UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	09/27/2022	11452327	741300	7407

161268 7590 09/07/2022

LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

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 187 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):

Shantanu Deshpande, Glenview, IL;
Kingston Wong, Beach Park, IL;

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

Klein Tools, Inc., Lincolnshire, IL

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.

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
16246935	14-Jan-2019	Shantanu Deshpande	741300	7407

TITLE OF INVENTION :

Safety Helmet

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Regular Undiscounted	Utility under 35 USC 111(a)	3732	422000	

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$1200	$0	$1200	12-Aug-2022	$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
161268 LEYDIG VOIT & MAYER, LTD (Klein Tools) TWO PRUDENTIAL PLAZA, SUITE 4900 180 NORTH STETSON AVENUE CHICAGO IL 60601-6731 UNITED STATES 312-616-5600 Chgpatent@leydig.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status

Change in Entity Status

○ Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.
Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

○ Applicant asserting small entity status. See 37 CFR 1.27.
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.

◉ Applicant changing to regular undiscounted fee status.
Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☒ Issue Fee

☐ I authorize USPTO to apply my previously paid issue fee to the current fees due

☐ Publication Fee

☐ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number _____

☐ Advance Order - # of copies _____

☒ If **in addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency or credit any overpayment, to Deposit Account Number 12-1216 . The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. Leydig, Voit & Mayer, Ltd.
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

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

Name	City	State	Country	Category
Klein Tools, Inc.	Lincolnshire	ILLINOIS	UNITED STATES	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Elias P. Soupos/	**Date**	06-30-2022
Name	Elias Panos Soupos	**Registration Number**	57375

Electronic Patent Application Fee Transmittal

Application Number:	16246935
Filing Date:	14-Jan-2019
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Filer:	Elias Panos Soupos/Alma Rosales
Attorney Docket Number:	741300

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPL ISSUE FEE	1501	1	1200	1200
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1200**

Electronic Acknowledgement Receipt

EFS ID:	46089064
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	161268
Filer:	Elias Panos Soupos/Alma Rosales
Filer Authorized By:	Elias Panos Soupos
Attorney Docket Number:	741300
Receipt Date:	30-JUN-2022
Filing Date:	14-JAN-2019
Time Stamp:	17:14:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$1200
RAM confirmation Number	E20226TH14073135
Deposit Account	121216
Authorized User	Alma Rosales

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

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

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)	Web85b.pdf	62899 a21312259ec2da61a57f0f4fb03549fade772d76	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	40081 8a198581cc326ff4886dfdd6b7901d5dd3b409a1	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	102980		

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

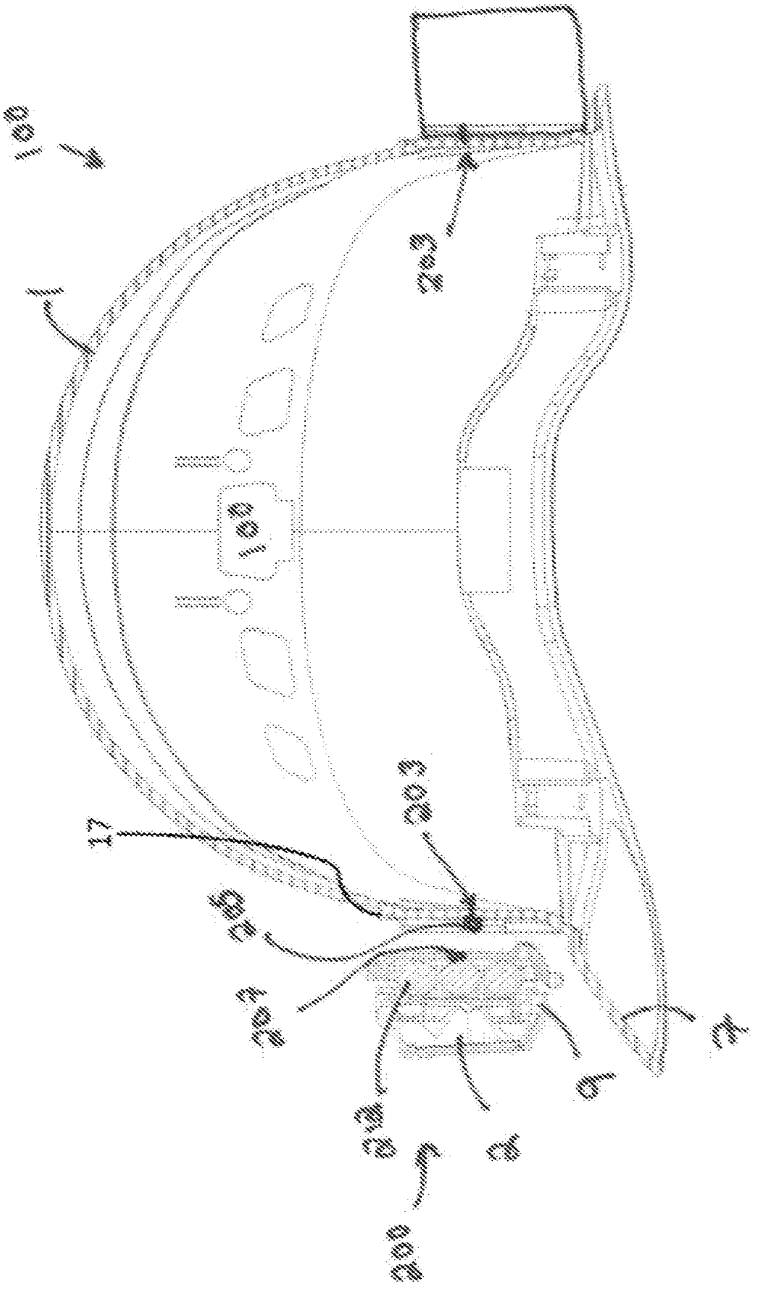


FIG. 8

Electronic Acknowledgement Receipt

EFS ID:	46089006
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	161268
Filer:	Elias Panos Soupos/Alma Rosales
Filer Authorized By:	Elias Panos Soupos
Attorney Docket Number:	741300
Receipt Date:	30-JUN-2022
Filing Date:	14-JAN-2019
Time Stamp:	13:36:45
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	Transmittal Letter	AmendmentAfterAllowance-Transmittal.pdf	88288 50de986feef682168defde6d55c8e68f88acbbe9	no	1

Warnings:

Information:					
2	Amendment after Notice of Allowance (Rule 312)	ResponsetoNoticetoFileCorrectedApplicationPapers-AmendmentAfterAllowance.pdf	128732 59c4b41827b46ff2541fb4793fb7a1771e113644	no	3
Warnings:					
Information:					
3	Drawings-only black and white line drawings	ReplacementDrawing-3rd.pdf	856128 ea94b765308c4a352714c3af71beb52afbecde5a	no	1
Warnings:					
Information:					
			Total Files Size (in bytes):	1073148	

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.

<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.
<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.
<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.

USPTO TRANSMITTAL

PATENT
Attorney Docket No. 741300

Application No. 16/246,935
Confirmation No. 7407

Transmitted herewith is an Amendment after Allowance in the subject application.

☒ Petition for an extension of time for the period noted below, as well as for any additional period necessary to render the present submission timely. Please charge Deposit Account No. 12-1216 for the appropriate petition fee.

☐ Other:

☒ Please charge Deposit Account No. 12-1216 in the total amount indicated below.

TIME EXTENSION PETITION FEE			none			$0
subtract time extension fee previously paid			none			($0)
CLAIM FEE	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	EXTRA CLAIMS PRESENT	RATE	ADDITIONAL CLAIM FEE
TOTAL	17	MINUS	24	= 0	x $100 =	$0
INDEPENDENT	4	MINUS	5	= 0	x $480 =	$0
☐ FIRST PRESENTATION OF MULTIPLY DEPENDENT CLAIM					+ $860 =	$0
SUBTOTAL (of all items above)						$0
☐ Small entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ½.						($0)
☐ Micro entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ¾.						($0)
OTHER FEES AS DESCRIBED:						$0
TOTAL AMOUNT TO BE CHARGED TO DEPOSIT ACCOUNT						**$0**

☒ The Commissioner is hereby authorized to charge any deficiencies in the following fees associated with this communication or credit any overpayment to Deposit Account No. 12-1216.
- ☒ Any filing fees under 37 CFR 1.16 and/or 1.492 for the presentation of extra claims.
- ☒ Any patent application processing fees under 37 CFR 1.17.

Leydig

/Elias P. Soupos/
Elias P. Soupos, Reg. No. 57,375
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: June 30, 2022

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Attorney Docket No. 741300

Customer No.: 23460

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS, AMENDMENT AFTER ALLOWANCE

In response to the Notice to File Corrected Application Papers dated May 24, 2022, and in accordance with 37 CFR 1.312, please enter the following amendments after allowance and consider the following remarks.

Amendments to the Drawings begin on page 2 of this paper.
Remarks/Arguments begin on page 3 of this paper.

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 12
Patent No. 11,452,327 - IPR2025-00724

AMENDMENTS TO THE DRAWINGS

The attached sheet includes changes to Fig. 8. This sheet, which includes Fig. 8, replaces the original sheet including Fig. 8. The replacement sheet corrects the orientation of the figure label for Fig. 8 and reference number 100.

Attachment: Replacement Sheet

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 13
Patent No. 11,452,327 - IPR2025-00724

REMARKS/ARGUMENTS

The drawing sheet has been amended to correct the orientation of the figure label of Fig. 8 and reference label 100 in the center of the figure to match the direction of the figure, in accordance with the requirements set forth in the Notification to File Corrected Application Papers dated May 24, 2022.

The replacement sheet contains no new matter.

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the present application, the Examiner is invited to call the undersigned.

Respectfully submitted,

/Elias P. Soupos/

Elias P. Soupos/, Reg. No. 57,375
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: June 30, 2022

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 14
Patent No. 11,452,327 - IPR2025-00724

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 05/24/2022

LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER	
HOEY, ALISSA L	

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
05/24/2022	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):

Chgpatent@leydig.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 16246935
Applicant : Deshpande
Filing Date : 01/14/2019
Date Mailed : 05/24/2022

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given two (2) months from the mail date of this Notice within which to respond. This time period for reply is extendable under 37 CFR 1.136(a) for only TWO additional MONTHS.

The informalities requiring correction are indicated in the attachment(s). If the informality pertains to the abstract, specification (including claims) or drawings, the informality must be corrected with an amendment in compliance with 37 CFR 1.121 (or, if the application is a reissue application, 37 CFR 1.173). Such an amendment may be filed after payment of the issue fee if limited to correction of informalities noted herein. See Waiver of 37 CFR 1.312 for Documents Required by the Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004). In addition, if the informality is not corrected until after payment of the issue fee, for purposes of 35 U.S.C. 154(b)(1)(iv), "all outstanding requirements" will be considered to have been satisfied when the informality has been corrected. A failure to respond within the above-identified time period will result in the application being ABANDONED.

See attachment(s).

A copy of this notice MUST be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/Midel Geronimo/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 16246935 **Drawings filed: 04/25/2022**

IDENTIFICATION OF DRAWING DEFICIENCIES

- [ ] There is a hole or the image thereof within the illustration. FIG(s)
- [ ] The illustration is penetrated or traversed by a solid or broken line that is not intended to be part of the drawing, such as a dark line caused by a flaw in the copying process. FIG(s)
- [ ] An ink stamp or the image thereof obscures part of the illustration. FIG(s)
- [ ] The drawing is marred by black smudges, obliterations, or fax/copier marks (for example, speckles or dots in a substantial portion of the drawing). FIG(s)
- [ ] Figure numbers are duplicated or missing. FIG(s)
- [ ] Drawing sheet or figure is missing. FIG(s)
- [ ] Numbers, letters, or reference characters in the drawing have been crossed out or are illegibly handwritten. FIG(s)
- [ ] The character of the lines, numbers, and letters is poor. FIG(s)
- [ ] The drawing's background shows that the original drawing was made on graph paper or other paper with a pattern or decoration. FIG(s)
- [ ] The FIG. number label is placed in a location that causes the drawing to be read upside down. FIG(s)
- [ ] Data, a reference number, or part of the drawing is truncated or missing, or a lead line has no reference number. FIG(s)
- [ ] The drawing and/or the FIG. label contain(s) foreign language. FIG(s)
- [ ] This utility application contains a photograph of a view that is capable of being illustrated as a line drawing. FIG(s)
- [ ] A petition under 37 CFR 1.84(a)(2) to accept color drawings has been granted, but the brief description of the drawings in the specification does not contain (or has not been amended to contain) the paragraph required by 37 CFR 1.84(a)(2)(iii).
- [ ] This reissue application contains added and/or amended drawings that are not labeled as “New” or “Amended” or “Canceled” as required by 37 CFR 1.173(b)(3). FIG(s)
- [ ] This Design reissue application contains a drawing that is labeled as “Canceled” but is not surrounded by brackets, or a drawing that is surrounded by brackets but is not labeled as “Canceled.” See 37 CFR 1.173(b)(3). FIG(s)
- [ ] OTHER:
- [X] COMMENTS:

--- The figure label for FIG. 8 is not oriented in the same direction as the figure. See 37 CFR 1.84 (p)(1).

--- FIG. 8 contains figure reference number(s) which is/are not oriented in the same direction as the figure. See 37 CFR 1.84 (p)(1).

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Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

161268 7590 05/12/2022

LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

DATE MAILED: 05/12/2022

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

TITLE OF INVENTION: Safety Helmet

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	08/12/2022

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.

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 18
Patent No. 11,452,327 - IPR2025-00724

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
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)

161268 7590 05/12/2022

LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

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.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

TITLE OF INVENTION: Safety Helmet

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	08/12/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
HOEY, ALISSA L	3732	002-422000

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. _____

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 19
Patent No. 11,452,327 - IPR2025-00724

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.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 05/12/2022

LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER	
HOEY, ALISSA L	

ART UNIT	PAPER NUMBER
3732	

DATE MAILED: 05/12/2022

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.

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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. 16/246,935	Applicant(s) Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	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 04/25/22.
   ☐ 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 See Continuation Sheet . 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 _____.

/ALISSA L HOEY/
Primary Examiner, Art Unit 3732

Continuation of 3. The allowed claim(s) is/are: 1-6,13,21,23 and 25-32

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.

Response to Amendment

This is in response to amendment received on 04/25/22. Claims 1, 3, 4, 25 and 26 have been amended and claims 7-12, 14-20, 22, 24 and 33-34 have been cancelled. Claims 1-6, 13, 21, 23 and 25-32 are pending.

Drawings

The drawings were received on 04/25/22. These drawings are sufficient to overcome the drawings objections as indicated in the non-final office action and have been formally entered.

Specification

The amendments to the specification are sufficient to overcome the specification objections as provided in the non-final office action and they have been formally entered.

Allowable Subject Matter

The amendments to the claims are sufficient to allow the claims over prior art. Claims 1-6, 13, 21, 23 and 25-32 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALISSA L HOEY whose telephone number is (571)272-4985. The examiner can normally be reached M-F 9:00-5:30 ET.

