as at 44, is a strip loop 45. Loop 45 engages around the second strap 46 of a buckle 47 which may be like the Tabler buckle shown in Figure 01136 of page 39 of the North and Judd catalog No. 262. The buckle has a first strap 48, a third strap 49 and a fourth strap 50 in addition to the second strap 46. The straps 48 and 50 are outside straps. The end portion 35a of belt 35 passes through loop 27, then through a swivel loop 52 of a connector hook member such as a loose swivel safety snap hook 53 which may be like the one shown on page 40 of the Star Brank Tackle Blocks and Fittings for Heavy Hardware, Public Utility and Marine Catalog No. 115 of Boston an Lockport Block Company, Inc. of 100 Condor Street, East Boston, Massachusetts 02128, listed under No. 4185 G. In this snap hook 53, the loop 52 is swivelled on a hook portion 54 provided with a spring pressed snap pawl or latch 55.

The end portion 35a of belt 35, after passing through swivel loop 52, again passes through loop 27 (Figure 4) and around strap 49 of buckle 47, then again through loop 27. It will now be understood that the length of belt 35 can be adjusted to fit the wearer.

It will be understood that the snap hook 53 may be engaged with or snapped onto any anchoring means such as a ring on a strap looped onto a rung of a ladder or to any other object to serve as a safety measure to hold the wearer securely while his hands are free to operate any apparatus.

The harness 15 further comprises a flexible leg belt 60. One end of belt 60 is

like the adjustable end 35a of belt 35. It has a loop, like loop 45, attached thereto and similarly looped around a strap of a buckle like buckle 47. It also has one end 5 passing through loop 27, through the swivel loop 52 of safety snap hook 53, then back through the loop 27, then around a strap of the buckle, and back through the loop 27. The belt 60 passes 10 around the legs of the wearer loosely so that the leg belt or strap can be pulled below the buttocks to permit the wearer to sit thereon when suspended, as explained hereinafter. At the other end of belt 60 is 15 a loop 62 passing through eye 40 of safety snap hook 41. The swivel loop 52, therefore, is a means for interconnecting one pair of ends of the waist and leg belt and the eye 40 is a means for interconnecting 20 the other pair of ends of the waist and leg belt.

When the coat is worn and buckled or closed at the front, the swivel hook 53 hangs down at the middle near the front 25 split in the coat. The harness hangs from the coat. Its weight is only a few pounds. It is loose enough on the body of the wearer so as not to hinder movement or the work being done by the fireman. The 30 weight of the harness being small does not impede the wearer's work. When the harness is not being used for purposes of descent, it just stays in the coat but is always ready for use.

35 The suspension line 16 may comprise a rope or other flexible element 70, to one end of which is attached a safety snap hook 71 which may be like the hook 41 or like the hook 53 as shown in Figure 3. The 40 rope 70 may be made of nylon, 3/8" in diameter and spliced to the safety snap hook, or it may be of any other suitable material and of suitable tensile strength, length and diameter. Any suitable flexible 45 line or cord will do.

The rope may be compactly folded into a clear plastics film bag 75 (Figure 6), which may be carried in a pocket of the coat.

50 The suspension line may thus consist of a length of nylon line, to which a forged steel safety snap hook is spliced to one end and a loop eye spliced to the other end. It is folded for quick use and is packaged in a plastics bag. Features such as 55 compactness, lightness in weight and great strength make this unit practical in many aspects of fire fighting. It has been designed to work in conjunction with the harness. The main function of the safety snap 60 hook is to eliminate time consuming knots.

To use the apparatus for descent for example from a window, the bag 75 is ripped open, the hook of the line 16 is passed 65 around any suitable, substantial, fixed ob-

ject such as a riser 76, and the hook is then snapped onto the rope. The hook 53 is then pulled out from the coat, and the rope is wrapped several times (3 or 4 70 times) around the hook portion 54 as shown in Figure 3. The fireman lets himself out of the window holding the loose end of the rope in one hand, as shown in Figure 1, and the taut part of the rope is 75 held with his other hand. To stop, the user pulls the free end of the rope. To descend, the user feeds the rope up toward the hook 53. When the harness is in use, the hook 42 detachable engages the swivel loop 52 thereby interconnecting the ends of 80 the waist and leg belts at the front of the body of the fireman.

The rope should be strong enough to permit the fireman to carry a person being 85 rescued.

In a majority of cases, where a fireman or others are trapped on a burning floor, it is only necessary to descend one floor. Hence rope lengths of 30 feet to 50 feet 90 are usually sufficient.

This apparatus can be used for rescue operations other than those which occur in fires.

The harness may be used without the coat and is detachable from the coat. No 95 knots are required. The harness is adjustable for various sized users. The rope can be of any desired length.

In Figures 7 to 14, there is illustrated a modified form of the invention. The apparatus or device of Figures 7 to 14 comprise 100 a harness 100, a fireman's turnout coat 101 and a suspension line 102.

The suspension line or rope may be wound as shown in Figure 6, and packaged 105 in a clear plastics bag 103 with its neck constricted and tied by a string 104, all as shown in Figure 14. At one end of the suspension line is a snap lock hook 105. The other end of the line may be folded back 110 and spliced on at 106, to form a stop and a loop 107. A metal plate 108 has a hole for the line or rope to go through. The plate 108 can contact stop 106. Thus, if a fireman is sliding down line or rope 102, 115 he won't slide off, since the plate 108 prevents sliding off. To anchor the line, the upper end of the rope or line is wrapped about a pipe or any other fixed object, and the snap hook 105 engaged with the rope 120 or line.

The harness 100 comprises a waist belt 111 and a leg belt 112. These may be made of canvas or leather or of any other suitable flexible material. One end 111a of 125 belt 111 is folded back onto itself as shown in Figure 11, and stitched to the belt as at 115, to provide an end loop or eye 118, and a front loop or eye 119. The loop or eye 119 is narrower than the belt 130

as shown in Figure 9. The adjacent end 112a of belt 112 is inclined upwardly and interposed between belt 111 and the folded back end portion 111a of the belt, and
 5 stitched thereto by lines of stitching 116. A strap 120 has its lower end interposed between belt ends 112a and 111a and stitched thereto as by stitching 121. At the upper end of strap 120 is a female snap
 10 fastener member 123 for the purpose hereinafter appearing.

For engagement with the suspension line 102 there is provided a hook member 125 which comprises an eye 126 through which
 15 the eye or loop 119 passes freely so as to allow relative movement between the eye 126 and the belt 111. Member 125 further comprises a hook 127 integral with the eye 126, and a spring pressed snap lock or
 20 latch 128 pivoted to the neck of the hook, for closing the hook. As shown in Figure 9, the suspension line may be wrapped about hook 127. The rope is paid out to allow descent and pulled down, below the
 25 hook, to brake the descent.

A first buckle 130 has an end transverse strap 131 passing through eye or loop 118, an end loop 132 and an intermediate cross-strap 133.

Means are provided to interconnect the opposite ends of belts 111, 112 to each other, to allow selective adjustment of the lengths of the belts; and to detachably connect the interconnected opposite ends of the
 35 belts to the buckle 130. To this end there is provided a second buckle 140 having at one end a hook 141 provided with a spring pressed snap lock or latch to close the hook. Extending from hook 141 is a
 40 buckle portion 142 comprising parallel end portions 143, 144 interconnected by parallel side portions 145. An intermediate, transverse slider pin or rung 146 has its ends bifurcated and slidably engaging the side portions 145 of the second buckle. The opposite end 111b of the waist belt 111 is
 45 wrapped around slider pin 146 and folded back at 111c against the outside of the belt. The length of belt 111 may be individually adjusted. After adjustment, the folded back portion may be detachably fixed in place against flapping and to maintain the adjustment, by a removable snap fastener 148 as shown in Figure 9. A
 55 second strap 150 may be looped about belt 111 and its folded back portion 111c, to be disposed close to the second buckle 140. After adjustment of the length of belt 111, strap 150 may be detachably fixed to the
 60 belt by a detachable snap fastener member or rivet 151. Strap 150 has a female snap fastener member 152 at its upper end for the purpose hereinafter described.

There is further provided a third buckle 65 153 which has two end cross straps 154,

interconnected to a pair of parallel side portions 156. Straps 144 and 155 of buckles 140, 153 are interconnected by a flexible strap 157. On side portions 156 is slidably mounted a cross-pin 159. 70

The opposite end 112b of leg belt 112 is wrapped around pin 159 and folded back at 160 against the outside of the belt. The length of belt 112 may be adjusted. After adjustment, belt end 160 may be detachably fastened to the main body of the belt by a snap fastener or rivet 161. 75

The harness may be detachably supported inside the fireman's turnout coat 101, similar to coat 14 of Figure 2, at waist height. This is accomplished by means of the straps 120 and 150. The female fastener members on the straps are snapped onto complementary snap fastener members attached to the coat adjacent the split front edges 170 of the coat and located at the inside of the coat, at waist height. 80

A third strap 172 carries a female snap fastener member 173 which may be snap fastened to a male snap fastener member 174 riveted to the coat at the middle of the back at waist height. Snap fastener member 174 is similar to the male snap fastener members attached to the coat near the split edges 170 for engagement with the snap fastener members 123, 152 on straps 120, 150, and are similarly riveted to the coat. 85

Strap 172 has a loop 172a slidably receiving an intermediate portion of the waist belt 111. The hook member 125 may be removably strapped to the inside of coat 101 by a strap 180 having snap fastener members 181 adapted to snap onto complementary snap fastener members on the coat. Strap 180 is used when the harness is worn but not being used, in order to keep the hook member from swinging around. Strap 180 can easily have one end detached to allow the hook to pass out between the split edges 170 of the coat, for engagement with the suspension line. 100

It will thus be seen that there is provided an article in which the several provisions of this invention may be achieved, and which is well adapted to meet the conditions of practical use. 105

WHAT WE CLAIM IS:—

1. A body harness comprising support means, which support means comprise a waist support means for engagement about a waist of a wearer and leg support means for engagement about the leg(s) of the wearer, the support means having a first end portion and a second end portion, means for detachably connecting the first and second end portions, which means for detachably connecting comprise a first connector member connected to the first or 120
 125
 130

second end portion and engaging means on the other of the first or second end portion engagable by the first connector member, means for selectively adjusting the waist support means and the leg support means and a second connector member, the second connector member being a hook member being mounted directly or indirectly on said other end portion and being movable relative to the engaging means and being adapted for slidable engagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector member engages the engaging means.

2. A harness according to Claim 1, wherein the support means comprises two first end portions and two second end portions, the harness further comprising means for interconnecting the first end portions and means for interconnecting the second end portions.