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, Clinton T Ostrup can be reached on (571)272-5559. 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.

ALISSA L. HOEY
Primary Examiner
Art Unit 3732

/ALISSA L HOEY/
Primary Examiner, Art Unit 3732

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	**Art Unit**
	ALISSA L HOEY	3732

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	01/22/2021	04/14/2021	07/23/2021	09/30/2021	11/12/2021	05/02/2022			
1	1	✓	✓	✓	✓	✓	=			
2	2	✓	O	✓	✓	✓	=			
3	3	✓	✓	✓	✓	✓	=			
8	4	✓	✓	✓	✓	✓	=			
9	5	✓	O	✓	✓	✓	=			
10	6	✓	✓	✓	✓	✓	=			
	7	✓	✓	-	-	-	-			
	8	✓	✓	-	-	-	-			
	9	✓	✓	-	-	-	-			
	10	✓	✓	-	-	-	-			
	11	✓	✓	-	-	-	-			
	12	✓	✓	-	-	-	-			
11	13	✓	✓	✓	✓	✓	=			
	14	N	N	-	-	-	-			
	15	N	N	-	-	-	-			
	16	N	N	-	-	-	-			
	17	N	N	-	-	-	-			
	18	N	N	-	-	-	-			
	19	N	N	-	-	-	-			
	20	N	N	-	-	-	-			
4	21		O	✓	✓	✓	=			
	22		✓	✓	-	-	-			
12	23		O	✓	✓	✓	=			
	24		✓	✓	-	-	-			
16	25			✓	✓	✓	=			
17	26			✓	✓	✓	=			
5	27			✓	✓	✓	=			
6	28			✓	✓	✓	=			
7	29			✓	✓	✓	=			
13	30			✓	✓	✓	=			
14	31			✓	✓	✓	=			
15	32			✓	✓	✓	=			
	33			✓	-	-	-			
	34			✓	-	-	-			

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Patent No. 11,452,327 - IPR2025-00724

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

CPC - Searched*		
Symbol	**Date**	**Examiner**
A42B3/0446; A42B3/044; A42B3/042; A42B3/0406; A42B3/0426; A42B3/30	01/22/2021	ALH
Updated Search	04/14/2021	ALH
Updated Search	07/23/2021	ALH
Updated Search	09/30/2021	ALH
Updated Search	11/12/2021	ALH
Updated Search	05/02/2022	ALH

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**
2	422		

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

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

Search Notes		
Search Notes	**Date**	**Examiner**
EAST Search, see for details	01/22/2021	ALH
NPL Google Search, see for details	01/22/2021	ALH
EAST Search, see for details	04/14/2021	ALH
EAST Search, see for details	07/23/2021	ALH
EAST Search, see for details	09/30/2021	ALH
EAST Search, see for details	11/12/2021	ALH
EAST Search, see fro details	05/02/2022	ALH

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
All	Interference Search History, see for details	05/02/2022	ALH

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	**Art Unit**
	ALISSA L HOEY	3732

CPC							
Symbol						**Type**	**Version**
A42B	/	3	/	0446		F	2013-01-01

CPC Combination Sets								
Symbol						**Type**	**Set**	**Ranking**	**Version**
	/		/						

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	17	
/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	02 May 2022	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	7

U.S. Patent and Trademark Office — Part of Paper No.: 20220502

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Patent No. 11,452,327 - IPR2025-00724

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	**Art Unit**
	ALISSA L HOEY	3732

INTERNATIONAL CLASSIFICATION					
CLAIMED					
A42B3/04	/	3	/	04	

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

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

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	17	
/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	02 May 2022	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	7

U.S. Patent and Trademark Office

Part of Paper No.: 20220502

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Patent No. 11,452,327 - IPR2025-00724

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	**Art Unit**
	ALISSA L HOEY	3732

☐ 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	1		10		19	6	28								
2	2		11		20	7	29								
3	3		12	4	21	13	30								
8	4	11	13		22	14	31								
9	5		14	12	23	15	32								
10	6		15		24		33								
	7		16	16	25		34								
	8		17	17	26										
	9		18	5	27										

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	17	
/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	02 May 2022	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	7

U.S. Patent and Trademark Office

Part of Paper No.: 20220502

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PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	44	("1947786"|"5688039"|"10743599"|"20190350292"|"20200329806"|"20190107247"|"6497493"|"6701649"|"6811348"|"20140020159"|"20190350291"|"6616294"|"9872531"|"20140000013"|"11019870"|"20190098952"|"20100083413"|"20190104797"|"20160242483"|"20190008228"|"20120317706"|"20130086722"|"20140000014"|"20190101359"|"20020116749"|"20160249700"|"20200268088"|"4521831"|"8060951"|"20180192727"|"20180128459"|"20200170329"|"5026016"|"6532601"|"9702534"|"10886646"|"20080263752"|"20110072562"|"20120224356"|"9814622"|"20120320569"|"20170238642"|"20180249779").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/04/27 11:29 AM
L2	48	("8403515"|"3302018"|"20110188236"|"4530112"|"8992039"|"4156942"|"4263588"|"6616294"|"20050174753"|"5034747"|"4199802"|"5329637"|"3069539"|"4521831"). PN.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 11:54 AM
L3	293	(A42B3/0446).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 11:59 AM
L4	1704	(A42B3/044).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 12:26 PM
L5	1637	(A42B3/042).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 12:43 PM
L6	1599	(A42B3/0406).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 12:44 PM
L7	0	(A42B3/04026).cpc.	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 12:46 PM
L8	2521	(A42B3/30).cpc.	(US-PGPUB; USPAT;	OR	ON	ON	2022/04/27

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			USOCR; FPRS; EPO; JPO)				12:48 PM
L9	4560	(helmet SAME molded)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 12:52 PM
L10	612	L9 AND (nub OR projection)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 12:53 PM
L11	386	L10 AND shell	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 12:53 PM
L12	29889065	L	(US-PGPUB; USPAT; USOCR; FIT (CA, JP); EPO)	OR	ON	ON	2022/04/27 12:53 PM
L13	579	L10 AND shell	(US-PGPUB; USPAT; USOCR; FIT (CA, JP); EPO)	OR	ON	ON	2022/04/27 12:53 PM
L14	156	L13 AND integrally	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 12:53 PM
L15	346	(molded ADJ helmet)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 02:42 PM
L16	64	L15 AND (nub OR protrusion)	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 02:43 PM
L17	2	"20170303619"	(US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 02:53 PM
L18	1	"20170303619"	(US-PGPUB; FPRS; EPO; JPO)	OR	ON	ON	2022/04/27 02:53 PM
L19	16	("3069539" | "3302018" | "4156942" | "4199802" | "4263588" | "4521831" | "4530112" | "5034747" | "5329637" | "6616294" | "8403515" | "8992039" | "20050174753" | "20110188236").pn. OR ("10743599").urpn. AND (PGPB | USPT | USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2022/04/27 02:54 PM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N1	124	(helmet AND safety AND (mold OR molded)).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:44 AM
N2	60	((safety ADJ helmet) AND (mold OR molded)).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:49 AM

N3	28	(helmet AND receptacle AND (mold OR molded)).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:50 AM
N4	1	(helmet AND brim AND slot AND (nub OR protrusion) AND accessory).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:51 AM
N5	2	(helmet AND brim AND (nub OR protrusion) AND accessory).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:52 AM
N6	555312	(helmet AND brim AND (nub OR protrusion) AND front adn rear).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:52 AM
N7	3	(helmet AND brim AND (nub OR protrusion) AND front AND rear).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:53 AM
N8	0	(helmet AND brim AND receptacle AND front AND rear).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:54 AM
N9	402679	(helmet AND brim AND accessoryand front AND rear).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:55 AM
N10	9	(helmet AND brim AND accessory AND front AND rear).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:55 AM
N11	7	(helmet AND brim AND slot AND front AND rear).clm.	(US-PGPUB; USPAT)	OR	ON	ON	2022/05/02 10:56 AM

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Patent No. 11,452,327 - IPR2025-00724

Bibliographic Data

Application No: 16/246,935

Foreign Priority claimed: ○ Yes ◉ No

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

Verified and Acknowledged: /ALISSA L HOEY/ Examiner's Signature | Initials

Title: Safety Helmet

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
01/14/2019	002	3732	741300
RULE			