3. A body harness comprising a flexible waist belt and a flexible leg belt, each belt having a first end portion and a second end portion, means for interconnecting the pair of first end portions of the belts, means for interconnecting the pair of second end portions of the belts, means for detachably connecting the interconnected pair of first end portions of the belts to the interconnected pair of second end portions of the belts at the front of the body of a wearer, which means for detachably connecting comprise a first connector member connected to one pair of interconnected end portions, the first connector member being a first connector hook member, and means on the other pair of interconnected end portions hookingly engagable by the first connector hook member, means for selectively adjusting the length of each belt and a second connector hook member, the second connector hook member being mounted directly or indirectly on said other interconnected pair of end portions and being movable relative to the hookingly engageable means and being adapted for slidable engagement of a suspension line wound therearound for sliding the body of the wearer down the suspension line, the arrangement being such that, in use of the harness, the first connector hook member hookingly engages the hookingly engageable means.

4. A harness according to Claim 3, wherein at least one interconnected pair of end portions are interconnected such that the two end portions are not directly attached to each other and are capable of movement relative to each other and wherein, in use of the harness, the second

connector hook member is located at the front of the body of the wearer when the interconnected pair of first end portions are connected to the interconnected pair of second end portions.

5. A harness according to Claim 2, 3 or 4, wherein the means for interconnecting the first end portions comprises stitching attaching the first end portions to each other.

6. A harness according to any one of Claims 2 to 5, wherein the means for interconnecting the second end portions comprises a first buckle, a second buckle and means for interconnecting the first and second buckles such that, in use of the harness, one second end portion adjustably passes around an element of the first buckle and the other second end portion passes around an element of the second buckle.

7. A harness according to Claim 6, when dependent upon Claim 5, wherein the means for detachably connecting the interconnected first end portions to the interconnected second end portions comprises the first buckle and a third buckle, which third buckle has an element for engaging a first loop at the stitched together first end portions, the first or third buckle having the first connector member for engaging an element of the third or first buckle, respectively.

8. A harness according to any one of Claims 3 to 7, which further comprises means for attaching the second end portions of the belts to the main body of the respective belts after adjustment of the lengths of the belts.

9. A harness according to any one of Claims 5 to 8, which further comprises a loop or second loop at the stitched together first end portions for engaging the second connector hook member.

10. A harness according to any one of the preceding claims, wherein the first connector member comprises a snap lock hook.

11. A harness according to any one of the preceding claims, wherein the second connector hook member comprises a hook having a snap lock.

12. A harness according to any one of the preceding claims, in combination with a suspension line for winding around and slidably contacting, in use of the harness, the second connector hook member in a manner allowing the paying out of the line as the body lowers.

13. A harness in combination with a suspension line according to Claim 12, wherein the suspension line comprises a flexible elongate element having a snap hook at one end thereof.

14. A harness in combination with a

suspension line according to Claim 13, which further comprises a stop at another end of the element and a plate having a hole therein through which hole, in use of the harness and line, the element passes, the plate being located adjacent the stop.

15. A harness according to any one of the preceding claims, and a coat, means being provided for detachably holding the second connector hook member to the inside of the coat.

16. A harness according to any one of the preceding claims, and a coat openable at the front and having front free edges, means being provided for detachably attaching the harness to the inside of the back of the coat and to the inside of the coat adjacent the free edges thereof.

17. A harness and coat according to Claim 16, wherein the means for detachably attaching the harness to the back of the coat and adjacent the front edges thereof are substantially at the same level.

18. A harness and coat according to Claim 16 or 17, wherein the means for detachably attaching the harness to the coat comprises a plurality of loop members connected to the harness and means for quickly detachably attaching the loop members to the coat.

19. A harness and coat according to Claim 18, wherein one of the loop members comprises a loop which loop is

slidable on an intermediate portion of the waist belt or waist support means. 35

20. A harness according to Claim 19, wherein other loop members are located adjacent the first and second end portions of the waist belt or waist support means.

21. A body harness, substantially as hereinbefore described with reference to, and as shown in, Figures 1 to 6 of the accompanying drawings. 40

22. A body harness, substantially as hereinbefore described with reference to, and as shown in, Figures 7 to 14 of the accompanying drawings. 45

23. A body harness attached to a coat, substantially as hereinbefore described with reference to, and as shown in, Figures 1 to 6 of the accompanying drawings. 50

24. A body harness attached to a coat, substantially as hereinbefore described with reference to, and as shown in, Figures 7 to 14 of the accompanying drawings. 55

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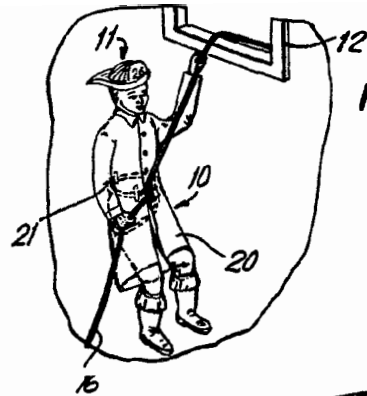


FIG. 1

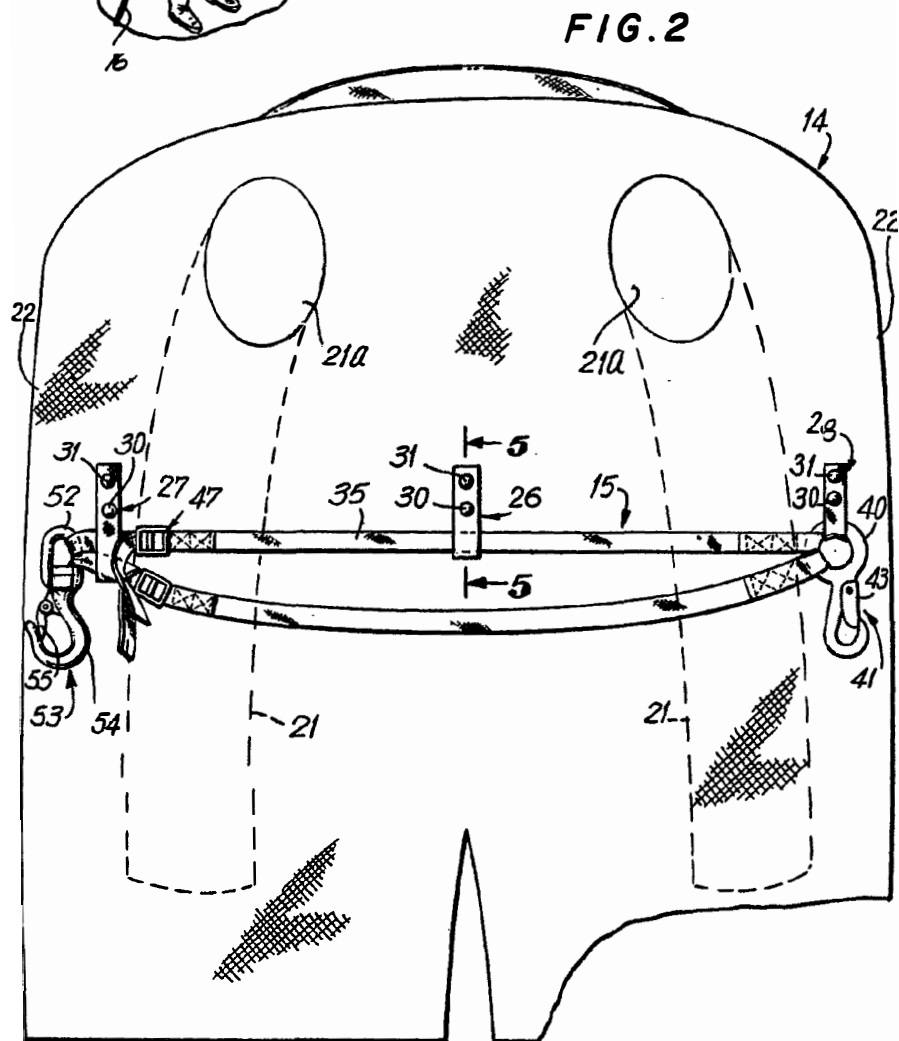


FIG. 2

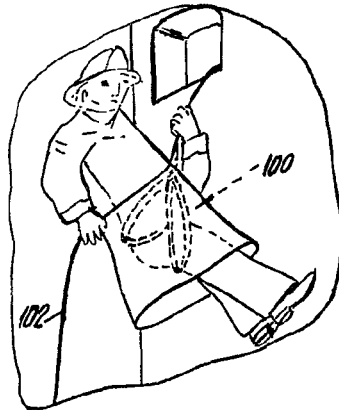


FIG. 7

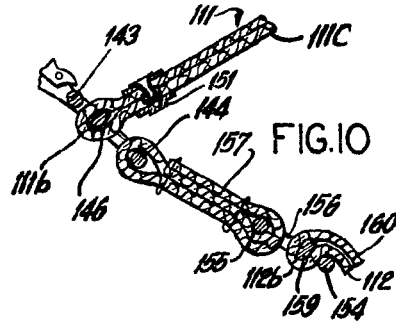


FIG. 10

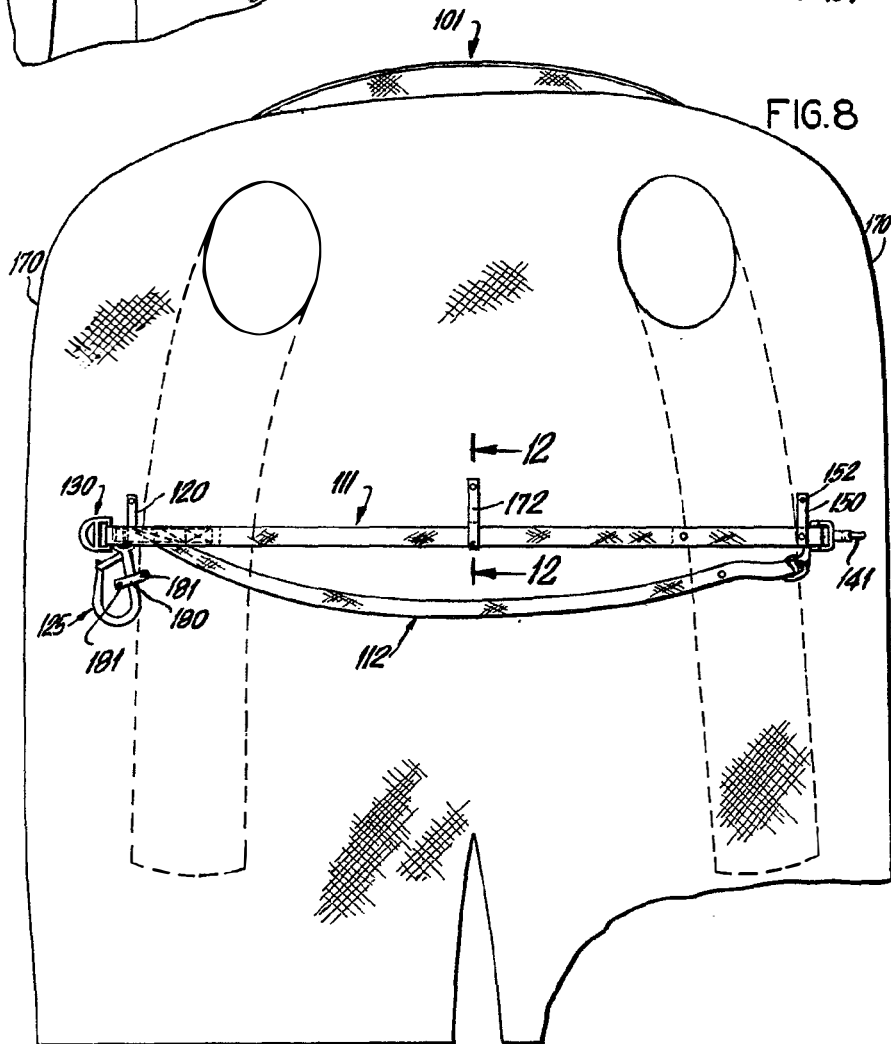


FIG. 8

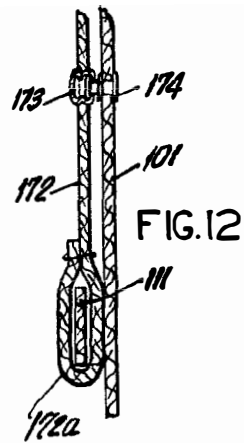


FIG. 12

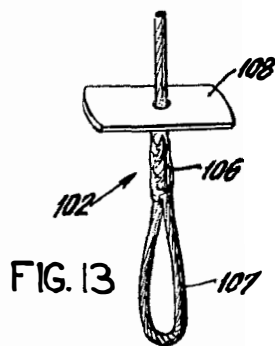


FIG. 13

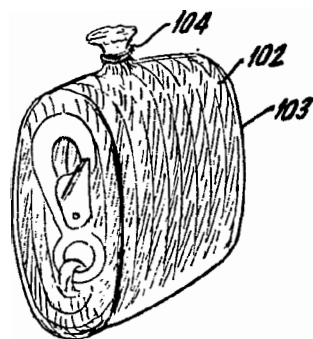


FIG. 14

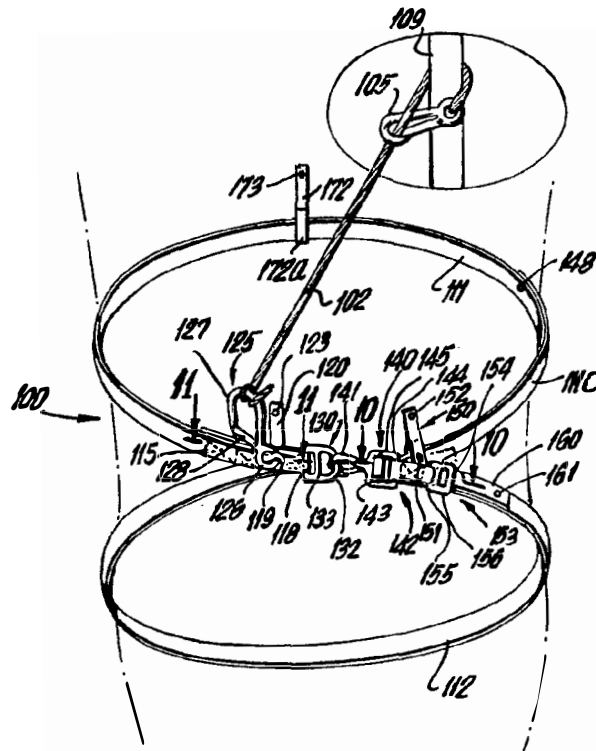


FIG. 9

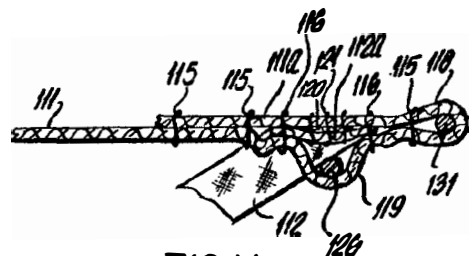


FIG. 11

PUB-NO: GB001420783A
DOCUMENT-IDENTIFIER: GB 1420783 A
TITLE: BODY HARNESS
PUBN-DATE: January 14, 1976
PATENT-FAMILY-ID: 10134171

APPLICANT:

NAME	COUNTRY
ARANCIO J A	

APPL-NO: GB 1972573 A
APPL-DATE: April 25, 1973

PRIORITY-DATA:

PRIORITY-NO	PRIORITY-APPL-DATE
GB 1972573 A	19730425

CPC-CURRENT:

TYPE	CPC	DATE
CPCI	A62B35/0075	20130101
CPCI	A62B35/0037	20130101

INT-CL-CURRENT:

TYPE	IPC	DATE
IPCP	A62B35/00	20060101

ABSTRACT:

1420783 Body harness J A ARANCIO 25 April 1973 19725/73
Heading A3V [Also in Division D1] A body harness, suitable for wearing inside a fireman's coat 14, comprises a waist belt 35, 111 and a leg belt 60, 112 each adjustable in length and interconnected at both ends, the respective pairs of interconnected ends being detachably connectable together by means 41, 52 or 130, 141 and one pair of ends movably mounting a hook 53, 127 which projects in use through the front of coat 14 for sliding engagement with a descent line 102. The harness, whose belts may be of leather or canvas, is detachably secured

to the coat 14 by loops 26 to 28, or straps 120, 150, 172 and snap fasteners. The various hooks used 41, 53, 127, 141 may all be of the snap type.

PLUS Search Results for S/N 17231717, Searched Wed Jun 09 11:52:14 EDT 2021

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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17/231,717

04/15/2021

Walter Ernest Power II

TETH115

1069

44088 7590 05/27/2021
KAUFHOLD DIX PATENT LAW
P. O. BOX 89626
SIOUX FALLS, SD 57109

EXAMINER

ART UNIT

PAPER NUMBER

3974

NOTIFICATION DATE

DELIVERY MODE

05/27/2021

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jason@kaufholdlaw.com

<i>Decision Granting Request for Prioritized Examination (Track I)</i>	Application No. 17/231,717	Applicant(s) Power et al.	
	Examiner CHERYL P GIBSON BAYLOR	Art Unit OPET	AIA (FITF) Status Yes
<p>1. THE REQUEST FILED <u>15 April 2021</u> IS GRANTED .</p> <p>The above-identified application has met the requirements for prioritized examination</p> <p>A. ☒ for an original nonprovisional application (Track I).</p> <p>B. ☐ for an application undergoing continued examination (RCE).</p> <p>2. The above-identified application will undergo prioritized examination. The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:</p> <p>A. filing a <u>petition for extension of time</u> to extend the time period for filing a reply;</p> <p>B. filing an <u>amendment to amend the application to contain more than four independent claims, more than thirty total claims</u> , or a multiple dependent claim;</p> <p>C. filing a <u>request for continued examination</u> ;</p> <p>D. filing a notice of appeal;</p> <p>E. filing a request for suspension of action;</p> <p>F. mailing of a notice of allowance;</p> <p>G. mailing of a final Office action;</p> <p>H. completion of examination as defined in 37 CFR 41.102; or</p> <p>I. abandonment of the application.</p> <p>Telephone inquiries with regard to this decision should be directed to CHERYL GIBSON BAYLOR at (571)272-3213. In his/her absence, calls may be directed to Petition Help Desk at (571) 272-3282.</p>			
/CHERYL GIBSON BAYLOR/ Paralegal Specialist, OPET			



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
17/231,717	04/15/2021	3677	830	TETH115	14	2

CONFIRMATION NO. 1069

FILING RECEIPT



0000000125052432

44088
KAUFHOLD DIX PATENT LAW
P. O. BOX 89626
SIOUX FALLS, SD 57109

Date Mailed: 04/22/2021

Receipt is acknowledged of this non-provisional utility 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 FIRST INVENTOR, 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 corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction 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 provided that the request is grantable.

Inventor(s)

Walter Ernest Power II, Carver, MN;
Gregory Alan Godfrey, Richmond Hill, GA;
Carl Eugene Kossuth III, Rolla, MO;

Applicant(s)

Tethrd LLC, Carver, MN;

Assignment For Published Patent Application

Tethrd, LLC, Carver, MN

Power of Attorney: The patent practitioners associated with Customer Number 44088

Domestic Priority data as claimed by applicant

This application is a CON of 17/022,844 09/16/2020
and is a CON of 16/736,345 01/07/2020 ABN

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: 04/21/2021

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 17/231,717**

Projected Publication Date: 07/29/2021

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

Bridge Rope Assembly

Preliminary Class

024

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.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 17/231,717		
APPLICATION AS FILED - PART I								
(Column 1)		(Column 2)		SMALL ENTITY		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)	
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	80		N/A		
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	350		N/A		
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	400		N/A		
TOTAL CLAIMS (37 CFR 1.16(j))	14	minus 20 = *	x 50 =	0.00	OR			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *	x 240 =	0.00				
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).				0.00				
				0.00				
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))			TOTAL	830		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		
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =	
	Application Size Fee (37 CFR 1.16(s))					OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR		
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =	
	Application Size Fee (37 CFR 1.16(s))					OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR		
				TOTAL ADD'L FEE		OR	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.								

**CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION
UNDER 37 CFR 1.102(e) (Page 1 of 1)**

First Named Inventor:	Walter E. Power II	Nonprovisional Application Number (if known):	
Title of Invention:	Bridge Rope Assembly		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i)(1) and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR 1.18(d), is currently \$0. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.
2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.
3. The applicable box is checked below:

I. ☒ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

- i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.
---OR---
(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.
- ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, or the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.

II. ☐ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

- i. A request for continued examination has been filed with, or prior to, this form.
- ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
- iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
- iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
- v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature	/seankaufhold/	Date	04/15/2021
Name (Print/Typed)	Sean A. Kaufhold	Practitioner Registration Number	46820
Note: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.*			
☒	*Total of <u>1</u> forms are submitted.		

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.

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		Bridge Rope Assembly		
First Named Inventor/Applicant Name:		Walter Ernest Power II		
Filer:		Sean Allen Kaufhold/Jason Wormstadt		
Attorney Docket Number:		TETH115		
Filed as Small Entity				
Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	80	80
UTILITY SEARCH FEE	2111	1	350	350
UTILITY EXAMINATION FEE	2311	1	400	400
REQUEST FOR PRIORITIZED EXAMINATION	2817	1	2100	2100
Pages:				
Claims:				
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				3000

Electronic Acknowledgement Receipt

EFS ID:	42466650
Application Number:	17231717
International Application Number:	
Confirmation Number:	1069
Title of Invention:	Bridge Rope Assembly
First Named Inventor/Applicant Name:	Walter Ernest Power II
Customer Number:	44088
Filer:	Sean Allen Kaufhold/Jason Wormstadt
Filer Authorized By:	Sean Allen Kaufhold
Attorney Docket Number:	TETH115
Receipt Date:	15-APR-2021
Filing Date:	
Time Stamp:	16:44:35
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 3000
RAM confirmation Number	E20214EG44492488
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		TETH115EFS.pdf	609146	yes	27
			b2fc9c6e29d69fdc31f914be25524fe629ff96e		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	9	
	Claims		10	12	
	Abstract		13	13	
	Oath or Declaration filed		14	16	
	Power of Attorney		17	18	
	Drawings-only black and white line drawings		19	27	
Warnings:					
Information:					
2	Application Data Sheet	TETH115ADS2.pdf	1823075	no	9
			af50b8d9f58e2263ddfb10b35f0f0468aa5ff2da		
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	TETH115IDS.pdf	1035206	no	5
			3633f36f30fb2988821132c43c93ec09ae2e7e52		
Warnings:					
Information:					
4	TrackOne Request	TETH115aia0424.pdf 196	134750	no	2 Ex. 1004 Crüzr v. Tethrd
			18924371e90599a63bb7b04a6ceb9ac1286b947b		

Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	40387	no	2
			12d5c020e7ec975e1ef16ff9ea3f1807d773f1256		
Warnings:					
Information:					
Total Files Size (in bytes):				3642564	
<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>					

(a) TITLE OF THE INVENTION

5

BRIDGE ROPE ASSEMBLY

(b) CROSS-REFERENCE TO RELATED APPLICATIONS

10 This application is a continuation application and I hereby claim the benefit under
35 U.S.C. Section 120 of United States Patent application 16/736,345 filed January 7th,
2020 and United States Patent application 17/022,844 filed September 16th, 2020.