APPLICANTS

Klein Tools, Inc., Lincolnshire, IL, UNITED STATES

INVENTORS

Shantanu Deshpande, Glenview, IL, UNITED STATES

Kingston Wong, Beach Park, IL, UNITED STATES

CONTINUING DATA

This application has PRO of 62645491 03/20/2018

This application has PRO of 62622472 01/26/2018

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

02/05/2019

STATE OR COUNTRY

UNITED STATES

ADDRESS

LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731
UNITED STATES

FILING FEE RECEIVED

$2,340

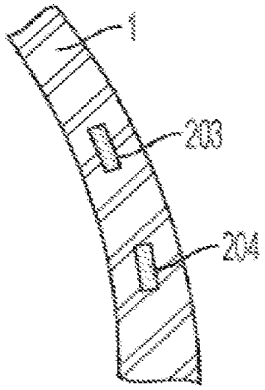


FIG. 6

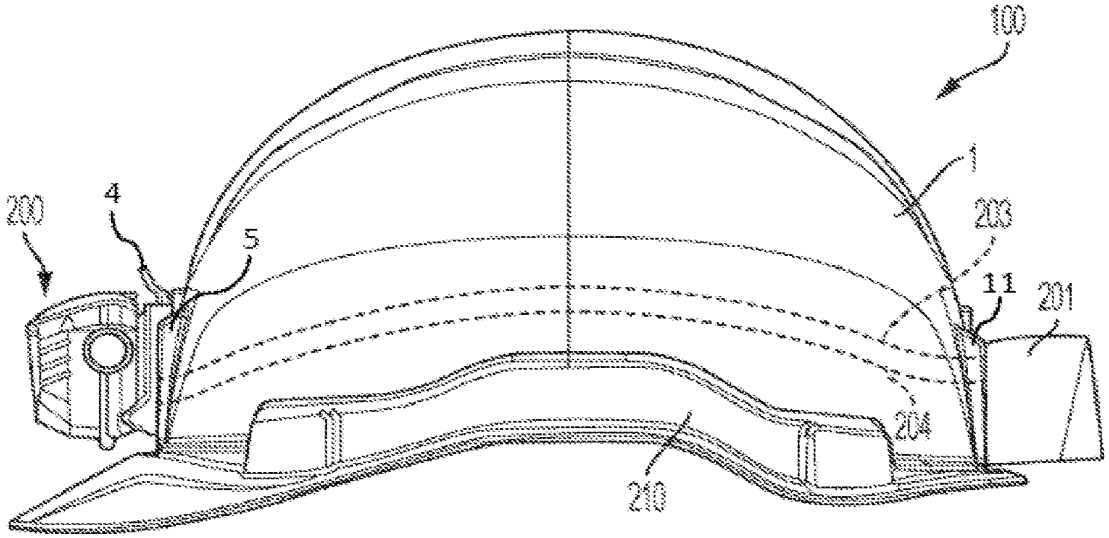


FIG. 7

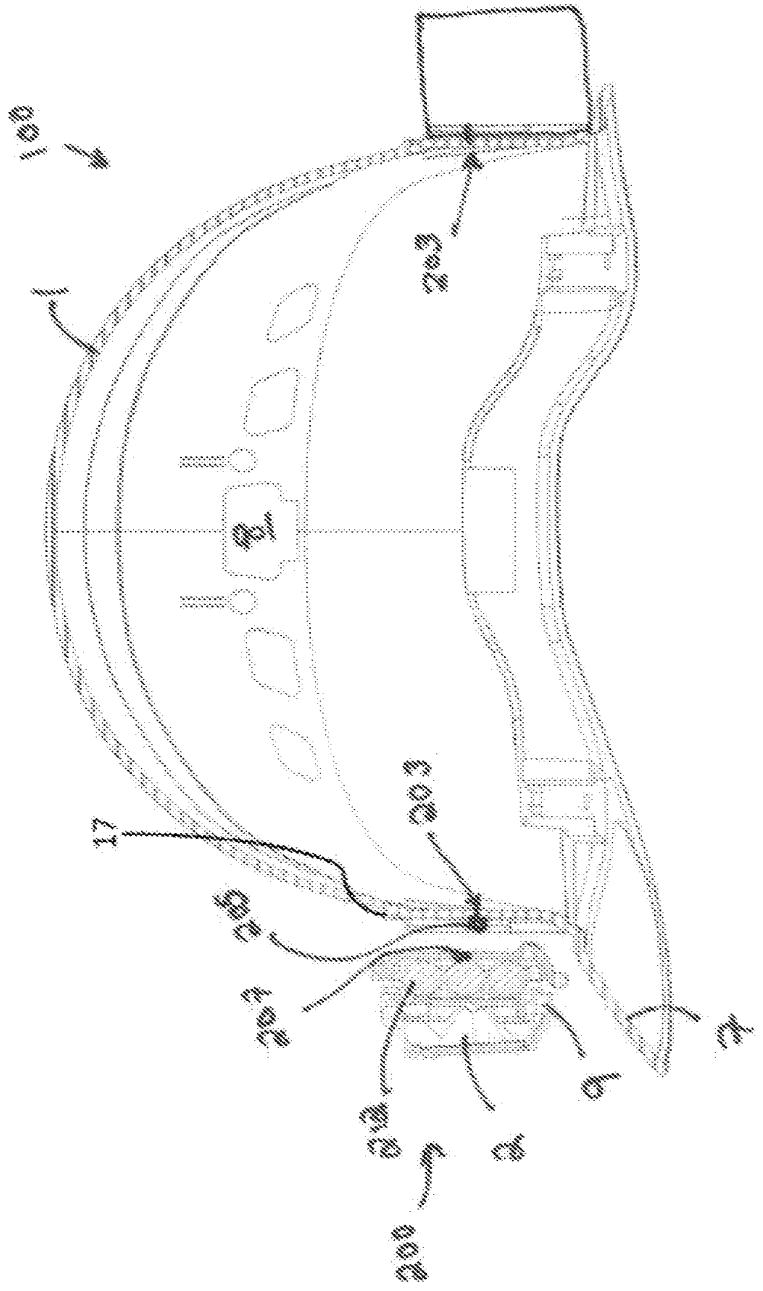


FIG. 8

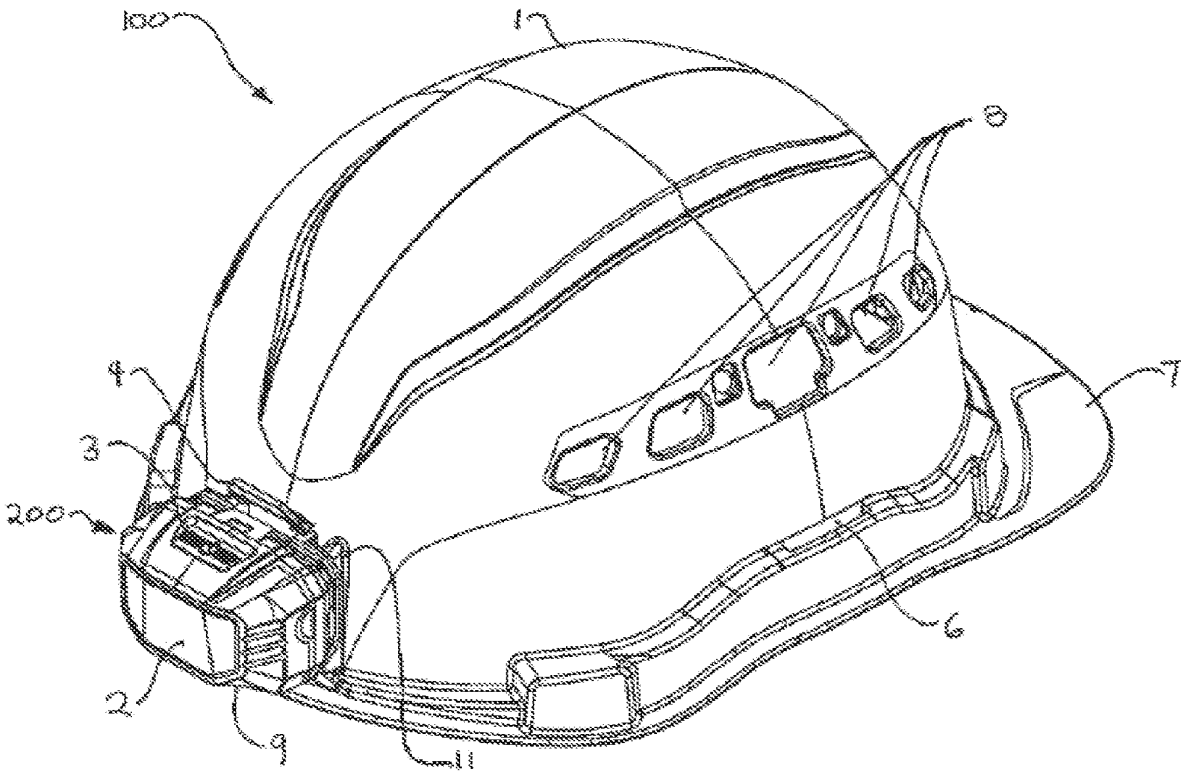


FIG. 9

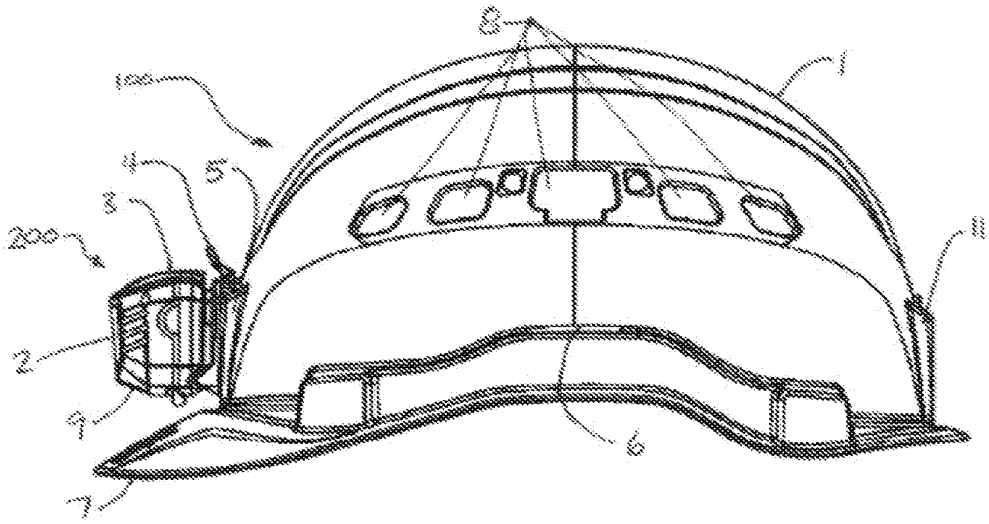


FIG. 10

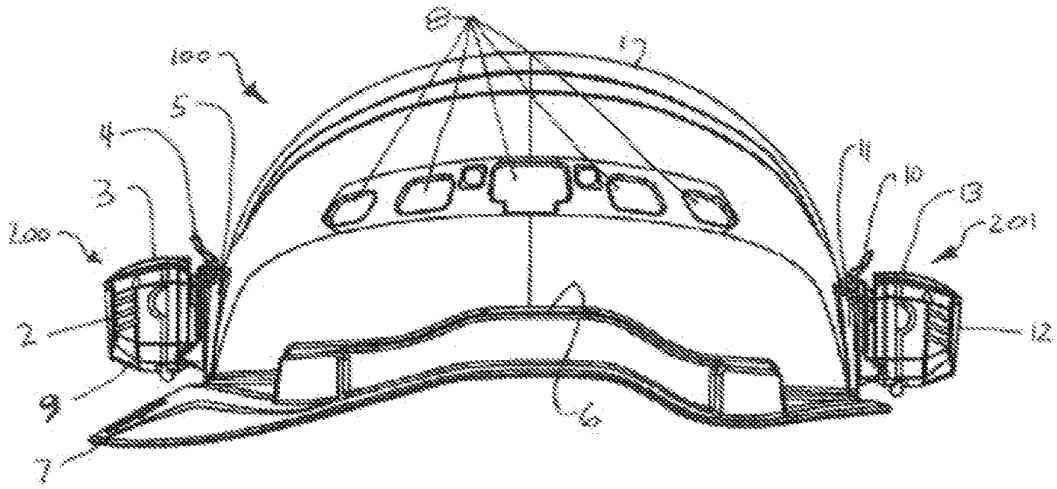


FIG. 11

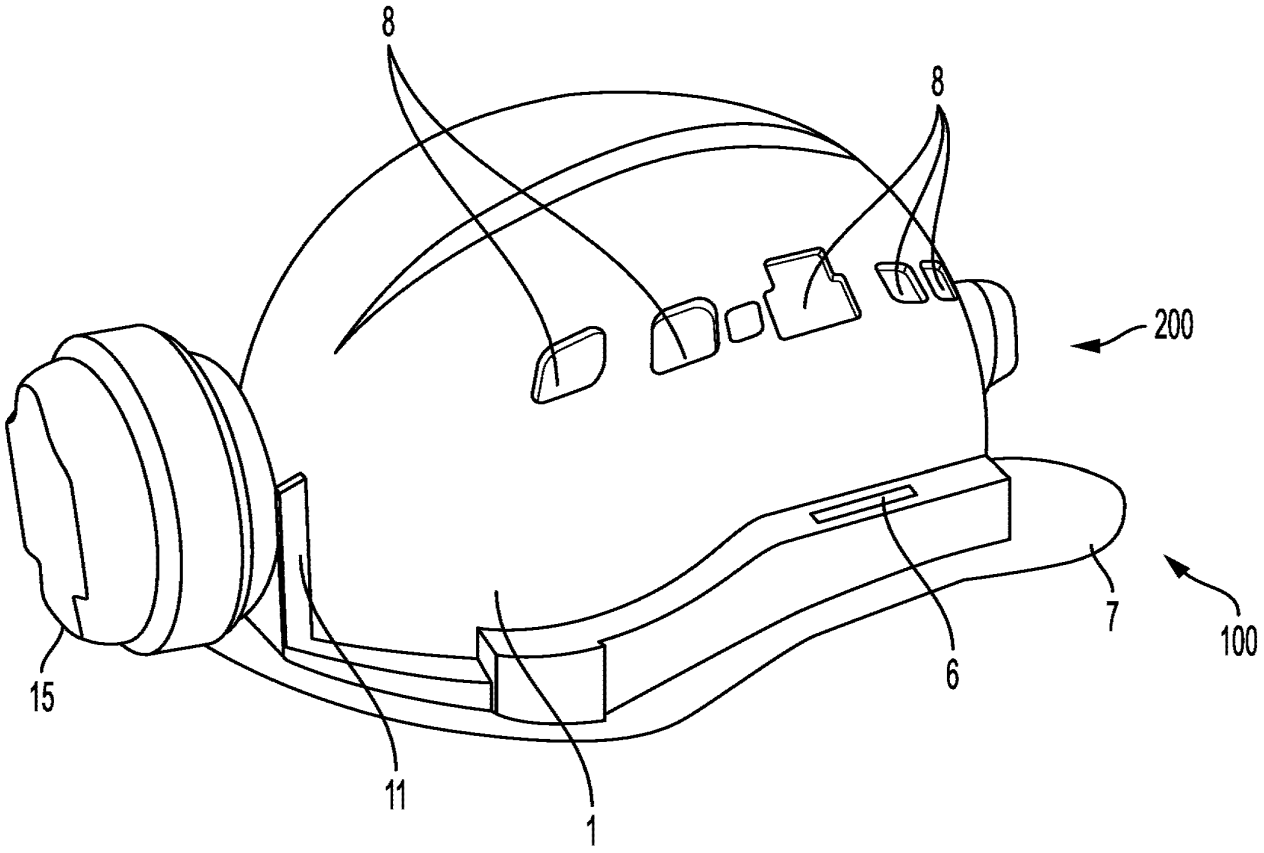


FIG. 12

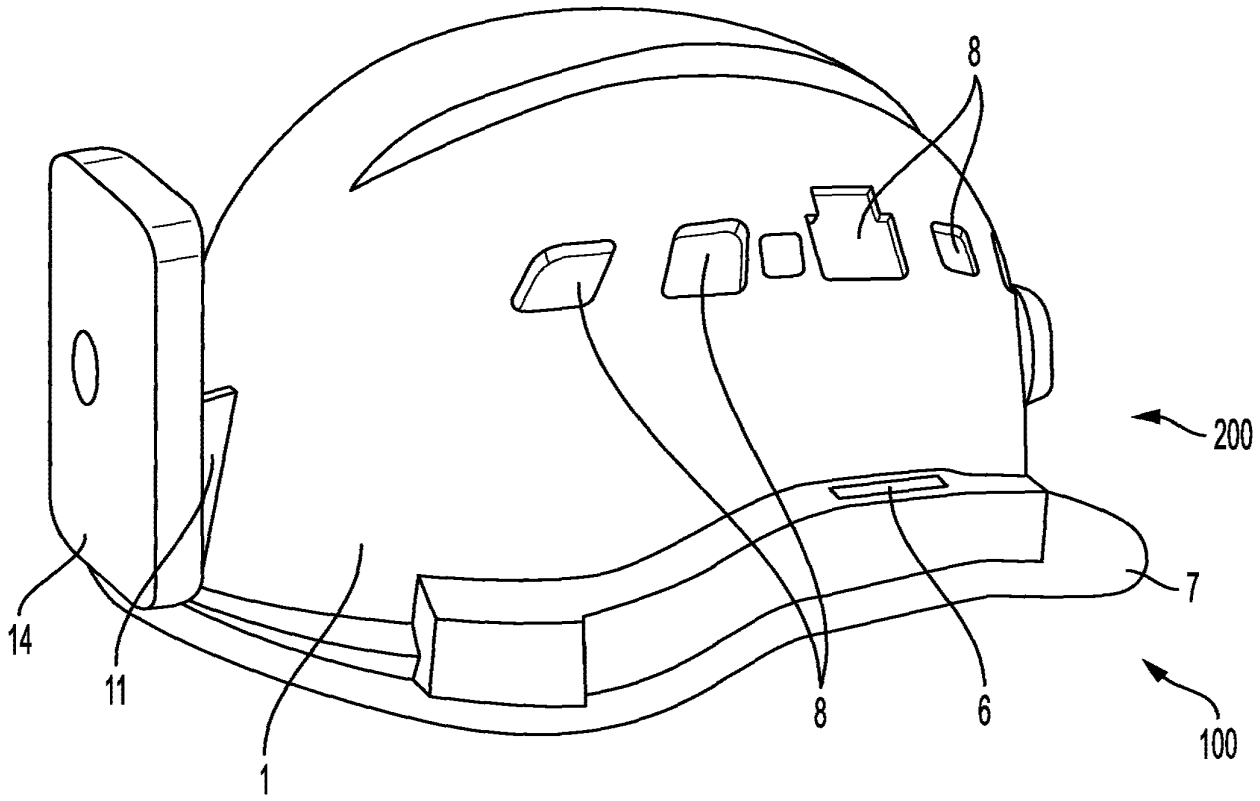


FIG. 13

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Filed: January 14, 2019

TC/AU: 3732

Examiner: Hoey, Alissa L.

Docket No.: 741300

Customer No.: 161268

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132

Dear Sir:

I, James O. Hill, do declare and state:

1. I have worked in the field of manufacturing and, specifically, in the field of injection molding of plastic molded components, for over 20 years – a copy of my CV that includes my work experience is attached as an Exhibit to this declaration; my experience in this field includes experience in one, two and three shot moldings, as well as insert molding; I have led new injection molding tool builds in North America, Taiwan, China and Europe.
2. I received a Bachelor's of science degree in Plastics Engineering Technology from Ferris State University, with distinction in May, 1998, and an Associate's degree of Applied Science with a concentration in Plastics Technology from the same institution in December, 1996.
3. I currently hold an RJG Master Molder I Certification, and a Green Belt six sigma certification from the New Horizons Learning Center Lean Manufacturing.

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Patent No. 11,452,327 - IPR2025-00724

4. I am a not a joint inventor in the above above-captioned application, and am not compensated specifically for preparing the present declaration; I personally have no monetary or proprietary interest in the present patent application.

5. I have reviewed and understand the contents and disclosure of US Patent Application Ser. No. 16/246,935 (the "Instant Application"), and also US Provisional Application Ser. Nos. 62/622,472 and 62/645,491 (collectively, together with the Instant Application, the "Applicant's Original Disclosure"), and also an Office Action mailed on November 24, 2021, in the Instant Application. I have also reviewed a response filed by the Applicant on October 21, 2021, in the Instant Application.

6. I understand that certain elements included in the claims of the Instant Application are objected to or rejected by the Examiner of the Instant Application as allegedly not being present, described, disclosed or supported by the Applicant's Original Disclosure, such elements being specifically, as shown in the drawings:

    a. a front tapered receiver slot 5 that is "formed by" or that is a "unitary feature" of the outer shell 1;

    b. a rear tapered receiver slot 11 that is "formed by" the outer hard shell 1;

    c. a protruding nub 17 and a brim 7 that are "unitary features" of the hard outer shell; or

    d. a receiver slot 11 that is a "unitary feature" of, or that is "integral with," the outer shell 1.