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR
DEVELOPMENT

15 Not Applicable

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
Not Applicable

20 (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A
COMPACT DISC OR AS A TEXT FILE VIA THE OFFICE ELECTRONIC FILING
SYSTEM.

Not Applicable

25 (f) STATEMENT REGARDING PRIOR DISCLOSURES BY THE INVENTOR OR
JOINT INVENTOR

Not Applicable

(g) BACKGROUND OF THE INVENTION

30 (1) Field of the Invention.

The disclosure relates to harness rope structures and more particularly pertains to a new harness rope structures for utilizing eye splices having fully buried rope ends which extend completely into their mating counterparts a sufficient distance such that a double layer of rope is created. It has been found that such a construction allows high strength materials that are otherwise susceptible to heat/friction damage, or are of such low friction that they do not typically retain a closed loop formation under stress, to be used safely for harness bridge ropes.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

The prior art relates to harness ropes which are generally conventional and utilize rope materials that are of inferior strength but which have a higher coefficient of friction and a higher weight to strength ratio.

(h) BRIEF SUMMARY OF THE INVENTION

An embodiment of the disclosure meets the needs presented above by generally comprising a main body including a rope that has a first end and a second end. The rope has a splice therein to form an eye loop in the main body. The eye loop is configured to engage a first bridge loop of a harness. The main body comprises a first portion including the first end and a second portion including the second end. The first portion extends through the second portion of the main body such that the first end is positioned adjacent to the second end. A distance between the first and second ends is less than 2.0 inches.

There has thus been outlined, rather broadly, the more important features of the disclosure in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the disclosure that will be described hereinafter and which will form the subject matter of the claims appended hereto.

The objects of the disclosure, along with the various features of novelty which characterize the disclosure, are pointed out with particularity in the claims annexed to and forming a part of this disclosure.

5 (i) BRIEF DESCRIPTION OF SEVERAL VIEWS OF THE DRAWING(S)

The disclosure will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

10

Figure 1 is a front view of a main body of a bridge rope assembly according to an embodiment of the disclosure.

Figure 2 is a front view of a closed loop of an embodiment of the disclosure.

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Figure 3 is a front in-use view of an embodiment of the disclosure.

Figure 4 is a front in-use view of an embodiment of the disclosure.

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Figure 5 is a side in-use view of an embodiment of the disclosure.

Figure 6 is a front view of a rope used in forming a main body of an embodiment of the disclosure.

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Figure 7 is a front view of a step in forming the main body of an embodiment of the disclosure.

Figure 8 is a front view of a single rope used in forming a friction hitch of an embodiment of the disclosure

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Figure 9 is a front view of a step in forming a continuous loop of an embodiment of the disclosure.

Figure 10 is a front view of the continuous loop of an embodiment of the
5 disclosure

Figure 11 is a cross-sectional view taken along line 11-11 of Figure 10 of an embodiment of the disclosure.

10 (j) DETAILED DESCRIPTION OF THE INVENTION

With reference now to the drawings, and in particular to Figures 1 through 11 thereof, a new harness rope structure embodying the principles and concepts of an embodiment of the disclosure and generally designated by the reference numeral 10 will
15 be described.

As best illustrated in Figures 1 through 11, the bridge rope assembly 10 generally includes a main body 12, as shown in Figures 1, 4, 6 and 7, comprising a rope 14 that has a first end 16 and a second end 18. The main body 12 has a splice 20 therein to form an
20 eye loop 22 in the main body 12. The splice 20 may be a straight splice or a locked brummel splice. Each is well known in the art of rope manipulation within the harness arts. Generally, a locked brummel splice may be preferred as any buried tags (portions of rope extended within another portion of rope) cannot back themselves out as they are effectively “locked” in place with a knot. A downside of the locked brummel is the knot
25 itself at the splice 20 which creates a bulge in the rope where the knot is formed. Buried tags that are the product of a straight splice are not locked in place and therefore can back themselves out when not under tension. However, a straight splice can be secured in place by stitching the resultant tag(s) in place once the tag is in a buried condition if desired. Generally, as it will be understood below, it is the splice 20 which creates one or
30 two tags which is important.

The eye loop 22 is configured to engage a first bridge loop 24 of a harness 26 utilized to support a person 28 secured to a tree 30. After the formation of the eye loop, the main body 12 comprises a first portion 32 including the first end 16 and a second portion 34 including the second end 18. The first portion 32 is then extended through the second portion 34 of the main body 12 by threading the first end 16 into the second portion 34 adjacent to the eye loop 22. The first end 16 of a conventional buried tag, i.e. first portion 32, is typically retained within the second portion 34 in close proximity to the eye loop 22. However, in the current disclosure, the eye loop 22 is positioned proximate a central area of the rope 14 such that the first end 16 can be extended adjacently to the second end 18, wherein the first 32 and second 34 portions each extend away from the eye loop 22. The first end 16 will typically remain within the second portion 34 and will be located less than 2.0 inches from the second end 18.

The main body 12 includes a stop knot 36 in the second portion 34 adjacent to the second end 18 and therefore the stop knot 36 further includes the first portion 32 adjacent to the first end 16. The stop knot 36 may comprise, for example, a double fisherman's knot.

The juncture of the first 16 and second 18 ends may be covered with a securing member or otherwise bonded together with known methods and/or mechanical structures. These may include mechanical stitching, staples, glue, friction/heat bonding and the like. One type of securing member may comprise a heat shrink wrap sleeve having an interior coated with an adhesive to ensure a strong bond between the sleeve and the main body 12. The sleeve will extend in opposite directions away from a juncture of the first end 16 and the second portion 34 to ensure that the first end 16 does not move relative to the second portion 34 and protects the juncture from damage, such as for example from fraying. After the shrink wrap is heated and adhered to the second portion 34, the extra length of section portion 34 extending beyond the first end 16 may be removed such that the first 16 and second 18 ends are flush with each other.

The rope 14 may have a length from the first end 16 to the second end 18 between 72.0 inches and 126.0 inches. The main body 12 may further comprise a .25 inch braided rope though other rope diameters are contemplated with the width being typically less than 0.50 inches and generally at least 0.1875 inches. The second end 18 extends away
5 from the eye loop 22 between 0.5 inches and 3.0 inches farther away than the first end 16 extends away from the eye loop 22, and more preferably less than 2.0 inches farther away. It should be understood that the first end 16 may extend outwardly of the second portion 34 a short distance and either be trimmed back such that it is flush with or within 1.0 inches of the second end 18 and thereafter secured in place. The burying of the first
10 portion 32 within the second portion 34 may be facilitated with conventional threading/splicing tools 35. Increased friction between the first 32 and second 34 portions due to the increased diameter of the second portion 34 prevents movement of the first 32 and second 34 portions relative to each other to minimize mechanical failure. The increased diameter of the second portion 34 will also result in increased friction between
15 the main body 12 and a friction hitch positioned on the main body 12. This minimizes mechanical failure of the bridge rope assembly 10 during standardized drop testing.

The main body 12 is comprised of a polyethylene, and in particular ultra high molecular weight polyethylene, typically known as UHMWPE. This material
20 characteristically includes extremely long chains of polyethylene having 100,000 to 250,000 monomer units per molecule. Such material is available from numerous suppliers. One such material is sold under the trademark *Amsteel*. *Amsteel* is a trademark of Samson Rope Technologies, Inc. located at 2090 Thorton Street, Ferndale, WA. This material may be blended with other materials; however, the rope may consist solely of
25 UHMWPE. UHMWPE, while extremely strong, has a very low coefficient of friction. Therefore the extension of the first portion 32 through the second portion 34 further resists the movement of the first portion 32 outwardly away from the second portion 34 while increasing a thickness of main body 12 such that it may be gripped easier.

In one embodiment, the main body 12 comprises a rope that is 95.0 inches long and is comprised of 0.25 inch diameter *Amsteel*. A splice 20 is created and a locked brummel used such that a 39.0 inch tag line (first portion 32) is formed which is buried into what will be an approximately 50.0 inch remainder (second portion 34) of the rope

5 14. The widening of the second portion 34 to accept the first portion 32 causes the second portion 34 to shorten in length which allows the first portion 32 to nearly extend through the second portion 34. Shrink wrap 40 is then applied over the second 34 portion at a juncture of the first end 16 and second portion 34. It is heated to form a bond with the second portion 34 and compresses the first 32 and second 34 portions together. After

10 the shrink wrap is heated and adhered to the second portion 34, the extra length of the second portion 34 extending beyond the first end 16 may be removed such that the first 16 and second 18 ends are flush with each other. The stop knot 36 is formed in the main body 12 adjacent to the shrink wrap 40 by way of a double fisherman's knot. The distance from the stop knot 36 to the eye loop 22 is approximately 31.0 inches.

15

A friction hitch 42, as shown particularly in Figures 2, 4, and 9-11, is positioned on the main body 12 between the stop knot 36 and the eye loop 22. The friction hitch 42 is formed in a conventional manner and is configured to engage a second bridge loop 44 of the harness 26. The friction hitch 42 comprises a closed loop 46. The closed loop 46

20 is comprised of a single rope 48 that is formed into a continuous splice using a conventional method except wherein a pair of ends (first end 50 and second end 52) of the single rope 48 are each buried into the closed loop 46 a distance of at least 40% of a total circumference of the closed loop 46, more particularly between 40% and at least 50% of the total circumference, though, for reasons stated below, a distance of less than

25 50% may be preferred.

25

Using conventional methods, the closed loop 46 is formed at with a splice 54 drawn together by ends 50 and 52 being drawn through the splice 54. As with the main body 12, the splice 54 may be a locked brummel splice 54 or a straight splice with the

30 same disadvantages as mentioned above except with two tag lines, as shown in Figure 9,

30

instead of one. The first 50 and second 52 ends are then drawn through, or buried, in the continuous loop 46 with the first end 50 being positioned on one side of the locked splices 54 and the second end 52 being positioned on the other side of the locked splices 54. The first 50 and second 52 ends are thereby extending toward each other within the closed loop 46. However, they will typically remain spaced apart a distance of between 1.0 and 4.0 inches to create a narrow area 56 in the continuous loop 46 having a diameter that is less than a remainder of the continuous loop 46. Thus, the ends 50, 52 are each buried typically at least 40% and less than 50% of the total circumference of the continuous loop leaving the narrow area 56 to include less than 100% and greater than 80% of the total circumference.