7. In my experience working with injection mold builders, and injection molds for use in injection molding of plastic components, I am familiar with and can understand and interpret features of molded plastic components that are represented by way of two-dimensional engineering drawings, three-dimensional models of such components,

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Patent No. 11,452,327 - IPR2025-00724

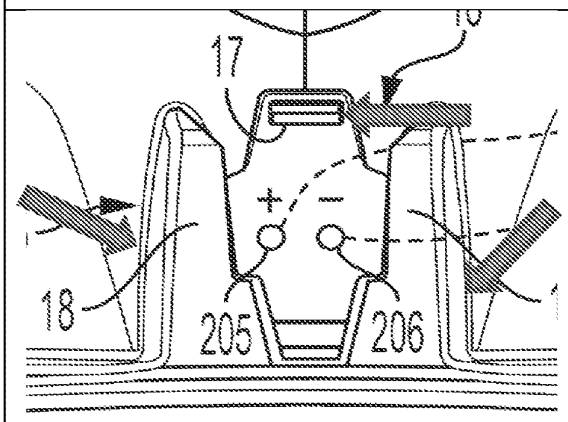
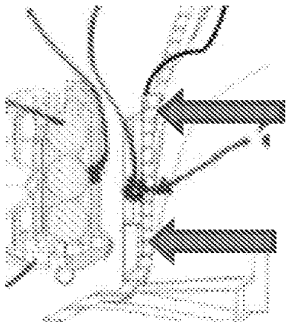
shaded or line views in two dimensions of three dimensional models, photos of prototypes, and any other media that may be used by a designer to convey the attributes of the design, especially with respect to any features a designer wishes to incorporate into the finished product by molding those features at the same time and using the same injection plastic material as the overall component.

8. Features and structures that are molded into a component are important to the injection mold builder, because allowances for plastic flow and cooling rates must be provided for in the molding tool; in my experience features and structures that are molded into a component are not the same as structures that may be molded separately and then assembled onto another component, because the integral molding of structures and features requires the addition of molding aids such as fillets, draft angles to permit mold separation, gentle radii, plastic flow, cooling rates, and other parameters and considerations.

9. With respect to the instant application, and specifically the application as it was amended on October 21, 2021, I have reviewed and can identify a feature recited in the claims as a "front tapered receiver" or a "rear tapered receiver" and denoted in the drawings by reference numeral "11," a feature recited in the claims as a "protruding nub" and denoted by reference numeral "17," and also a feature recited in the claims as an "outer shell" and denoted by reference numeral "1."

10. In my opinion, the front/rear tapered receiver (11), and the protruding nub (17), are each a feature that is formed by, unitary with, and/or integral with the outer shell (1) as shown by the fillets and draft angles shown in the outline and sectioned views of the drawings, for example, in FIG. 3 and in FIG. 8; I have provided annotated views of these figures below as an example:

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Patent No. 11,452,327 - IPR2025-00724

FIG. 3 (partial, annotated)	FIG. 8 (partial, annotated)
	

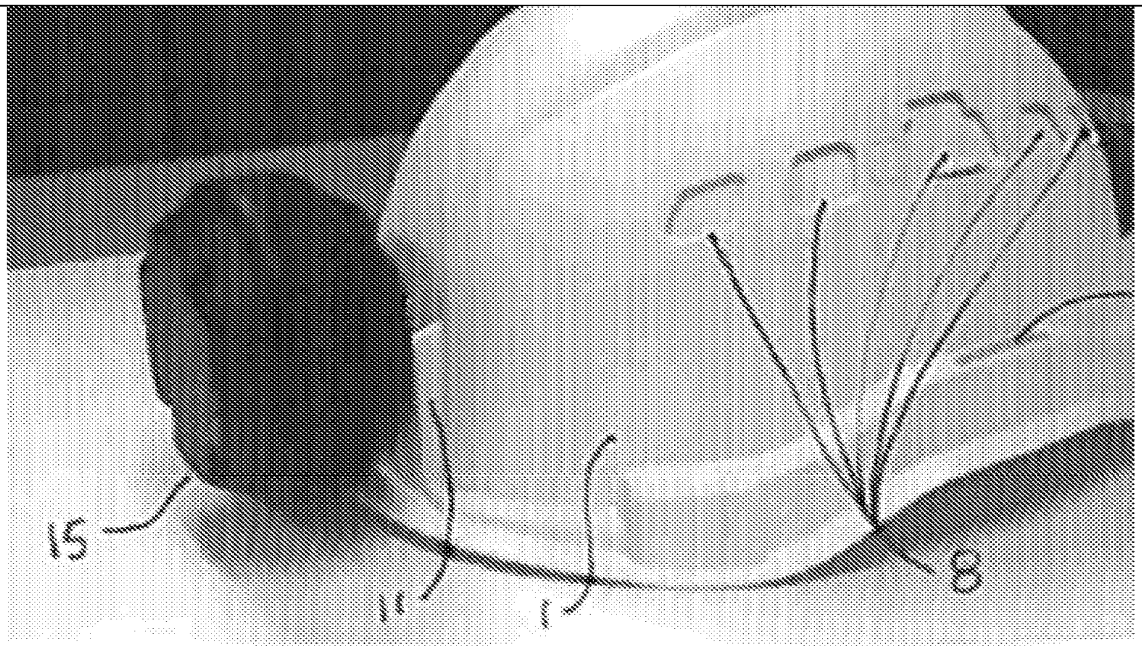
In the above illustration of FIGS. 3 and 8, annotations in the form of arrows show areas in which, in my understanding based on my knowledge and experience, corners are rounded, flat surfaces are inclined, and depressions are made to facilitate the molding of features integrally and unitarily out of plastic using the same mold; there is no question in my mind that the front and rear tapered receivers are formed from the same material and in the same mold during the same molding operation as the outer shell of the helmet illustrated. This is evident both from the original drawings in the instant application, and also from the drawings and pictures included in the two provisional applications.

11. That the front and rear receivers (11) shown in the drawings are molded from the same material and in the same mold during the same molding operation as the outer shell of the helmet illustrated, is also evident to me from the pictures presented as Figures 12 and 13 of the Instant Application. This conclusion is based on an observation of the photos illustrated in these figures because, in my opinion and based on my experience and knowledge, the material color, finish, and fit of the receiver 11

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Patent No. 11,452,327 - IPR2025-00724

onto the shell 1 indicates that they are molded together out of plastic using the same mold and during the same molding operation. A partial view of Figure 12 that, in opinion, shows the receiver 11 being integrated with the shell 1 is illustrated below.

Figure 12 (partial)



I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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Patent No. 11,452,327 - IPR2025-00724

Date: 2/29/2022

James O. Hill

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 47
Patent No. 11,452,327 - IPR2025-00724

James O. Hill
322 Niles St.
Lakeview, MI 48850
(616) 788-7754
jhill7176@yahoo.com

PROFILE

Meticulous and inventive Plastics Professional with 20+ years of progressive experience across a broad range of complex assignments with tight deadlines and delivers superior performance in injection molding industry. Proven ability to combine vision, creativity, and strong business acumen with well-developed project management and leadership qualities to support injection molding facility, tool/plant transfers, product launches, and OEE improvement. Operates with strong sense of urgency and thrives in a fast-paced setting. Experience in one, two and three shot as well as insert molding. Lead and follow new tool builds in North America, Taiwan, China and Europe.

EDUCATION/ TRAINING

Ferris State University

Bachelor of Science, Plastics Engineering Technology
Graduated May 1998 with Distinction

Associate of Applied Science, Plastics Technology
December 1996

RJG Master Molder I Certification

New Horizons Learning Center Lean Manufacturing Green Belt Certification

WORK EXPERIENCE

Project Engineer – Advanced Product Quality Planning (2014-Current)
Klein Tools, Inc. Mansfield, TX (remote employee working from my home in Lakeview MI)
Manage new tool builds and engineering changes from launch through production sign-off. Quote new projects and engineering changes to existing products. Review data and prints for new product manufacturability. Specify and purchase project-specific equipment. Develop and establish process parameters for all new tools. Develop job and inspection instructions. Provided expertise and support during the relocation of the plastics manufacturing division of Klein Plastics in Rockford, MI to Klein Tools in Mansfield, TX.

Technical Service Manager (2014-2014)
Klein Plastics Co., LLC Rockford, MI
Manage Process Engineer and Process / Set Up Technician activities to ensure continuous production of products consistent with established standards in all molding operations. Design, document and implement manufacturing and plastic processes to improve process capability, reliability, consistency and throughput. Lead and facilitate Six Sigma projects. Participate in

operational and financial analysis to recommend the purchase of new tooling and equipment to provide improved manufacturing and plastic processes. Participate in financial analysis to recommend and implement cost reduction based on process improvements. Implement World-Class Principles (Lean Six Sigma, Kanban, Demand Flow and Cellular Manufacturing) to improve customer satisfaction. Utilize problem-solving skills to analyze production difficulties and define corrective actions in support of on-going operational activities.

Senior Process Engineer (2011-2014)
Klein Plastics Co., LLC Rockford, MI
Provide leadership to process engineering staff, including coaching, developing, disciplining, and evaluating work performance. Design, document and implement manufacturing and plastic processes to improve process capability, reliability, consistency and throughput. Lead and facilitate Six Sigma projects. Participate in operational and financial analysis to recommend the purchase of new tooling and equipment to provide improved manufacturing and plastic processes. Participate in financial analysis to recommend and implement cost reduction based on process improvements. Implement World-Class Principles (Lean Six Sigma, Kanban, Demand Flow and Cellular Manufacturing) to improve customer satisfaction. Provide direction, technical support, and assistance to other staff members. Utilize problem-solving skills to analyze production difficulties and define corrective actions in support of on-going operational activities.

Process Engineer (2007-2011)
Klein Plastics Co., LLC Rockford, MI
Develop and document processes for new and existing jobs using scientific molding methods. Improve processing capabilities and reduce cycle times through rigorous mold tryouts. Recommend, implement, and train users of production equipment (robots, fixtures, etc.). Lead and/or support corrective action projects. Mentor and lead process technicians.

Project Engineer (1999-2007)
Kalfact Plastics / Klein Plastics Co. LLC Rockford, MI
Manage new tool builds, engineering changes, and tool takeovers from launch through production sign-off. Quote new projects and engineering changes to existing products. Lead project feasibility discussions. Provide engineering involvement and sales support with customers. Specify and purchase project-specific equipment. Develop and maintain workstation layouts and job instructions. Develop and maintains bills of material and process routings.

Project Engineer (1998-1999)
Hilco Technologies Grand Rapids, MI
Manage new projects and existing tool engineering changes while following QS9000 procedures. Helped with tooling designs, sampling layouts, PPAP submissions, assembly operation designs, quoting and process control.

REFERENCES
Available upon request

Electronic Patent Application Fee Transmittal

Application Number:	16246935
Filing Date:	14-Jan-2019
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Filer:	Elias Panos Soupos/Anita Garcia
Attorney Docket Number:	741300

Filed as Large 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:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 2 months with $0 paid	1252	1	640	640
Miscellaneous:				
		Total in USD ($)		**640**

Electronic Acknowledgement Receipt

EFS ID:	45554430
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	161268
Filer:	Elias Panos Soupos/Anita Garcia
Filer Authorized By:	Elias Panos Soupos
Attorney Docket Number:	741300
Receipt Date:	25-APR-2022
Filing Date:	14-JAN-2019
Time Stamp:	16:08:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$640
RAM confirmation Number	E20224OG08534445
Deposit Account	121216
Authorized User	Anita Garcia

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

37 CFR 1.21 (Miscellaneous fees and charges)

37 CFR 1.19 (Document supply fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.16 (National application filing, search, and examination fees)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	ROA-6th-Transmittal.pdf	72657 dc3f05e50e998fffc4833b33c98ad670bf3b99c1	no	1
Warnings:					
Information:					
2	Amendment/Request for Reconsideration-After Non-Final Rejection	ROA-6th.pdf	206836 d4296b19c2512654782636d4bf1c606f7b17d2fa	no	26
Warnings:					
Information:					
3	Drawings-only black and white line drawings	Drawings-Replacement-2nd.pdf	792417 5b25034657219df61e4cf4d536d02389e6e6cbec	no	6
Warnings:					
Information:					
4	Affidavit-traversing rejections or objections rule 132	Hill-DeclarationFINALsignedwithCV.pdf	291997 636ad408f49d33140cfd8cf15adcc85f488ef867	no	8
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	37787 26d3576e240d6a613dc438fc71d7a574f1e6e293	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1401694		

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

USPTO TRANSMITTAL

PATENT
Attorney Docket No. 741300

Application No. 16/246,935
Confirmation No. 7407

Transmitted herewith is a reply to office action in the subject application.

☒ Petition for an extension of time for the period noted below, as well as for any additional period necessary to render the present submission timely. Please charge Deposit Account No. 12-1216 for the appropriate petition fee.

☒ Other: - Declaration Under 37 CFR 1.132 of James O. Hill
- Replacement Sheets 5-10

☒ Please charge Deposit Account No. 12-1216 in the total amount indicated below.

TIME EXTENSION PETITION FEE			two-month			$640
subtract time extension fee previously paid			none			($0)
CLAIM FEE	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	EXTRA CLAIMS PRESENT	RATE	ADDITIONAL CLAIM FEE
TOTAL	17	MINUS	24	= 0	x $100 =	$0
INDEPENDENT	4	MINUS	5	= 0	x $480 =	$0
☐	FIRST PRESENTATION OF MULTIPLY DEPENDENT CLAIM				+ $860 =	$0
SUBTOTAL (of all items above)						$640
☐	Small entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ½.					($0)
☐	Micro entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ¾.					($0)
OTHER FEES AS DESCRIBED:						$0
TOTAL AMOUNT TO BE CHARGED TO DEPOSIT ACCOUNT						**$640**

☒ The Commissioner is hereby authorized to charge any deficiencies in the following fees associated with this communication or credit any overpayment to Deposit Account No. 12-1216.
☒ Any filing fees under 37 CFR 1.16 and/or 1.492 for the presentation of extra claims.
☒ Any patent application processing fees under 37 CFR 1.17.

Leydig

/Elias P. Soupos/
Elias P. Soupos, Reg. No. 57,375
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: April 25, 2022

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Attorney Docket No. 741300

Customer No.: 23460

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NON-FINAL OFFICE ACTION

In reply to the Office Action dated November 24, 2021, please enter the following amendments and election, and consider the following remarks.

Amendments to the Specification appear on pages 2 of this paper.

Amendments to the Drawings begin on page 6 of this paper.

A Listing of the Claims containing no amendments is provided beginning on page 7 of this paper.

Remarks/Arguments begin on page 12 of this paper.

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 56
Patent No. 11,452,327 - IPR2025-00724

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as indicated below:

***

[0019] The safety helmet 100 is shown from a rear perspective in FIG. 2. As shown, the safety helmet 100 includes a second device 201 mounted on the rear side of the hard outer shell 1. While in certain embodiments the second device 201 may be releasably mounted to the safety helmet 100 using a second tapered receiver slot, similar to the front tapered receiver slot 5 on the front of the helmet (FIG. 1), in the illustrated embodiment of FIG. 2, the second device 201 is non-releasably or, generally permanently, mounted onto the safety helmet 100. The second device shown in FIG. 2 is a battery pack or power storage device that houses disposable or rechargeable battery power cells. The battery cells in the second device 201 are configured to provide electrical potential in the form of a direct current (DC) electrical power output into two conductors, 203 and 204 (shown in FIG. 1), which are integrated into the hard outer shell 1. As shown in FIGS. 7 and 9-13 in two alternative embodiments, ~~, in another embodiment,~~ the safety helmet 100 includes a rear tapered slot 11 that is substantially identical to the front tapered receiver slot 5.