The single rope 48 of the closed loop 46 has a length between 40.0 inches and 60.0 inches and the closed loop 46 will typically have a total circumference of between 20.0 inches and 30.0 inches. The single rope 48 may further comprise a 3/16 inch braided rope, though other rope diameters are contemplated with the width being typically less than 0.50 inches and generally at least 0.125 inches. As with the main body 12, the friction hitch 42 is comprised of UHMWPE. By burying the first 50 and second 52 ends of the single rope 48 through a majority of the closed loop 46, the closed loop 46 will resist damage caused by movement of the first 50 and second 52 ends within closed loop 46 while ensuring that the closed loop 46 remains intact.

In one specific example of the friction hitch 42, the single rope 48 is 47.0 inches long and is comprised of a 3/16 inch diameter of *Amsteel* rope, a type of braided rope comprised of UHMWPE. A brummel is formed 13.5" from a center point of the single rope 48 with tag ends of the single rope 48 each being buried to form a resultant closed loop 46 having a circumference from 22" to 24" depending on the stretch of the single rope 46 as it is formed into the closed loop 46. The narrow area 56 has a length being equal to between 3.0 inches and 4.0 inches. The closed loop 46 is formed into the friction hitch using what is commonly referred to as a Prusik knot.

In use, the eye loop 22 of the main body 12 is engaged on the first bridge loop 24 of the harness 26. The friction hitch 42 is formed in a conventional manner on the main body 12 and second bridge loop 44. The friction hitch 42 is positioned between the eye loop 22 and knot 36. The friction hitch 42 is conventional and can be selectively
5 loosened and moved along the main body 12. However, the materials and structure of the main body 12 and friction hitch 42 will prevent failure and allow UHMWPE materials to be used in such a manner that they will pass standardized drop tests. The narrow portion 56 of the closed loop 46 will typically be engaged with the second bridge loop 44 and its narrow diameter will assist in locking it in grooves in the second bridge loop 44 should
10 such be provided.

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

Therefore, the foregoing is considered as illustrative only of the principles of the
20 disclosure. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the disclosure to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the disclosure. In this patent document, the word “comprising” is used in its non-limiting sense to mean that items
25 following the word are included, but items not specifically mentioned are not excluded. A reference to an element by the indefinite article “a” does not exclude the possibility that more than one of the element is present, unless the context clearly requires that there be only one of the elements.

(k) CLAIM OR CLAIMS

I claim:

1. A bridge rope assembly configured to couple together a tree rope to a first bridge loop and a second bridge loop on a harness, the bridge rope assembly including:
a main body comprising a rope having a first end and a second end, the main body having a splice therein to form an eye loop in the main body, the eye loop being configured to engage the first bridge loop, the main body comprising a first portion including the first end and a second portion including the second end, the first portion extending through the second portion of the main body such that the first end is positioned adjacent to the second end, a distance between the first and second ends being less than 2.0 inches.
2. The bridge rope assembly according to claim 1, wherein the rope has a length from the first end to the second end between 72.0 inches and 126.0 inches.
3. The bridge rope assembly according to claim 1, wherein a distance of the eye loop to the second end is between 24.0 inches and 40.0 inches.
4. The bridge rope assembly according to claim 3, further including a securing member being positioned on the main body at a juncture of the first and second ends to retain the first and second ends at a static position relative to each other.
5. The bridge rope assembly according to claim 4, wherein the main body includes a stop knot in the second portion adjacent to the second end.
6. The bridge rope assembly according to claim 1, further including a friction hitch being positioned on the main body between the stop knot and the eye loop, the friction hitch being configured to engage the second bridge loop, the friction hitch

comprising a closed loop, the closed loop comprising a single rope being formed into the closed loop with a splice having a pair ends each being buried into the closed loop a distance of at least 40% of a total circumference of the closed loop.

7. The bridge rope assembly according to claim 6, wherein the single rope of the closed loop has a length between 40.0 inches and 60.0 inches.

8. The bridge rope assembly according to claim 7, wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches.

9. The bridge rope assembly according to claim 6, wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches.

10. The bridge rope assembly according to claim 9, wherein the main body and the friction hitch each are comprised of UHMWPE.

11. The bridge rope assembly according to claim 1, wherein the main body is comprised of UHMWPE.

12. The bridge rope assembly according to claim 9, wherein a distance of the eye loop to the second end is between 24.0 inches and 40.0 inches.

13. The bridge rope assembly according to claim 12, wherein the closed loop has a total circumference of between 20.0 inches and 30.0 inches.

14. A bridge rope assembly configured to couple together a tree rope to a first bridge loop and a second bridge loop on a harness, the bridge rope assembly including:
a main body comprising a rope having a first end and a second end, the main body having a splice therein to form an eye loop in the main body, the eye loop being configured to engage the first bridge loop, the main body comprising

a first portion including the first end and a second portion including the second end, the first portion extending through the second portion of the main body such that the first end is positioned adjacent to the second end, a distance between the first and second ends being less than 2.0 inches, the rope having a length from the first end to the second end between 72.0 inches and 126.0 inches, a distance of the eye loop to the second end being between 24.0 inches and 40.0 inches;

a securing member being positioned on the main body at a juncture of the first and second ends to retain the first and second ends at a static position relative to each other;

the main body including a stop knot in the second portion adjacent to the second end;

a friction hitch being positioned on the main body between the stop knot and the eye loop, the friction hitch being configured to engage the second bridge loop, the friction hitch comprising a closed loop, the closed loop comprising a single rope being formed into the closed loop with a splice having a pair ends each being buried into the closed loop a distance of at least 40% of a total circumference of the closed loop, the single rope of the closed loop having a length between 40.0 inches and 60.0 inches, the closed loop having a total circumference of between 20.0 inches and 30.0 inches;

the main body and the friction hitch each being comprised of UHMWPE.

(I) ABSTRACT OF THE DISCLOSURE

5 A bridge rope assembly includes a main body comprising a rope that has a first
end and a second end. The rope has a splice therein to form an eye loop in the main body.
The eye loop is configured to engage a first bridge loop of a harness. The main body
comprises a first portion including the first end and a second portion including the second
end. The first portion extends through the second portion of the main body such that the
10 first end is positioned adjacent to the second end. A distance between the first and
second ends is less than 2.0 inches.

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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	BRIDGE ROPE ASSEMBLY
-------------------------------	-----------------------------

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: **Walter Ernest Power II**

Date (Optional): _____

Signature

W. E. Power II

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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APPLICATION DATA SHEET (37 CFR 1.76)****Title of
Invention****BRIDGE ROPE ASSEMBLY**

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.

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LEGAL NAME OF INVENTORInventor: Gregory Alan Godfrey

Date (Optional) : _____

Signature: *Gregory Alan Godfrey*

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Invention****BRIDGE ROPE ASSEMBLY**

As the below named inventor, I hereby declare that:

This declaration
is directed to:☒

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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.

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LEGAL NAME OF INVENTORInventor: **Carl Eugene Kossuth III**

Date (Optional) : _____

Signature: *Carl E Kossuth III*

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First Named Inventor

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Art Unit

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Application Number	
Filing Date	
First Named Inventor	Walter Ernest Power II
Art Unit	
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See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

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

Signature	/seankaufhold/	Date (YYYY-MM-DD)	2021-04-15
Name/Print	Sean A. Kaufhold	Registration Number	46820

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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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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	Walter Ernest Power II		
Title	BRIDGE ROPE ASSEMBLY		
Art Unit			
Examiner Name			
Attorney Docket Number	TETH115		
SIGNATURE of Applicant or Patent Practitioner			
Signature	/seankaufhold/	Date (Optional)	2020-09-02
Name	Sean A. Kaufhold	Registration Number	46.820
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			
<p>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.</p>			
☐ *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:

44088

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):

Tethrd, LLC

- ☐ 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 Walter Ernest Power II

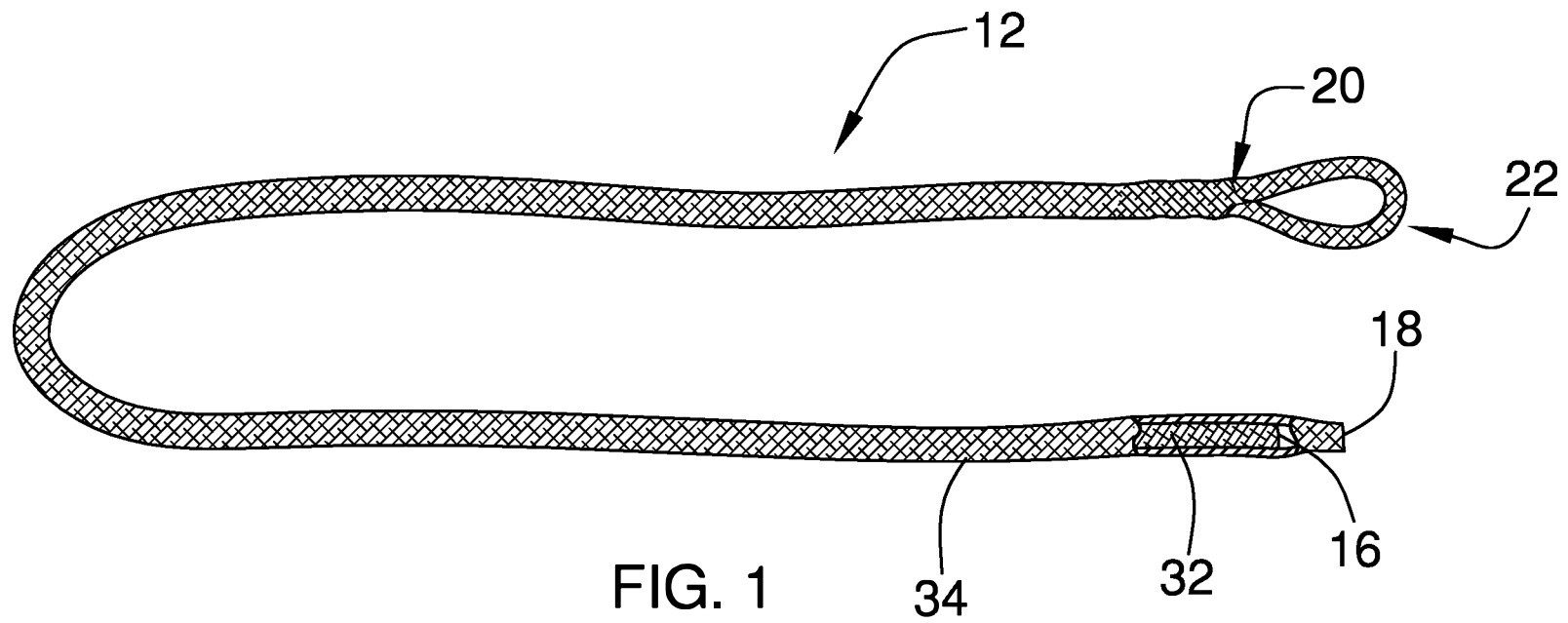
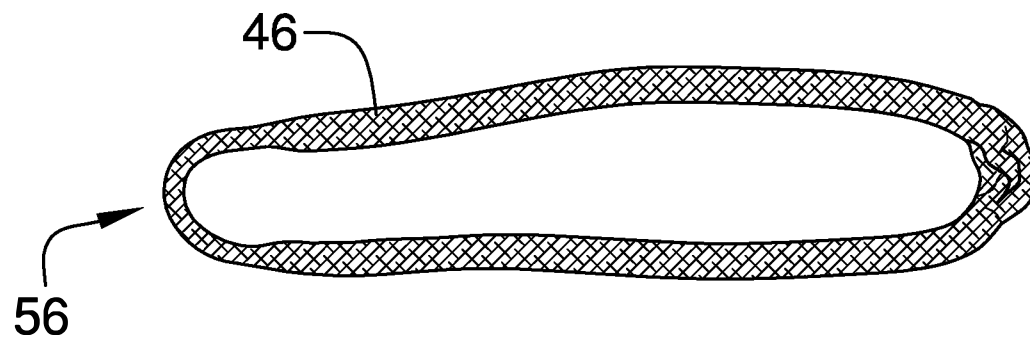
Title C.O.O. Tethrd, LLC

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.

☐ 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.



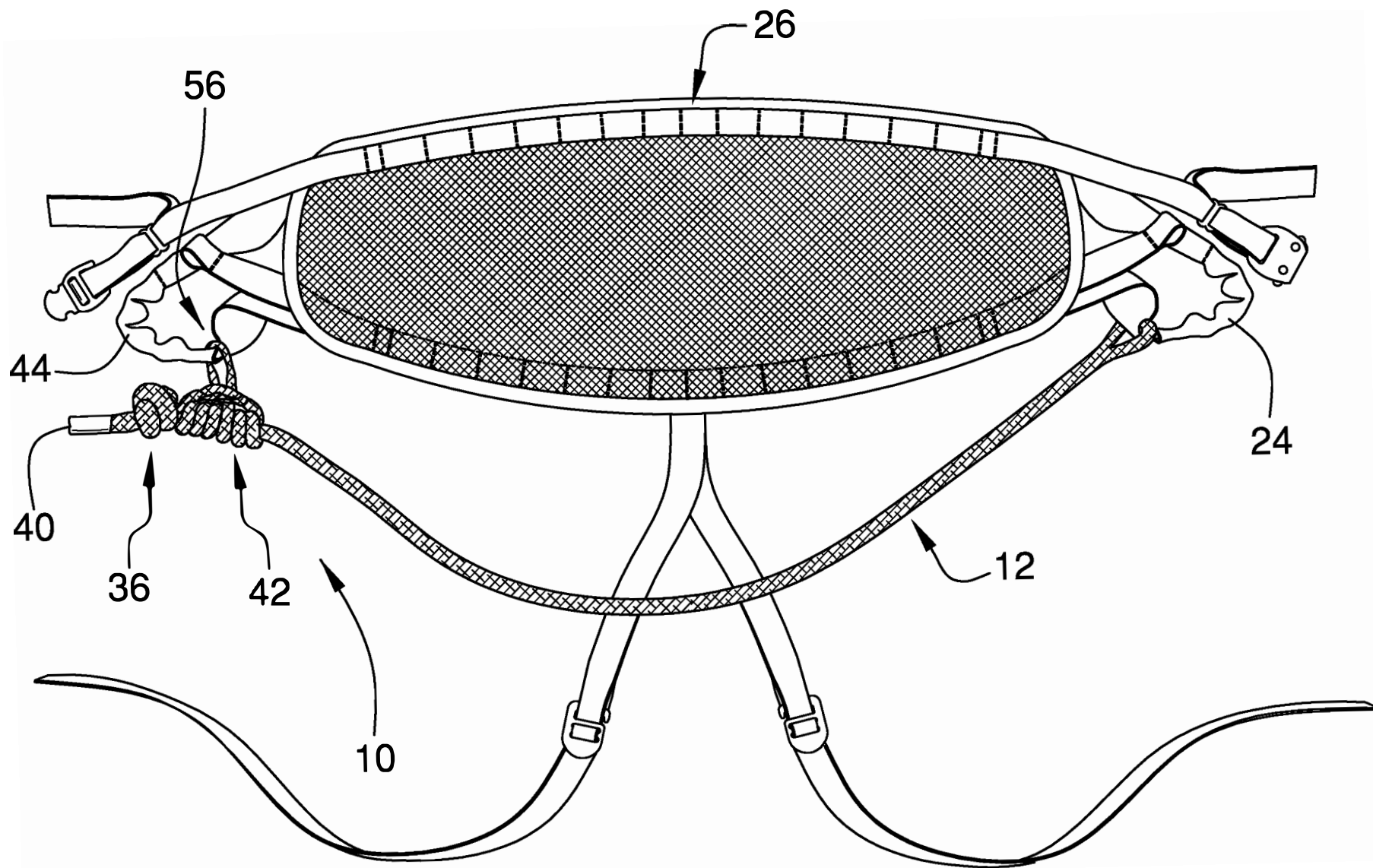
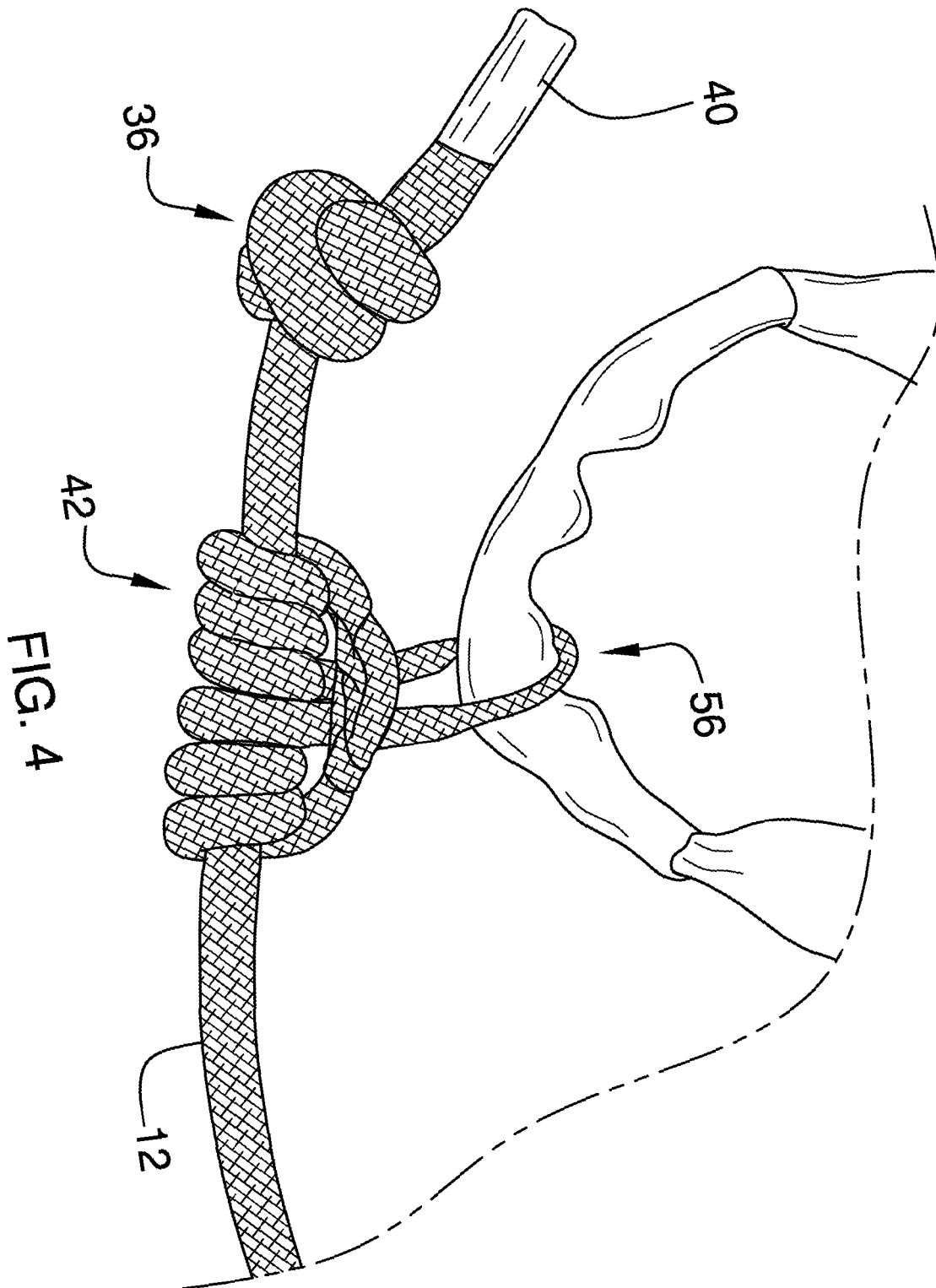