***

[0024] A first alternative embodiment ~~An alternative embodiment~~ is shown in FIG. 7, in which a plurality of electrical devices, in this case, illumination devices 210, are integrated around the helmet and connected to be powered by the second device 201. For example, the illumination devices 210 may be low-powered LED lights or strobes that can be illuminated and used as safety devices, in addition to reflective devices, in low light environments. The electrical connections to power the illumination devices 210 can be integrated into the hard outer shell in a fashion similar to the conductors 203 and 204, and be electrically connected therewith. A headlamp device 200 is shown mounted via the mounting bracket 4 to the front tapered receiver slot 5 formed by the hard outer shell 1''[[1]]. The second headlamp device 201 is mounted to a rear tapered receiver slot 11 formed by the hard outer shell 1''[[1]]. In this embodiment, the front tapered receiver slot 5 is substantially identical to the rear tapered receiver slot 1''[[1]].

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[0024.1] FIG. 8 shows a cross section view through the safety helmet 100 shown in FIG. 1 in an alternate configuration. FIG. 8 shows the safety helmet 100 including the detachably mounted headlamp device 200. The headlamp device 200 includes the light source 2, the headlamp body 9, and the rechargeable batteries 212. The conductors 203 are shown integrated into the outer shell 1'[[1]] and terminating at the terminal 205. The headlamp device 200 includes the terminal 207 for releasable electrical connection with terminal 205. The safety helmet 100 of Fig. 8 shows that the protruding nub 17 and the brim 7 are unitary features of the hard outer shell 1'[[1]]. Stated in other words, the outer shell forms or defines the protruding nub 17 and the brim, which are integrally molded with the outer shell from a common material such as plastic. The venting holes 8 may be present for ventilation of the interior of the safety helmet 100. As shown in FIG. 3, the protruding nub 17 is centrally disposed relative to the external slot. In the illustrated embodiment of FIG. 3, the protruding nub 17 is disposed at an upward location away from the brim 7.

[0024.2] FIG. 9 shows a rear top right perspective view of the safety helmet 100 of FIG. 1 in an alternate configuration. The safety helmet features a detachable mounted headlamp device 200 mounted via the mounting bracket 4 in a rear tapered receiver slot 11 substantially identical to the front tapered receiver slot 5 disposed on the hard outer shell 1'[[1]] of the safety helmet 100. In this configuration, the light emanating from the light source 2 projects rearward of the safety helmet 100, illuminating the area in front of a user when the safety helmet is in its reverse orientation, with the brim 7 behind the wearer's head.

[0024.3] FIG. 10 depicts a side view of the safety helmet 100 of FIG. 9, featuring the detachable mounted headlamp device 200 mounted via the mounting bracket 4 in the front tapered receiver slot 5 of the hard outer shell 1'[[1]] of the safety helmet 100. In this configuration, the light emanating from the light source 2 projects forward of the safety helmet 100, illuminating the area in front of a user when the safety helmet is in its reverse orientation, with the brim 7 above the wearer's face. The rear tapered receiver slot 11 can be seen in this view, disposed on the hard outer shell 1'[[1]] opposite from the front tapered receiver slot 5.

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[0024.4] FIG. 11 depicts a side view of the safety helmet 100 of FIG. 9 with the front tapered receiver slot 5 and the rear tapered receiver slot 11 oppositely formed by the hard outer shell 1'[[1]] of the safety helmet 100. In this view, a second headlamp device 201 is mounted via a second mounting bracket 10 to the rear tapered receiver slot 11, while the headlamp device 200 is mounted via the mounting bracket 4 to the front tapered receiver slot 5. In this configuration of the safety helmet 100, the headlamp device 200 and second headlamp device 201 can be used in various ways. Both the headlamp device 200 and the second headlamp device 201 could be powered on, such that the light source 2 illuminates the area in front of the user and a second light source 12 illuminates the area behind the user's head while the cap is in its standard orientation. Alternately, the light source 2 on the headlamp device 200 might be powered on illuminating the area in front of the user while the safety helmet 100 is in its standard orientation, with the brim 7 above the user's face, and if the user chooses to move the helmet to its reverse orientation, with the brim 7 behind the user's face, the light source 2 could be powered down by means of pressing the power switch 3 and the second light source 12 powered on by pushing the second power switch 13 on the second headlamp device 201, such that the second light source 12 illuminates the area in front of the user. The user might also store the second headlamp device 201 on the rear tapered receiver slot 11 as a backup to the headlamp device 200 on the front tapered receiver slot 11, switching the position of the headlamp device 200 and second headlamp device 201 as necessary, for example, to address a malfunction or low battery state of the headlamp device 200. If the headlamp device 200 and the second headlamp device 201 have a high and low setting for the light source 2 and the second light source 12, a user can quickly configure the safety helmet 100 such that in the standard orientation the light source 2 provides bright illumination while the second light source 12 provides only low brightness to allow for signaling and location of the wearer, and may be converted when in reverse orientation such that the second light source 12 provides bright illumination while the light source 2 provides only low brightness to allow for signaling and location of the wearer, without having to remove or reposition either the headlamp device 200 or the second headlamp device 201.

[0024.5] FIG. 12 shows the safety helmet 100 in a configuration with a speaker device 15 mounted to the receiver slot 11 and the headlamp device 200 mounted to the receiver slot 5. FIG. 13 shows the safety helmet 100 in another configuration with a battery pack 14 mounted to the receiver slot 11 and the headlamp device 200 mounted to the receiver slot 5. As shown

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in FIGS. 12 and 13, the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11 are unitary features of the outer shell 1'[[1]]. In other words, the outer shell 1'[[1]] forms or defines the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11. The accessory slot(s) 6 are configured to accept various accessories. As shown in FIGS. 12 and 13, the accessory slot(s) 6 are integrated with the outer shell 1'[[1]]. As shown in FIGS. 12 and 13, the brim 7 is integrated with the outer shell 1. As shown in FIGS. 12 and 13, the venting holes 8 are integrated with the outer shell 1'[[1]]. As shown in FIGS. 12 and 13, the receiver slot 11 is integrated with the outer shell 1'[[1]].

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AMENDMENTS TO THE DRAWINGS

The application was originally filed with five (5) sheets of drawings containing Figures 1–7. In a previous response, five replacement and new sheets were submitted, of which sheet 6/10 contained a new figure 8 having lines and shapes drawn in blue ink.

In the present response, replacement sheets are submitted in which a new Figure 8 is provided, which contains no color, and also line drawings are submitted for Figures 12 and 13 to replace the previously provided photographs.

The replacement sheets 5–10 of 10, which include Figures 8–12, replace the previously submitted sheets containing Figures 8–12. In the replacement sheets, reference numeral (1) in Figures 6 and 7 is replaced with reference numeral (1'') to denote an alternative embodiment for the outer shell. Similarly, in each of Figures 8–12, reference numeral (1) is replaced with reference numeral (1') to denote an alternative embodiment. Corresponding amendments to replace reference numeral (1) with reference numeral (1') or (1''), as appropriate, are made to the specification.

No new matter is introduced into the present application by way of the above amendments to the drawings.

Attachment: Six replacement sheets containing Figures 6–13.

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LISTING OF THE CLAIMS

This listing of claims contains no new amendments and is provided herein for convenience.

1. (Currently amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell being molded from a common material and having an exterior surface defining a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle having an external slot extending upwardly along the front side on the [[an]] exterior surface of the outer shell above the brim and a protruding nub, wherein the protruding nub is integrally molded with the outer shell from the common material and is disposed centrally relative to the external slot and directly onto the exterior surface of the outer shell at an upward location away from the brim~~a unitary feature of the outer shell~~;

a rear receptacle having an additional external slot disposed on the rear side on the exterior surface of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable within each of the external slot of the front receptacle or the additional external slot of the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle on the exterior surface of the outer shell.

2. (Previously presented) The safety helmet of claim 1, wherein the external slot of the front receptacle is a receiver slot flanked by raised walls and the protruding nub comprises a stop, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the stop engages the clip to releasably mount the accessory device in the front receptacle.

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3. (Currently amended) The safety helmet of claim 1, wherein the common material is plastic. ~~the outer shell made from a molded plastic material~~.

4. (Currently amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell being molded from a common material and having an exterior surface defining a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle being integrally molded with the outer shell and having an external slot extending upwardly along the front side on [[an]] the exterior surface of the outer shell above the brim and a protruding nub, wherein the protruding nub is integrally molded with the outer shell from the common material and is disposed centrally relative to the external slot and directly onto the exterior surface of the outer shell~~front receptacle is integral with the outer shell~~;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell;

a first accessory device having a first mating receptacle formed thereon, at least a portion of the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, at least a portion of the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell.

5. (Previously Presented) The safety helmet of claim 4, wherein the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the stop engages the clip to releasably mount the first accessory device in the front receptacle.

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6. (Original) The safety helmet of claim 4, wherein the common material is ~~outer shell is made from~~ a molded plastic material.

7–12. (Cancelled)

13. (Previously Presented) The safety helmet of claim 4, where in the front receptacle and the rear receptacle are of identical construction.

14–20. (Cancelled)

21. (Previously presented) The safety helmet of claim 1, wherein the accessory device includes a clip, the external slot aligns the accessory device therein, and the protruding nub engages the clip to releasably mount the accessory device in the front receptacle.

22. (Cancelled)

23. (Previously Presented) The safety helmet of claim 4, wherein the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the protruding nub engages the clip to releasably mount the first accessory device in the front receptacle.

24. (Cancelled)

25. (Currently amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, an exterior of the outer shell having a front side, a rear side, and a brim extending outwardly from the front side and configured to shield the user's eyes from sunlight or falling debris;

a front receptacle having an external slot extending upwardly on the front side along the exterior of the ~~on an exterior of the~~ outer shell above the brim and a protruding nub, wherein the outer shell forms the protruding nub from a same material as the outer shell;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

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an accessory device having a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable within each of the external slot of the front receptacle or the additional external slot of the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle on the exterior of the outer shell.

26. (Currently amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, an exterior of the outer shell having a front side, a rear side, and a brim extending outwardly from the front side and configured to shield the user's eyes from sunlight or falling debris;

a front receptacle having an external slot extending upwardly on the front side and a protruding nub disposed centrally relative to the external slot, the protruding nub being integrally molded with the outer shell on the exterior from a common material~~on an exterior of the outer shell above the brim~~;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell, the rear receptacle having an additional protruding nub disposed centrally relative to the additional external slot, the additional protruding nub being integrally molded with the outer shell on the exterior from the common material;

a first accessory device having a first mating receptacle formed thereon, at least a portion of the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, at least a portion of the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell;

wherein the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell.

27. (Previously Presented) The safety helmet of claim 1, wherein the external slot of the front receptacle is configured to receive a portion of the accessory device to mount the accessory device to the front receptacle.

28. (Previously presented) The safety helmet of claim 1, wherein:

the front receptacle includes a first sidewall;

the accessory device includes a bracket; and

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the bracket is retained by the first sidewall to mount the accessory device to the front receptacle.

29. (Previously presented) The safety helmet of claim 28, wherein:

the front receptacle includes a second sidewall; and

the bracket is retained by the first sidewall and the second sidewall.

30. (Previously Presented) The safety helmet of claim 4, wherein the external slot of the front receptacle is configured to receive a portion of the first accessory device to mount the first accessory device to the front receptacle.

31. (Previously presented) The safety helmet of claim 4, wherein:

the front receptacle includes a first sidewall;

the first accessory device includes a bracket; and

the bracket is retained by the first sidewall to mount the first accessory device to the front receptacle.

32. (Previously presented) The safety helmet of claim 31, wherein:

the front receptacle includes a second sidewall; and

the bracket is retained by the first sidewall and the second sidewall.

33–34. (Cancelled)

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REMARKS / ARGUMENTS

Reconsideration of the application and claims in light of the foregoing amendments and following remarks/arguments is respectfully requested.

Substance of Interview Summary

An Applicant initiated interview was conducted on March 29, 2022, between Examiners Hoey and Ostrup, and attorneys Fairchild, Whelan and Soupos representing the Applicant. During the interview, the rejections under Sections 112 and 103 were discussed, and also the objections to the drawings included in the Office Action mailed on November 24, 2021.

With respect to the objections to the drawings, Applicant agreed to submit line drawings in lieu of the photographs submitted in a previous response as Figs. 12 and 13. The Office Action further objected to the specification for introducing new matter. Applicant's representatives explained that support in the original disclosure exists for the amendments to the application previously presented, for the reasons discussed herein below, and Examiners agreed.

With respect to the rejections under Section 112(a), amendments to the specification appear in the present response to provide written description for the claimed elements. Regarding the rejections under Section 112(b), Applicant's representatives explained the intended matter sought to be claimed and, for the reasons also set forth herein below, Examiners agreed.

With respect to the rejections under Section 103, possible amendments to the claims were discussed. Applicant has amended certain claims herein accordingly, and presents its additional amendments and arguments herein.

Applicant thanks Examiners Hoey and Ostrup for their time, courtesies, and consideration extended during the interview.

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Status of Application

In the present application, claims 1–6, 13, 21, 23, and 25–32 are pending and stand rejected. No claims stand allowed. In the present response, the specification is amended and the drawings are revised to present line drawings instead of photographs. Further, claims 1, 3, 4, 6, 25, and 26 are amended. The amendments to the claims, specification and drawings introduce no new matter.

In the Office Action mailed on November 24, 2021, the following objections and rejections are set forth:

1. The drawings are objected to for containing photographs and color drawings; the Office Action requires a petition filed under 37 CFR 1.84(a)(2), an amendment to the specification referencing any color drawings, a petition under 37 CFR 1.84(b)(2) to accept photographs, and requires different reference numerals to be used to denote different embodiments.

2. The specification was objected to for allegedly including matter "not supported by the original disclosure." The added material, according to the Office Action, is present in paragraph 0024 ("the front tapered receiver slot 5 formed by the hard outer shell 1... the second headlamp device 201 is mounted to a rear tapered receiver slot 11 formed by the hard outer shell"); in paragraph 0024.1 ("The safety helmet 100 of Fig. 8 shows that the protruding nub 17 and the brim 7 are unitary features of the hard outer shell. Stated in other words, the outer shell forms or defines the protruding nub 17 and the brim"); in paragraph 0024.4 ("the front tapered receiver slot 5 and the rear tapered slot 11 oppositely formed by the hard outer shell 1 of the safety helmet 100"); in paragraph 0024.5 ("the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11 are unitary features of the outer shell 1. In other words, the outer shell 1 forms or defines the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11"); in paragraph 0024.5 ("the accessory slot(s) 6 are integrated with the outer shell 1"); and in paragraph 0024.5 ("the receiver slot 11 is integrated with the outer shell 1.")

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3. The disclosure was also objected to for informalities, namely, that the added figures are drawn to embodiments with different helmet structure and need to be identified an discussed in the specification with different identifier numbers.

4. Claim 1 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was not described in the specification, namely, that a "protruding nub being a unitary feature of the outer shell." The Office Action states that the new drawing figures are not clear and there is no discussion of the protruding nub being a unitary feature.

5. Claim 4 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was not described in the specification, namely, that the "front receptacle being integral with the outer shell". The Office Action states that the new drawing figures are not clear and there is no discussion of the front receptacle being integral with the outer shell.

6. Claim 25 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was not described in the specification, namely, that the "outer shell forming the protruding nub." The Office Action states that the new drawing figures are not clear and there is no discussion of the outer shell forming the protruding nub.

7. Claim 26 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was not described in the specification, namely, that "the front and rear receptacles being a unitary feature of the outer shell."

8. Claim 1 and its dependent claims were rejected under 35 U.S.C. § 112(b) for being indefinite because it is, according to the Office Action, "unclear what is required structurally by the limitation 'wherein the protruding nub is a unitary feature of the outer shell.'" The Office Action also states that

> One interpretation would be that unitary requires one piece being formed by multiple attached parts, another interpretation would be that unitary requires the material construction to be

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the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

9. Claim 4 and its dependent claims were rejected under 35 U.S.C. § 112(b) for being indefinite because it is, according to the Office Action,

> unclear what is required structurally by the limitation "wherein the front receptacle is integral with the outer shell". It is unclear what integral would require structurally, since the specification fails to mention this term and it can be interpreted differently. One interpretation would be that integral requires one piece being formed by multiple attached parts, another interpretation would be that integral requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

10. Claim 26 and its dependent claims were rejected under 35 U.S.C. § 112(b) for being indefinite because it is, according to the Office Action,

> unclear what is required structurally by the limitation "wherein the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell" with respect to the front and rear receptacle. It is unclear what unitary would require structurally, since the specification fails to mention this term and it can be interpreted differently. One interpretation would be that unitary requires one piece being formed by multiple attached parts, another interpretation would be that unitary requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

11. Claims 1–6,13, 21, 23 and 25-32 were rejected under 35 U.S.C. § 103 as being given Ramey (US 2019/0008228) in view of Theisen (US 6,497,493).

These objections and rejections are addressed and traversed in detail below. Applicant respectfully requests reconsideration, withdrawal of the objections and rejections, and allowance of the claims in view of the foregoing amendments and following remarks.

1. Objection to the drawings

The Office Action objected to Figure 8 for containing lines drawn in blue ink. In the replacement sheet submitted herewith containing Figure 8, any features and reference

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numerals previously presented in blue ink have been reproduced in black ink. Applicant sees no other color in the drawings now pending in the application.

Section 608.01(f) of the MPEP, under the title "Brief Description of the Drawings," describes that petitions and statements under 37 CFR 1.84 are required in the event of color drawings or color photographs. In view of the above amendment to Figure 8, no such color drawings or color photographs exist in the present application, and thus any petition to accept color drawings or photographs is not believed to be required.

With respect to the black and white photographs previously submitted by Applicant, shown as Figures 12 and 13, MPEP 608.01(f), quoting 37 CFR 1.84(b)(1), states that black and white photographs are **acceptable** "in utility and design patent applications... if photographs are the only practicable medium for illustrating the claimed invention... [and] must be of sufficient quality so that all details in the photographs are reproducible in the printed patent." In the present application, the Office Action makes no objection to the quality of the photographs provided.

Further, Applicant believes that the claim terms of features being "unitary" or "integrated" are best shown in the photographs supplied in Applicant's last response as Figures 12 and 13. This is supported by the Declaration under 37 CFR 1.132 by James O. Hill (the Hill Declaration) submitted herewith.

Nevertheless, as discussed in the interview with the Examiner on March 20, 2022, Applicant submits herewith line drawings for FIGS. 12 and 13. That certain features of the claims are molded from the same material as the outer shell is more clearly claimed and described in the specification.

Consequently, Applicant believes that the drawing objections are moot. In the event any drawing objections remain, Applicant kindly solicits the Examiner's feedback. No petition is believed to be necessary for the acceptance of the black and white photographs.

2. The Specification Objections

The Office Action objects to the specification for containing matter that is allegedly not "supported by the original disclosure;" specifically, matter describing:

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a) that the front tapered receiver slot 5 is formed by or a unitary feature of the outer shell 1;

b) that the rear tapered receiver slot 11 is formed by the outer hard shell 1;

c) that the protruding nub 17 and the brim 7 are unitary features of the hard outer shell; and

d) that the receiver slot 11 is a unitary feature of, or integral with, the outer shell.

As stated in MPEP 2163.07(b), "an application may... incorporate the content of another document or part thereof by reference to the document in the text of the specification, [which] is as much a part of the application as filed as if the text was repeated in the application, and should be treated as part of the text of the application as filed." The same section of the MPEP specifically states that "material incorporated by reference with the actual text is not new matter." *citing* See 37 CFR 1.57 and MPEP § 608.01(p).

More specifically, 37 CFR 1.57(g) states that

> Any insertion of material incorporated by reference into the specification or drawings of an application must be by way of an amendment to the specification or drawings. Such an amendment must be accompanied by a statement that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter.

In the present application, Applicant has amended the specification and drawings, in accordance with the requirements under 37 CFR 1.57(g), to include subject matter from the provisional applications previously filed and to which the instant application claims priority. The instant application, in par. [0001], further incorporates by reference both provisional applications. Therefore, Applicant's amendment of the instant application's specification and drawings that introduces or draws into the present application disclosure from the provisional applications, which are incorporated by reference, is proper under 37 CFR 1.57. Applicant also previously stated that the amendments add no new matter (see Applicant's last response).

As discussed during the interview with the Examiners, Applicant has amended the claims for clarity to replace the words "unitary feature" and "integral" with "integrally molded... from the common material" or a "common material" for clarity. Applicant kindly

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invites the Examiner's feedback in this respect in the event any different language may be deemed more clear.

With respect to the various features included in the claims their support in the original disclosure from the provisional applications, MPEP section 608.04 states that the applicant may rely on the specification, drawings and claims to establish its complete disclosure. MPEP 608.0Section 2163.06 of the MPEP makes it clear that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

Here, the fact that each of:

i. the front and rear tapered receivers,

ii. the respective receiver slots, and

iii. protruding nub

are formed by the same material as the outer shell, are attributes of the disclosed embodiments that are readily ascertainable by one of ordinary skill in the art when reviewing the drawings as originally filed, and also the drawings and photos included in the provisional applications that are incorporated by reference in the present application.

In support of this position, Applicant submits herewith the declaration under 37 CFR 1.132 by Mr. James O. Hill (hereinafter, the Hill Declaration).

Mr. Hill states in his declaration that his experience with plastics molding operations spans over 20 years (Hill Declaration, §1), and that he is familiar with and typically interprets drawing features into structural elements that are required in a molded product (Id. at §7).

Mr. Hill has read and understands the disclosure implicated in the present application through the provisional and non-provisional filings (Id. at §5), and has specifically reviewed those features deemed by the Office Action to present new matter (Id. at §9). In Mr. Hill's opinion, based on his knowledge and experience, the front/rear receptacles, and the protruding nub recited in the claims are indeed supported by the drawings and, specifically, at

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least Figures 3 and 8 of the instant application, as being formed by, integral with, or unitary with the recited outer shell of the helmet (Id. at § 10).

This conclusion is consistent with and reinforced by the photos appearing in Figures 12 and 13, which indicate to Mr. Hill that the front and rear receivers shown in the photos (of the provisional applications, and also the line drawings submitted herewith), based on an observation of the photos and specifically the material color, finish, and fit of the receiver onto the shell, indicate that they are molded together out of the same plastic material using the same mold during the same molding operation.

Based on the foregoing discussion and evidence, Applicant asserts that the amendments to the specification are indeed supported by the totality of Applicant's original disclosure, and for this reason the objections should be reconsidered and withdrawn.

3. Specification informalities

The disclosure was also objected to for informalities, namely, that the added figures are drawn to embodiments with different helmet structure and need to be identified and discussed in the specification with different identifier numbers. In the present response, the outer shell denoted by reference numeral (1) in the embodiment of Figures 6 and 7 is amended to include reference numeral (1'') to denote an alternative embodiment for the outer shell. Similarly, the outer shell denoted by reference numeral (1) in Figures 8–12 is amended to include reference numeral (1') to denote an additional alternative embodiment for the outer shell. The specification and drawings, as amended, are sufficiently clear. Accordingly, reconsideration and withdrawal of the objection is requested.

4. Rejection of claim 1 under 35 U.S.C. § 112(a)

In the Office Action, claim 1 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was allegedly not described in the specification, namely, that a "protruding nub" is "a unitary feature of the outer shell." The Office Action states that the new drawing figures are not clear and there is no discussion of the protruding nub being a unitary feature. The specification is amended above to more closely track the language of the claims as amended.

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Applicant traverses this rejection and relies on the Hill Declaration, which establishes that the protruding nub is indeed visible in the drawings, and that in the opinion of one of ordinary skill in the art, the disclosure makes it clear that the protruding nub is a unitary feature of the outer shell. See Hill Declaration at §§ 6–11. Moreover, based on the requirements set forth in MPEP 608.02(IX), the drawings as presented and, specifically, the cross section shown in FIG. 8, indicate by virtue of the cross-hatching used that the same material is used to form all the various features of the claims including the outer shell, the brim, and the protruding nub as recited in amended claim 1.

Accordingly, Applicant requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112(a).

5. Rejection of claim 4 under 35 U.S.C. § 112(a)

In the Office Action, claim 4 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was allegedly not described in the specification, namely, that the "front receptacle" is "integral with the outer shell". The Office Action states that the new drawing figures are not clear and there is no discussion of the front receptacle being integral with the outer shell.

Applicant traverses this rejection and relies on the Hill Declaration, which establishes that the front receptacle, in the opinion of one of ordinary skill in the art, is integral with the outer shell. See Hill Declaration at §§ 6–11. Moreover, based on the requirements set forth in MPEP 608.02(IX), the drawings as presented and, specifically, the cross section shown in FIG. 8, indicate by virtue of the cross-hatching used that the same material is used to form all the various features of the claims including the outer shell, the brim, and the protruding nub as recited in amended claim 4. Accordingly, Applicant requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112(a) of claim 4.

6. Rejection of claim 25 under 35 U.S.C. § 112(a)

In the Office Action, claim 25 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was allegedly not described in the specification, namely, that the "outer shell" forms "the protruding nub." The Office Action states that the

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new drawing figures are not clear and there is no discussion of the outer shell forming the protruding nub.

Applicant traverses this rejection and relies on the Hill Declaration, which establishes that the protruding nub is indeed visible in the drawings, and that in the opinion of one of ordinary skill in the art, the disclosure makes it clear that the outer shell forms the protruding nub. See Hill Declaration at §§ 6–11. Moreover, based on the requirements set forth in MPEP 608.02(IX), the drawings as presented and, specifically, the cross section shown in FIG. 8, indicate by virtue of the cross-hatching used that the same material is used to form all the various features of the claims including the outer shell and the protruding nub as recited in amended claim 25. Accordingly, Applicant requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112(a) of claim 25.

7. Rejection of claim 26 under 35 U.S.C. § 112(a)

In the Office Action, claim 26 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was allegedly not described in the specification, namely, that "the front and rear receptacles" are "unitary" features of the outer shell.

Applicant traverses this rejection and relies on the Hill Declaration, which establishes that the front and rear receptacles, in the opinion of one of ordinary skill in the art, are unitary with the outer shell. See Hill Declaration at §§ 6–11. Moreover, based on the requirements set forth in MPEP 608.02(IX), the drawings as presented and, specifically, the cross section shown in FIG. 8, indicate by virtue of the cross-hatching used that the same material is used to form all the various features of the claims including the outer shell and the protruding nub, which are integrally molded from a common material, as recited in amended claim 26. Accordingly, Applicant requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112(a) of claim 26.

8. Rejection of claim 1 under 35 U.S.C. § 112(b)

The Office Action rejects claim 1 and its dependent claims under 35 U.S.C. § 112(b) for allegedly being indefinite because it is, according to the Office Action, "unclear what is required structurally by the limitation 'wherein the protruding nub is a unitary feature of the outer shell.'" The Office Action also states that

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> One interpretation would be that unitary requires one piece being formed by multiple attached parts, another interpretation would be that unitary requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

Before addressing the merits of the Office Action's determination, Applicant notes the requirements under MPEP 2111, which provides in relevant part that "an examiner **must** construe claim terms in the broadest reasonable manner during prosecution as is reasonably allowed in an effort **to establish a clear record of what applicant intends to claim**." MPEP 2111 (emphasis added); citing In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1028 (Fed. Cir. 1997); In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1321-22 (Fed. Cir. 1989).

MPEP 2111 makes it clear that the Examiner must ensure that the record contains a clear indication of what the Applicant intends to claim. In this instance, Applicant provided in its prior response a discussion and dictionary definitions for the words "unitary" and "integral," to make it clear how those words were intended to be construed by Applicant and to also make the record clear in the application of what the meaning of those words should be.

Nevertheless, as discussed during the interview with the Examiners, the claims are amended for clarity to show that the various features are made from the same or common material.

Accordingly, reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 112(b) is appropriate and required.

9. Rejection of claim 4 under 35 U.S.C. § 112(b)

The Office Action rejects claim 4 and its dependent claims under 35 U.S.C. § 112(b) for being indefinite because claim 4, according to the Office Action, is unclear because it contains the word "integral." Specifically, the limitation "wherein the front receptacle is integral with the outer shell" is alleged to be unclear because it is, purportedly, unclear "what integral would require structurally, since the specification fails to mention this term and it can be interpreted differently." The Office Action goes on to explain that one "interpretation would be that integral requires one piece being formed by multiple attached parts, another

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interpretation would be that integral requires the material construction to be the same and continuous."

As discussed in the section above, MPEP 2111 requires that the Examiner establishes a clear record of what Applicant intends to claim. In the present application, Applicant has provided a dictionary definition, and has specifically spelled out in its response, the intended meaning of the work "integral."

Nevertheless, and based on the Examiner interview, claim 4 is amended for clarity and to remove the words that prompted the rejection. Accordingly, reconsideration and withdrawal of the rejection of claim 4 under 35 U.S.C. § 112(b) is appropriate and required.

10. Rejection of claim 26 under 35 U.S.C. § 112(b)

The Office Action rejects claim 26 and its dependents for being indefinite because, according to the Office Action, it is unclear what is required structurally by the limitation "wherein the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell" with respect to the front and rear receptacle. It is unclear what unitary would require structurally, since the specification fails to mention this term and it can be interpreted differently. One interpretation would be that unitary requires one piece being formed by multiple attached parts, another interpretation would be that unitary requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

As discussed in the section above, MPEP 2111 requires that the Examiner establishes a clear record of what Applicant intends to claim. In the present application, Applicant has provided a dictionary definition, and has specifically spelled out in its response, the intended meaning of the work "unitary."

Nevertheless, and based on the Examiner interview, claim 26 is amended for clarity and now recites that the protruding nub is integrally molded with the outer shell from a common material. Accordingly, reconsideration and withdrawal of the rejection of claim 26 under 35 U.S.C. § 112(b) is appropriate and required.