FIG. 3



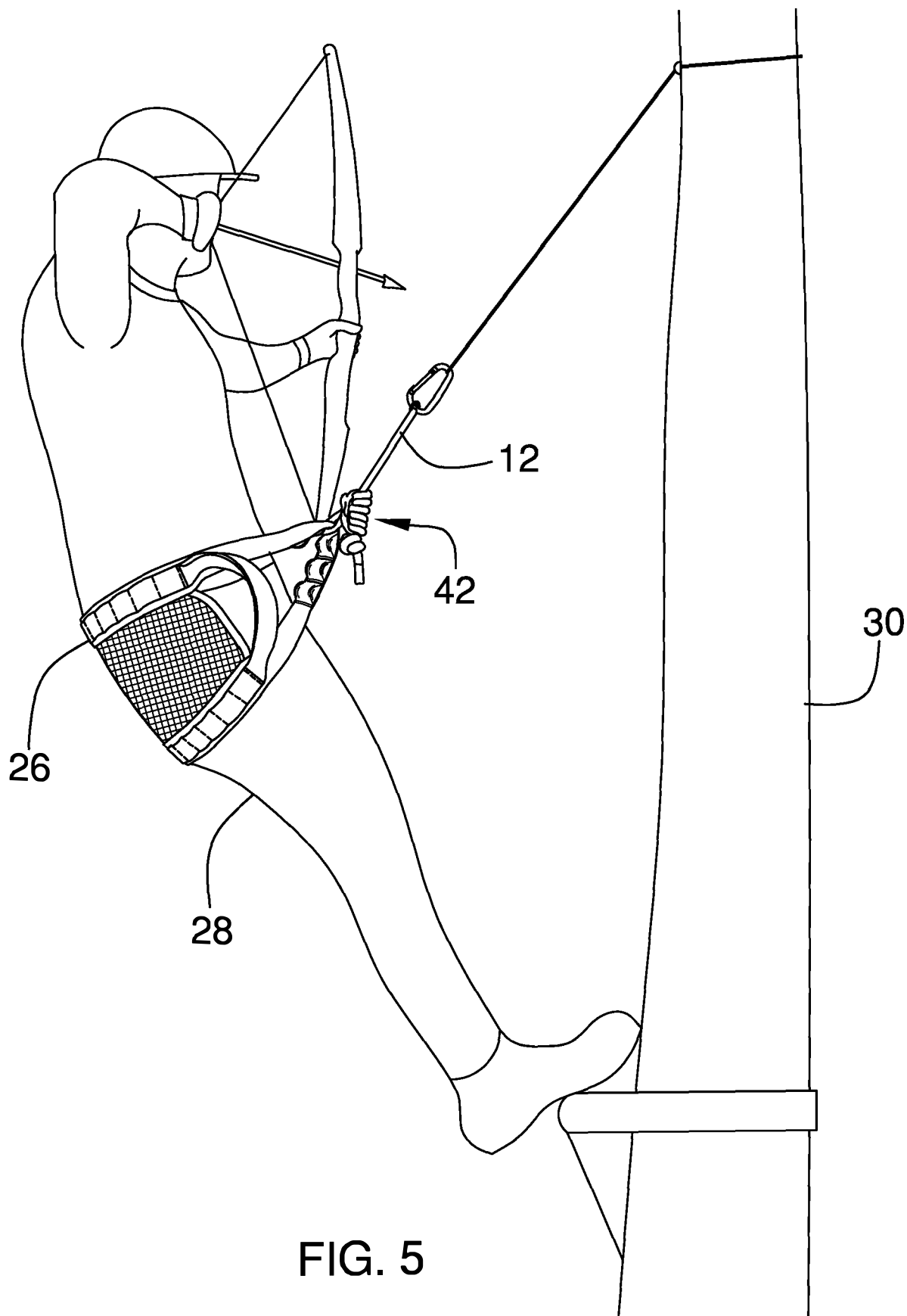


FIG. 5

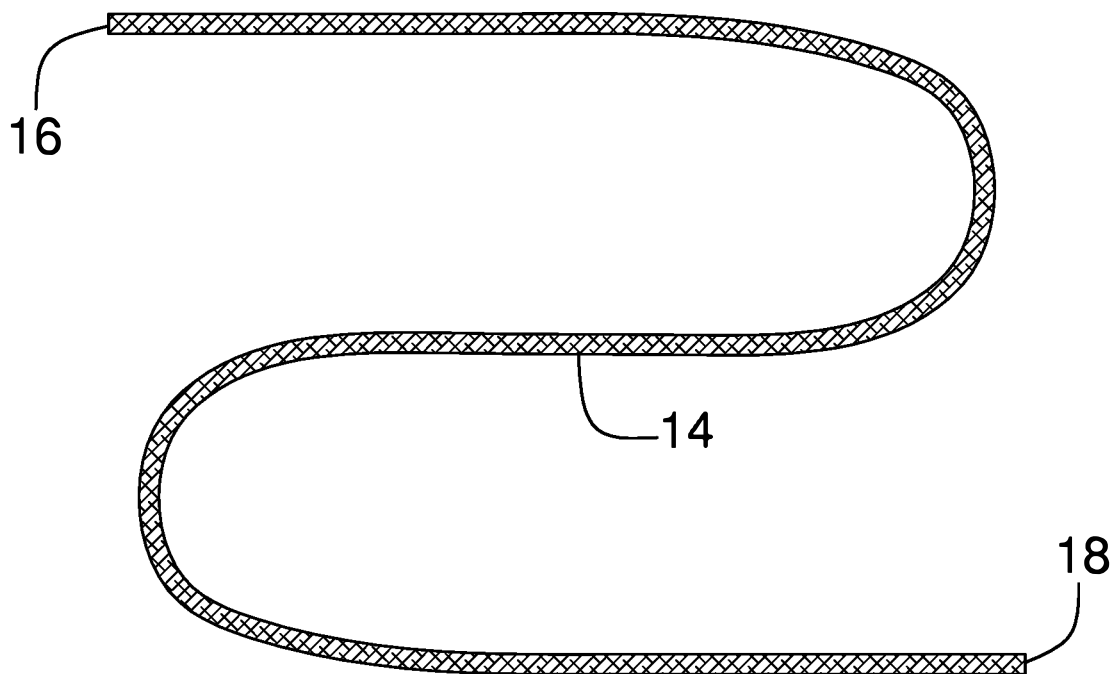


FIG. 6

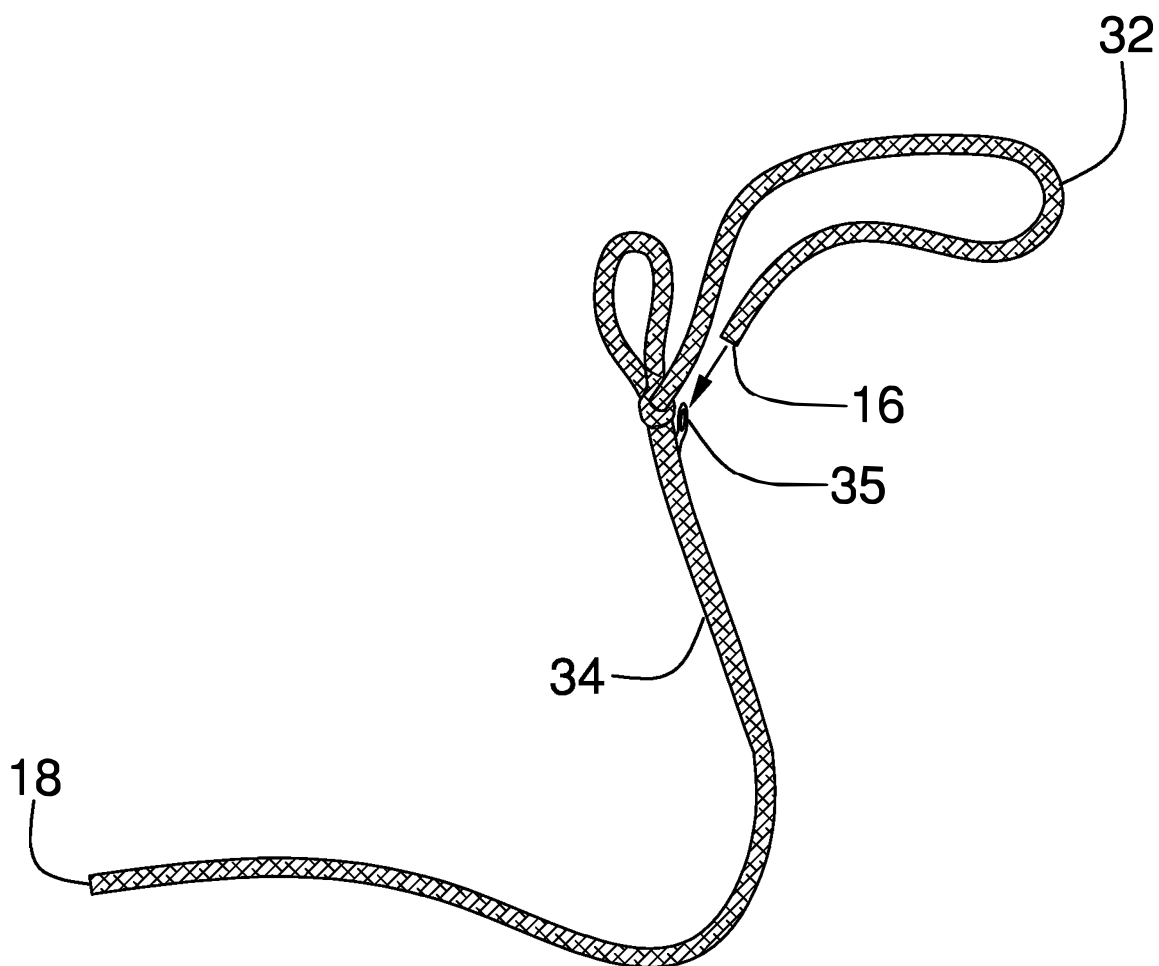


FIG. 7

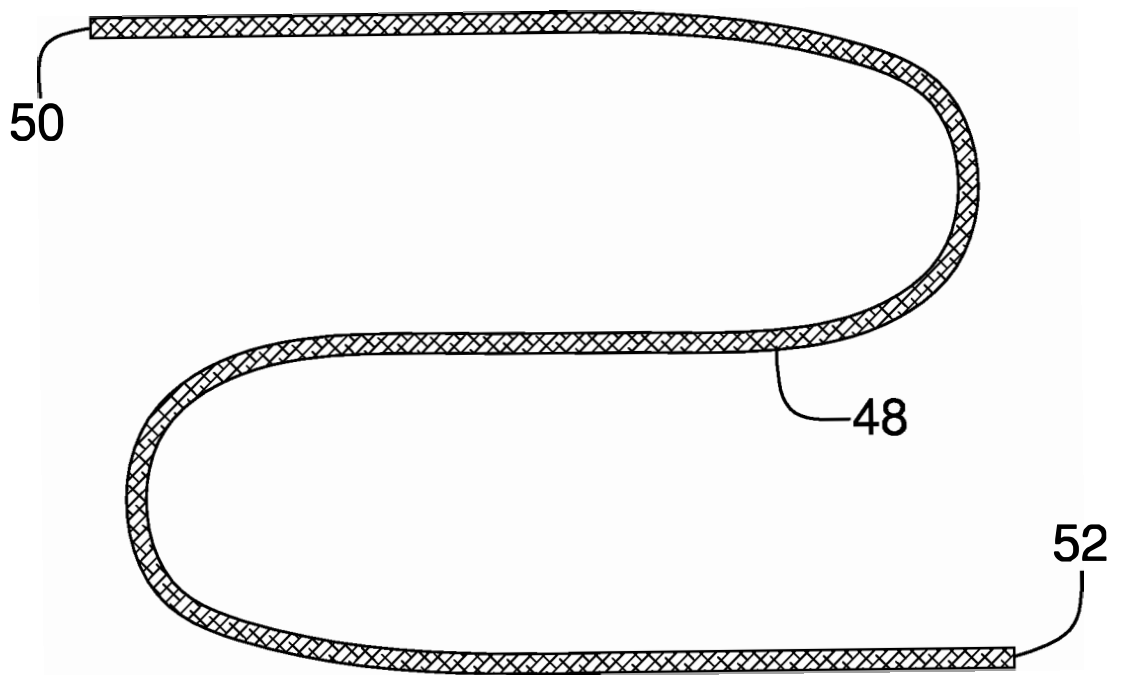


FIG. 8

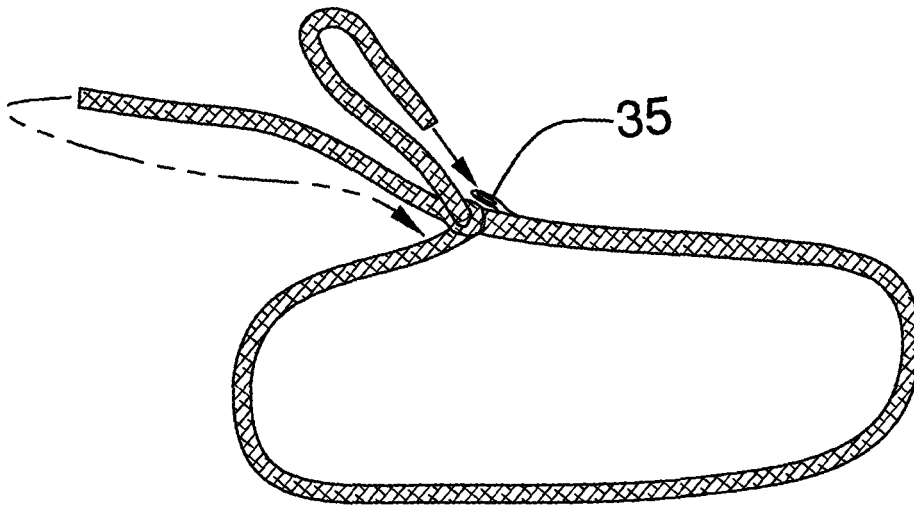


FIG. 9

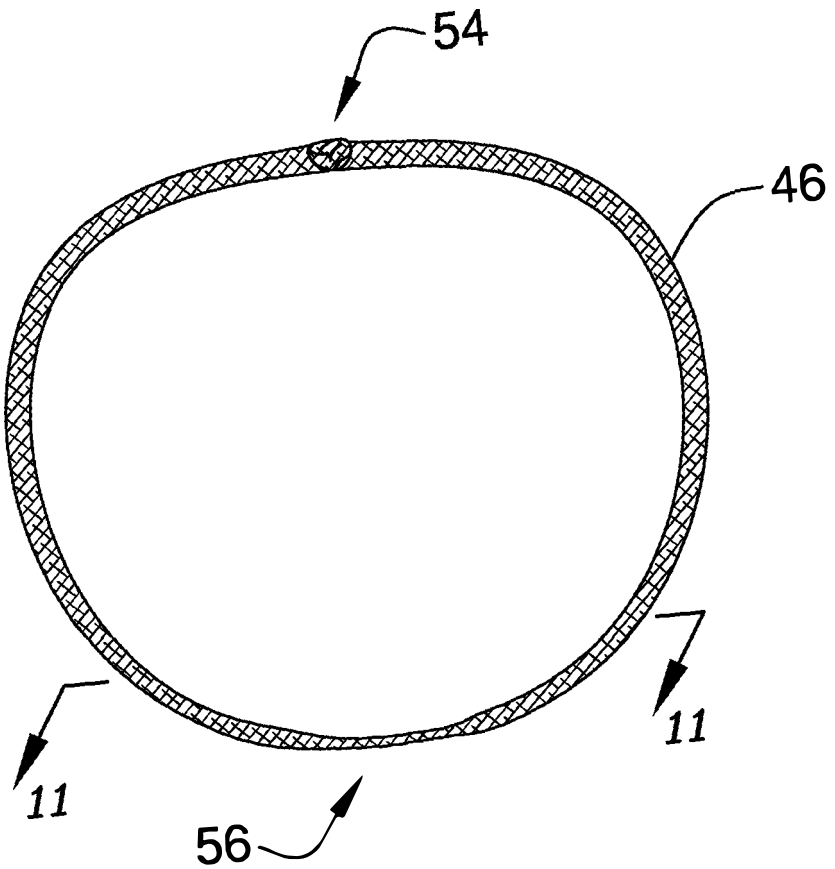


FIG. 10

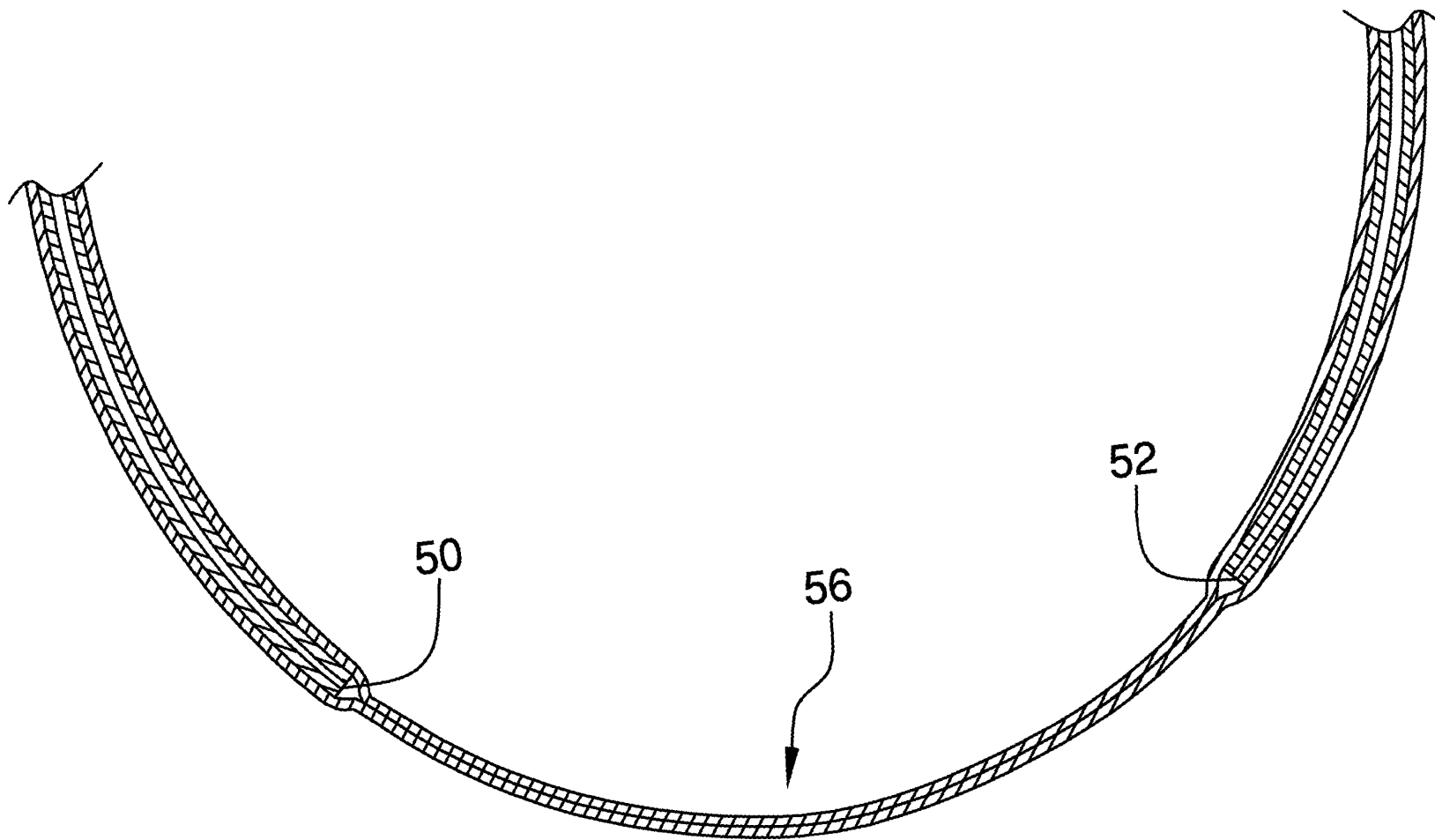


FIG. 11

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	TETH115
		Application Number	
Title of Invention	Bridge Rope Assembly		
<small>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. 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.</small>			

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
	Walter	Ernest	Power	II
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				
City	Carver	State/Province	MN	Country of Residence
US				

Mailing Address of Inventor:

Address 1	904 Ridgcrest Drive			
Address 2				
City	Carver	State/Province	MN	
Postal Code	55315	Country	US	

Inventor 2 Remove				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
	Gregory	Alan	Godfrey	
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				
City	Richmond Hill	State/Province	GA	Country of Residence
US				

Mailing Address of Inventor:

Address 1	50 Sunbury Drive			
Address 2				
City	Richmond Hill	State/Province	GA	
Postal Code	31324	Country	US	

Inventor 3 Remove				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
	Carl	Eugene	Kossuth	III
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				

Application Data Sheet 37 CFR 1.76		Attorney Docket Number		TETH115	
		Application Number			
Title of Invention		Bridge Rope Assembly			
City	Rolla	State/Province	MO	Country of Residence	US
Mailing Address of Inventor:					
Address 1		10470 Vineyard Drive			
Address 2					
City	Rolla	State/Province	MO		
Postal Code	65401	Country	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					<input type="button" value="Add"/>

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	44088		
Email Address		<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	Bridge Rope Assembly		
Attorney Docket Number	TETH115	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

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.

Ex. 1004
Cruz v. Tethrd

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	TETH115
		Application Number	
Title of Invention	Bridge Rope Assembly		

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:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number			

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	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	17022844	2020-09-16
Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	16736345	2020-01-07
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)¹ 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 Data Sheet 37 CFR 1.76		Attorney Docket Number	TETH115
		Application Number	