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11. Rejection of claims 1–6,13, 21, 23 and 25-32 under 35 U.S.C. § 103

In the Office Action, the claims were rejected as obvious given Ramey in view of Theisen. The Office Action relies on the teachings of Ramey to reject the claims, and admits that Ramey fails to teach a front receptacle including a protruding nub, which is a unitary feature of the outer shell. According to the Office Action, Theisen teaches a receptacle that includes a protruding nub that "can be molded" into the outer shell, Theisen otherwise does not explain or elaborate on the possibility of molding receptacles with nubs into an outer shell, and describes and shows embodiments having receptacles that are attached to a helmet with adhesives.

In his Declaration, Mr. Hill makes it clear that features and structures that are molded into a component are important to the injection mold builder, because allowances for plastic flow and cooling rates must be provided for in the molding tool. Hill Declaration, §8. In his experience, features and structures that are molded into a component are not the same as structures that may be molded separately and then assembled onto another component, because the integral molding of structures and features requires the addition of molding aids such as fillets, draft angles to permit mold separation, gentle radii, plastic flow, cooling rates, and other parameters and considerations. Id.

In the particular application, Mr. Hill makes it clear that a host of different complexities are introduced when attempting to mold more than one structure using a single mold and a single molding operation, for example, addition of molding aids such as at least fillets, draft angles to permit mold separation, gentle radii, plastic flow, and cooling rates.

In the Office Action, the rationale for combining Ramey with Theisen is that it would have been obvious before the effective filing date to one having ordinary skill in the art to have replaced the attachment means of Ramey with the molded attachment means of Theisen, since the attachment means of Ramey being molded into the outer shell would provide a helmet that can securely attach accessories thereto without having to secure the attachment means to the helmet which can alter the integrity of the helmet by screwing therein, or adhesively securing the attachment means to the outer shell which can more easily be unsecured/dislodged from the helmet.

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Applicant respectfully disagrees. As can be seen in the device of Theisen, the alleged protruding nub, which is structured more as a ledge that hangs adjacent a closed opening, would require an insert of multi-piece mold to construct, which adds cost and complexity. Moreover, neither Ramey, who uses fasteners to connect the brackets to the helmet, nor Theisen, who uses adhesive, describe or suggest that the integrity of the helmet is compromised by use of the screws, or that the adhesive can be "easily" unsecured or dislodged from the helmet.

In addition, the protruding ledge of Theisen (34, in FIG. 4), which the Office Action asserts reads on the protruding nub claimed, stands apart from the helmet and a back wall of the receptacle (at 38), and is not "disposed... directly onto the exterior surface of the outer shell," as recited in claims 1 and 4, nor is the ledge disposed "at an upward location away from the brim," as also recited in claim 1.

In view of these structural differences, and also in the absence of an issue to be solved, Applicant asserts that one of ordinary skill in the art would be motivated to use fasteners or an adhesive to attach brackets to the helmet, as described and shown in Ramey and Theisen, and would not opt for a more complex molding for the helmet that requires multiple inserts in addition to added complicating factors such as fillets, draft angles to permit mold separation, gentle radii, plastic flow, cooling rates, and other parameters and considerations, to mold the helmet out of a single piece. See Hill Declaration at § 8.

Further, even if one were to make such changes, one would still not arrive at the claimed structures insofar as not all elements of the claims are present in the combination of Ramey with Theisen. At least for these reasons, Applicant submits that the claims are allowable.

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Conclusion

Applicant respectfully submits that the present application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the present application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

/Elias P. Soupos/

Elias P. Soupos, Reg. No. 57,375
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: April 25, 2022

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Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/246,935	Filing Date 01/14/2019	☐ 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 $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ 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	04/25/2022	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 17	Minus	** 24	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0		x $480 =	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".	/LASHAWN A HINTON/
*** 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.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 04/04/2022

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EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
04/04/2022	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):

Chgpatent@leydig.com

Applicant-Initiated Interview Summary	**Application No.** 16/246,935	**Applicant(s)** Deshpande et al.		
	Examiner ALISSA L HOEY	**Art Unit** 3732	**AIA (First Inventor to File) Status** Yes	**Page** 1 of 2

All Participants (applicant, applicants representative, PTO personnel)	**Title**	**Type**
ALISSA L HOEY	Primary Examiner	WebEx/Video Conference
CLINTON OSTRUP	SPE	
JEFF FAIRCHILD	Attorney	
JOHN WHELAN	Attorney	
ELIAS SOUPOS	Attorney	

Date of Interview: 29 March 2022

Issues Discussed:

35 U.S.C. 112

Discussed ways to overcome the 112(a) rejections by detailing the nub/receptacle are of a integral/ unitary construction and formed of the same material as detailed in the cross-section of the shell and receptacle of the figures.

35 U.S.C. 103

Discussed ways to overcome the 103 rejection of Ramey (US 2019/0008228) in view of Theisen (US 6,497,493) by detailing that the outer shell and the nub are formed of the same unitary/integral material and that the nub is located at the upper portion of the receptacle.

Drawings

Discussed the drawing objections of the photographs and to either provide them as line drawings or remove them from the figures.

Other

Attorney Soupous verbally consented to conduct the interview via video conference.

☑ Attachment

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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
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

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the 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.

DO NOT ENTER: /A.L.H/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Attorney Docket No. 741300

Customer No.: 23460

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO FINAL OFFICE ACTION

In reply to the Office Action dated November 24, 2021, please enter the following amendments and election, and consider the following remarks.

Amendments to the Specification appear on pages 2 of this paper.

Amendments to the Drawings begin on page 6 of this paper.

A Listing of the Claims containing no amendments is provided beginning on page 7 of this paper.

Remarks/Arguments begin on page 12 of this paper.

DRAFT

NOT FOR ENTRY INTO THE RECORD

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AMENDMENTS TO THE SPECIFICATION

Please amend the specification as indicated below:

***

[0019] The safety helmet 100 is shown from a rear perspective in FIG. 2. As shown, the safety helmet 100 includes a second device 201 mounted on the rear side of the hard outer shell 1. While in certain embodiments the second device 201 may be releasably mounted to the safety helmet 100 using a second tapered receiver slot, similar to the front tapered receiver slot 5 on the front of the helmet (FIG. 1), in the illustrated embodiment of FIG. 2, the second device 201 is non-releasably or, generally permanently, mounted onto the safety helmet 100. The second device shown in FIG. 2 is a battery pack or power storage device that houses disposable or rechargeable battery power cells. The battery cells in the second device 201 are configured to provide electrical potential in the form of a direct current (DC) electrical power output into two conductors, 203 and 204 (shown in FIG. 1), which are integrated into the hard outer shell 1. As shown in FIGS. 7 and 9-13 in two alternative embodiments, ~~, in another embodiment,~~ the safety helmet 100 includes a rear tapered slot 11 that is substantially identical to the front tapered receiver slot 5.

***

[0024] A first alternative embodiment ~~An alternative embodiment~~ is shown in FIG. 7, in which a plurality of electrical devices, in this case, illumination devices 210, are integrated around the helmet and connected to be powered by the second device 201. For example, the illumination devices 210 may be low-powered LED lights or strobes that can be illuminated and used as safety devices, in addition to reflective devices, in low light environments. The electrical connections to power the illumination devices 210 can be integrated into the hard outer shell in a fashion similar to the conductors 203 and 204, and be electrically connected therewith. A headlamp device 200 is shown mounted via the mounting bracket 4 to the front tapered receiver slot 5 formed by the hard outer shell 1''[[1]]. The second headlamp device 201 is mounted to a rear tapered receiver slot 11 formed by the hard outer shell 1''[[1]]. In this embodiment, the front tapered receiver slot 5 is substantially identical to the rear tapered receiver slot 1''[[1]].

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***

[0024.1] FIG. 8 shows a cross section view through the safety helmet 100 shown in FIG. 1 in an alternate configuration. FIG. 8 shows the safety helmet 100 including the detachably mounted headlamp device 200. The headlamp device 200 includes the light source 2, the headlamp body 9, and the rechargeable batteries 212. The conductors 203 are shown integrated into the outer shell 1'[[1]] and terminating at the terminal 205. The headlamp device 200 includes the terminal 207 for releasable electrical connection with terminal 205. The safety helmet 100 of Fig. 8 shows that the protruding nub 17 and the brim 7 are unitary features of the hard outer shell 1'[[1]]. Stated in other words, the outer shell forms or defines the protruding nub 17 and the brim. The venting holes 8 may be present for ventilation of the interior of the safety helmet 100.

[0024.2] FIG. 9 shows a rear top right perspective view of the safety helmet 100 of FIG. 1 in an alternate configuration. The safety helmet features a detachable mounted headlamp device 200 mounted via the mounting bracket 4 in a rear tapered receiver slot 11 substantially identical to the front tapered receiver slot 5 disposed on the hard outer shell 1'[[1]] of the safety helmet 100. In this configuration, the light emanating from the light source 2 projects rearward of the safety helmet 100, illuminating the area in front of a user when the safety helmet is in its reverse orientation, with the brim 7 behind the wearer's head.

[0024.3] FIG. 10 depicts a side view of the safety helmet 100 of FIG. 9, featuring the detachable mounted headlamp device 200 mounted via the mounting bracket 4 in the front tapered receiver slot 5 of the hard outer shell 1'[[1]] of the safety helmet 100. In this configuration, the light emanating from the light source 2 projects forward of the safety helmet 100, illuminating the area in front of a user when the safety helmet is in its reverse orientation, with the brim 7 above the wearer's face. The rear tapered receiver slot 11 can be seen in this view, disposed on the hard outer shell 1'[[1]] opposite from the front tapered receiver slot 5.

[0024.4] FIG. 11 depicts a side view of the safety helmet 100 of FIG. 9 with the front tapered receiver slot 5 and the rear tapered receiver slot 11 oppositely formed by the hard outer shell 1'[[1]] of the safety helmet 100. In this view, a second headlamp device 201 is mounted via a second mounting bracket 10 to the rear tapered receiver slot 11, while the

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headlamp device 200 is mounted via the mounting bracket 4 to the front tapered receiver slot 5. In this configuration of the safety helmet 100, the headlamp device 200 and second headlamp device 201 can be used in various ways. Both the headlamp device 200 and the second headlamp device 201 could be powered on, such that the light source 2 illuminates the area in front of the user and a second light source 12 illuminates the area behind the user's head while the cap is in its standard orientation. Alternately, the light source 2 on the headlamp device 200 might be powered on illuminating the area in front of the user while the safety helmet 100 is in its standard orientation, with the brim 7 above the user's face, and if the user chooses to move the helmet to its reverse orientation, with the brim 7 behind the user's face, the light source 2 could be powered down by means of pressing the power switch 3 and the second light source 12 powered on by pushing the second power switch 13 on the second headlamp device 201, such that the second light source 12 illuminates the area in front of the user. The user might also store the second headlamp device 201 on the rear tapered receiver slot 11 as a backup to the headlamp device 200 on the front tapered receiver slot 11, switching the position of the headlamp device 200 and second headlamp device 201 as necessary, for example, to address a malfunction or low battery state of the headlamp device 200. If the headlamp device 200 and the second headlamp device 201 have a high and low setting for the light source 2 and the second light source 12, a user can quickly configure the safety helmet 100 such that in the standard orientation the light source 2 provides bright illumination while the second light source 12 provides only low brightness to allow for signaling and location of the wearer, and may be converted when in reverse orientation such that the second light source 12 provides bright illumination while the light source 2 provides only low brightness to allow for signaling and location of the wearer, without having to remove or reposition either the headlamp device 200 or the second headlamp device 201.

[0024.5] FIG. 12 shows the safety helmet 100 in a configuration with a speaker device 15 mounted to the receiver slot 11 and the headlamp device 200 mounted to the receiver slot 5. FIG. 13 shows the safety helmet 100 in another configuration with a battery pack 14 mounted to the receiver slot 11 and the headlamp device 200 mounted to the receiver slot 5. As shown in FIGS. 12 and 13, the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11 are unitary features of the outer shell 1’[[1]]. In other words, the outer shell 1’[[1]] forms or defines the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11. The accessory slot(s) 6 are configured to accept various accessories. As shown in FIGS.

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12 and 13, the accessory slot(s) 6 are integrated with the outer shell 1'[[1]]. As shown in FIGS. 12 and 13, the brim 7 is integrated with the outer shell 1. As shown in FIGS. 12 and 13, the venting holes 8 are integrated with the outer shell 1'[[1]]. As shown in FIGS. 12 and 13, the receiver slot 11 is integrated with the outer shell 1'[[1]].

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AMENDMENTS TO THE DRAWINGS

The application was originally filed with five (5) sheets of drawings containing Figures 1–7. In a previous response, five replacement and new sheets were submitted, of which sheet 6/10 contained a new figure 8 having lines and shapes drawn in blue ink.

In the present response, a replacement sheet 6/10 containing Figure 8 is submitted to replace the previous version of Figure 8.

Also in the present response, replacement sheets 5–10 of 10 are submitted, which include Figures 8–12 and replace the previously submitted sheets containing Figures 8–12. In the replacement sheets, reference numeral (1) in Figures 6 and 7 is replaced with reference numeral (1'') to denote an alternative embodiment for the outer shell. Similarly, in each of Figures 8–12, reference numeral (1) is replaced with reference numeral (1') to denote an alternative embodiment. Corresponding amendments to replace reference numeral (1) with reference numeral (1') or (1''), as appropriate, are made to the specification.

No new matter is introduced into the present application by way of the above amendments to the claims.

Attachment: Six replacement sheets containing Figures 6–13.

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LISTING OF THE CLAIMS

This listing of claims contains no new amendments and is provided herein for convenience.

1. (Previously presented) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim and a protruding nub, wherein the protruding nub is a unitary feature of the outer shell;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable within each of the external slot of the front receptacle or the additional external slot of the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle on the exterior of the outer shell.

2. (Previously presented) The safety helmet of claim 1, wherein the external slot of the front receptacle is a receiver slot flanked by raised walls and the protruding nub comprises a stop, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the stop engages the clip to releasably mount the accessory device in the front receptacle.

3. (Original) The safety helmet of claim 1, wherein the outer shell is made from a molded plastic material.

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4. (Previously presented) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim, wherein the front receptacle is integral with the outer shell;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell;

a first accessory device having a first mating receptacle formed thereon, at least a portion of the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, at least a portion of the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell.

5. (Previously Presented) The safety helmet of claim 4, wherein the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the stop engages the clip to releasably mount the first accessory device in the front receptacle.

6. (Original) The safety helmet of claim 4, wherein the outer shell is made from a molded plastic material.

7–12. (Cancelled)

13. (Previously Presented) The safety helmet of claim 4, where in the front receptacle and the rear receptacle are of identical construction.

14–20. (Cancelled)

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21. (Previously presented) The safety helmet of claim 1, wherein the accessory device includes a clip, the external slot aligns the accessory device therein, and the protruding nub engages the clip to releasably mount the accessory device in the front receptacle.