Title of Invention	Bridge Rope Assembly		

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

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

☐ 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. 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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	TETH115
		Application Number	
Title of Invention	Bridge Rope Assembly		

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	TETH115
		Application Number	
Title of Invention	Bridge Rope Assembly		

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	<input type="button" value="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> <p style="text-align: right;"><input type="button" value="Clear"/></p>		
☒ Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
Person to whom the inventor is obligated to assign.		Person who shows sufficient proprietary interest
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:		
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>		
Name of the Deceased or Legally Incapacitated Inventor: <div style="border: 1px solid black; width: 450px; height: 20px;"></div>		
If the Applicant is an Organization check here. ☒		
Organization Name	Tethrd LLC	
Mailing Address Information For Applicant:		
Address 1	904 Ridgecrest Drive	
Address 2		
City	Carver	State/Province MN
Country	US	Postal Code 55315
Phone Number		Fax Number
Email Address		
Additional Applicant Data may be generated within this form by selecting the Add button. <input type="button" value="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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	TETH115
		Application Number	
Title of Invention	Bridge Rope Assembly		

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.			
Remove			
If the Assignee or Non-Applicant Assignee is an Organization check here. ☒			
Organization Name	Tethrd, LLC		
Mailing Address Information For Assignee including Non-Applicant Assignee:			
Address 1	904 Ridgecrest Drive		
Address 2			
City	Carver	State/Province	MN
Country i	US	Postal Code	55315
Phone Number		Fax Number	
Email Address			
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add			

Signature:[Remove](#)

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	/seankaufhold/		Date (YYYY-MM-DD)	2021-04-15	
First Name	Sean A.	Last Name	Kaufhold	Registration Number	46820
Additional Signature may be generated within this form by selecting the Add button. Add					

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	TETH115
		Application Number	
Title of Invention	Bridge Rope Assembly		

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

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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.
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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.