22. (Cancelled)

23. (Previously Presented) The safety helmet of claim 4, wherein the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the protruding nub engages the clip to releasably mount the first accessory device in the front receptacle.

24. (Cancelled)

25. (Previously presented) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending outwardly from the front side and configured to shield the user's eyes from sunlight or falling debris;

a front receptacle having an external slot extending upwardly on the front side on an exterior of the outer shell above the brim and a protruding nub, wherein the outer shell forms the protruding nub;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable within each of the external slot of the front receptacle or the additional external slot of the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle on the exterior of the outer shell.

26. (Previously presented) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending outwardly from the front side and configured to shield the user's eyes from sunlight or falling debris;

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a front receptacle having an external slot extending upwardly on the front side on an exterior of the outer shell above the brim;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell;

a first accessory device having a first mating receptacle formed thereon, at least a portion of the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, at least a portion of the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell;

wherein the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell.

27. (Previously Presented) The safety helmet of claim 1, wherein the external slot of the front receptacle is configured to receive a portion of the accessory device to mount the accessory device to the front receptacle.

28. (Previously presented) The safety helmet of claim 1, wherein:

the front receptacle includes a first sidewall;

the accessory device includes a bracket; and

the bracket is retained by the first sidewall to mount the accessory device to the front receptacle.

29. (Previously presented) The safety helmet of claim 28, wherein:

the front receptacle includes a second sidewall; and

the bracket is retained by the first sidewall and the second sidewall.

30. (Previously Presented) The safety helmet of claim 4, wherein the external slot of the front receptacle is configured to receive a portion of the first accessory device to mount the first accessory device to the front receptacle.

31. (Previously presented) The safety helmet of claim 4, wherein:

the front receptacle includes a first sidewall;

the first accessory device includes a bracket; and

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the bracket is retained by the first sidewall to mount the first accessory device to the front receptacle.

32. (Previously presented) The safety helmet of claim 31, wherein:

the front receptacle includes a second sidewall; and

the bracket is retained by the first sidewall and the second sidewall.

33–34. (Cancelled)

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REMARKS / ARGUMENTS

Reconsideration of the application and claims in light of the foregoing amendments and following remarks/arguments is respectfully requested.

Status of Application

In the present application, claims 1–6, 13, 21, 23, and 25–32 are pending and stand rejected. No claims stand allowed.

In the Office Action mailed on November 24, 2021, the following objections and rejections are set forth:

1. The drawings are objected to for containing photographs and color drawings; the Office Action requires a petition filed under 37 CFR 1.84(a)(2), an amendment to the specification referencing any color drawings, a petition under 37 CFR 1.84(b)(2) to accept photographs, and requires different reference numerals to be used to denote different embodiments.

2. The specification was objected to for allegedly including matter "not supported by the original disclosure." The added material, according to the Office Action, is present in paragraph 0024 ("the front tapered receiver slot 5 formed by the hard outer shell 1… the second headlamp device 201 is mounted to a rear tapered receiver slot 11 formed by the hard outer shell"); in paragraph 0024.1 ("The safety helmet 100 of Fig. 8 shows that the protruding nub 17 and the brim 7 are unitary features of the hard outer shell. Stated in other words, the outer shell forms or defines the protruding nub 17 and the brim"); in paragraph 0024.4 ("the front tapered receiver slot 5 and the rear tapered slot 11 oppositely formed by the hard outer shell 1 of the safety helmet 100"); in paragraph 0024.5 ("the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11 are unitary features of the outer shell 1. In other words, the outer shell 1 forms or defines the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11"); in paragraph 0024.5 ("the accessory slot(s) 6 are integrated with the outer shell 1"); and in paragraph 0024.5 ("the receiver slot 11 is integrated with the outer shell 1.")

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3. The disclosure was also objected to for informalities, namely, that the added figures are drawn to embodiments with different helmet structure and need to be identified an discussed in the specification with different identifier numbers.

4. Claim 1 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was not described in the specification, namely, that a "protruding nub being a unitary feature of the outer shell." The Office Action states that the new drawing figures are not clear and there is no discussion of the protruding nub being a unitary feature.

5. Claim 4 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was not described in the specification, namely, that the "front receptacle being integral with the outer shell". The Office Action states that the new drawing figures are not clear and there is no discussion of the front receptacle being integral with the outer shell.

6. Claim 25 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was not described in the specification, namely, that the "outer shell forming the protruding nub." The Office Action states that the new drawing figures are not clear and there is no discussion of the outer shell forming the protruding nub.

7. Claim 26 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was not described in the specification, namely, that "the front and rear receptacles being a unitary feature of the outer shell."

8. Claim 1 and its dependent claims were rejected under 35 U.S.C. § 112(b) for being indefinite because it is, according to the Office Action, "unclear what is required structurally by the limitation 'wherein the protruding nub is a unitary feature of the outer shell.'" The Office Action also states that

> One interpretation would be that unitary requires one piece being formed by multiple attached parts, another interpretation would be that unitary requires the material construction to be

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the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

9. Claim 4 and its dependent claims were rejected under 35 U.S.C. § 112(b) for being indefinite because it is, according to the Office Action,

> unclear what is required structurally by the limitation "wherein the front receptacle is integral with the outer shell". It is unclear what integral would require structurally, since the specification fails to mention this term and it can be interpreted differently. One interpretation would be that integral requires one piece being formed by multiple attached parts, another interpretation would be that integral requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

10. Claim 26 and its dependent claims were rejected under 35 U.S.C. § 112(b) for being indefinite because it is, according to the Office Action,

> unclear what is required structurally by the limitation "wherein the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell" with respect to the front and rear receptacle. It is unclear what unitary would require structurally, since the specification fails to mention this term and it can be interpreted differently. One interpretation would be that unitary requires one piece being formed by multiple attached parts, another interpretation would be that unitary requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

11. Claims 1–6,13, 21, 23 and 25-32 were rejected under 35 U.S.C. § 103 as being given Ramey (US 2019/0008228) in view of Theisen (US 6,497,493).

These objections and rejections are addressed and traversed in detail below. Applicant respectfully requests reconsideration, withdrawal of the objections and rejections, and allowance of the claims in view of the foregoing amendments and following remarks.

1. Objection to the drawings

The Office Action objected to Figure 8 for containing lines drawn in blue ink. In the replacement sheet submitted herewith containing Figure 8, any features and reference

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numerals previously presented in blue ink have been reproduced in black ink. Applicant sees no other color in the drawings now pending in the application.

Section 608.01(f) of the MPEP, under the title "Brief Description of the Drawings," describes that petitions and statements under 37 CFR 1.84 are required in the event of color drawings or color photographs. In view of the above amendment to Figure 8, no such color drawings or color photographs exist in the present application, and thus any petition to accept color drawings or photographs is not believed to be required.

With respect to the black and white photographs previously submitted by Applicant, shown as Figures 12 and 13, MPEP 608.01(f), quoting 37 CFR 1.84(b)(1), states that black and white photographs are **acceptable** "in utility and design patent applications… if photographs are the only practicable medium for illustrating the claimed invention… [and] must be of sufficient quality so that all details in the photographs are reproducible in the printed patent." In the present application, the Office Action makes no objection to the quality of the photographs provided.

Further, Applicant believes that the claim terms of features being "unitary" or "integrated" are best shown in the photographs supplied in Applicant's last response as Figures 12 and 13. This is supported by the Declaration under 37 CFR 1.132 by James O. Hill (the Hill Declaration) submitted herewith.

Consequently, Applicant believes the photographs to be at least one practicable medium for illustrating the claimed invention, and for this reason submits that the black and white photos are required in addition to the line drawings submitted originally and also during prosecution. No petition is believed to be necessary for the acceptance of the black and white photographs.

2. The Specification Objections

The Office Action objects to the specification for containing matter that is allegedly not "supported by the original disclosure;" specifically, matter describing:

a) that the front tapered receiver slot 5 is formed by or a unitary feature of the outer shell 1;

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b) that the rear tapered receiver slot 11 is formed by the outer hard shell 1;

c) that the protruding nub 17 and the brim 7 are unitary features of the hard outer shell; and

d) that the receiver slot 11 is a unitary feature of, or integral with, the outer shell.

As stated in MPEP 2163.07(b), "an application may… incorporate the content of another document or part thereof by reference to the document in the text of the specification, [which] is as much a part of the application as filed as if the text was repeated in the application, and should be treated as part of the text of the application as filed." The same section of the MPEP specifically states that "material incorporated by reference with the actual text is not new matter." *citing* See 37 CFR 1.57 and MPEP § 608.01(p).

More specifically, 37 CFR 1.57(g) states that

> Any insertion of material incorporated by reference into the specification or drawings of an application must be by way of an amendment to the specification or drawings. Such an amendment must be accompanied by a statement that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter.

In the present application, Applicant has amended the specification and drawings, in accordance with the requirements under 37 CFR 1.57(g), to include subject matter from the provisional applications previously filed and to which the instant application claims priority. The instant application, in par. [0001], further incorporates by reference both provisional applications. Therefore, Applicant's amendment of the instant application's specification and drawings that introduces or draws into the present application disclosure from the provisional applications, which are incorporated by reference, is proper under 37 CFR 1.57. Applicant also previously stated that the amendments add no new matter (see Applicant's last response).

The question, therefore, is whether the various features added to the claims and into the present disclosure from the provisional applications are indeed supported by the provisional applications.

In this respect, MPEP section 608.04 states that the applicant may rely on the specification, drawings and claims to establish its complete disclosure. Section 2163.06 of

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the MPEP makes it clear that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

Here, the fact that each of:

i. the front and rear tapered receivers,

ii. the respective receiver slots, and

iii. protruding nub

are formed by, or are unitary features of, or are integral with, the outer shell, are attributes of the disclosed embodiments that are readily ascertainable by one of ordinary skill in the art when reviewing the drawings as originally filed, and also the drawings and photos added by amendment, which were drawn from the priority provisional applications that are incorporated by reference in the present application.

In support of this position, Applicant submits herewith the declaration under 37 CFR 1.132 by Mr. James O. Hill (hereinafter, the Hill Declaration).

Mr. Hill states in his declaration that his experience with plastics molding operations spans over 20 years (Hill Declaration, §1), and that he is familiar with and typically interprets drawing features into structural elements that are required in a molded product (Id. at §7).

Mr. Hill has read and understands the disclosure implicated in the present application through the provisional and non-provisional filings (Id. at §5), and has specifically reviewed those features deemed by the Office Action to present new matter (Id. at §9). In Mr. Hill's opinion, based on his knowledge and experience, the front/rear receptacles, and the protruding nub recited in the claims are indeed supported by the drawings and, specifically, at least Figures 3 and 8 of the instant application, as being formed by, integral with, or unitary with the recited outer shell of the helmet (Id. at § 10).

This conclusion is consistent with and reinforced by the photos appearing in Figures 12 and 13, which indicate to Mr. Hill that the front and rear receivers shown in the photos, based on an observation of the photos and specifically the material color, finish, and fit of the

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receiver onto the shell, indicate that they are molded together out of plastic using the same mold and during the same molding operation.

Based on the foregoing discussion and evidence, Applicant asserts that the amendments to the specification are indeed supported by the totality of Applicant's original disclosure, and for this reason the objections should be reconsidered and withdrawn.

3. Specification informalities

The disclosure was also objected to for informalities, namely, that the added figures are drawn to embodiments with different helmet structure and need to be identified and discussed in the specification with different identifier numbers. In the present response, the outer shell denoted by reference numeral (1) in the embodiment of Figures 6 and 7 is amended to include reference numeral (1'') to denote an alternative embodiment for the outer shell. Similarly, the outer shell denoted by reference numeral (1) in Figures 8–12 is amended to include reference numeral (1') to denote an additional alternative embodiment for the outer shell. The specification and drawings, as amended, are sufficiently clear. Accordingly, reconsideration and withdrawal of the objection is requested.

4. Rejection of claim 1 under 35 U.S.C. § 112(a)

In the Office Action, claim 1 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was allegedly not described in the specification, namely, that a "protruding nub" is "a unitary feature of the outer shell." The Office Action states that the new drawing figures are not clear and there is no discussion of the protruding nub being a unitary feature.

Applicant traverses this rejection and relies on the Hill Declaration, which establishes that the protruding nub is indeed visible in the drawings, and that in the opinion of one of ordinary skill in the art, the disclosure makes it clear that the protruding nub is a unitary feature of the outer shell. See Hill Declaration at §§ 6–11. Accordingly, Applicant requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112(a) of claim 1.

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5. Rejection of claim 4 under 35 U.S.C. § 112(a)

In the Office Action, claim 4 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was allegedly not described in the specification, namely, that the "front receptacle" is "integral with the outer shell". The Office Action states that the new drawing figures are not clear and there is no discussion of the front receptacle being integral with the outer shell.

Applicant traverses this rejection and relies on the Hill Declaration, which establishes that the front receptacle, in the opinion of one of ordinary skill in the art, is integral with the outer shell. See Hill Declaration at §§ 6–11. Accordingly, Applicant requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112(a) of claim 4.

6. Rejection of claim 25 under 35 U.S.C. § 112(a)

In the Office Action, claim 25 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was allegedly not described in the specification, namely, that the "outer shell" forms "the protruding nub." The Office Action states that the new drawing figures are not clear and there is no discussion of the outer shell forming the protruding nub.

Applicant traverses this rejection and relies on the Hill Declaration, which establishes that the protruding nub is indeed visible in the drawings, and that in the opinion of one of ordinary skill in the art, the disclosure makes it clear that the outer shell forms the protruding nub. See Hill Declaration at §§ 6–11. Accordingly, Applicant requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112(a) of claim 25.

7. Rejection of claim 26 under 35 U.S.C. § 112(a)

In the Office Action, claim 26 and its dependent claims were rejected under 35 U.S.C. § 112(a) for containing subject matter that was allegedly not described in the specification, namely, that "the front and rear receptacles" are "unitary" features of the outer shell.

Applicant traverses this rejection and relies on the Hill Declaration, which establishes that the front and rear receptacles, in the opinion of one of ordinary skill in the art, are unitary

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with the outer shell. See Hill Declaration at §§ 6–11. Accordingly, Applicant requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112(a) of claim 26.

8. Rejection of claim 1 under 35 U.S.C. § 112(b)

The Office Action rejects claim 1 and its dependent claims under 35 U.S.C. § 112(b) for allegedly being indefinite because it is, according to the Office Action, "unclear what is required structurally by the limitation 'wherein the protruding nub is a unitary feature of the outer shell.'" The Office Action also states that

> One interpretation would be that unitary requires one piece being formed by multiple attached parts, another interpretation would be that unitary requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

Before addressing the merits of the Office Action's determination, Applicant notes the requirements under MPEP 2111, which provides in relevant part that "an examiner **must** construe claim terms in the broadest reasonable manner during prosecution as is reasonably allowed in an effort **to establish a clear record of what applicant intends to claim**." MPEP 2111 (emphasis added); citing In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1028 (Fed. Cir. 1997); In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1321-22 (Fed. Cir. 1989).

MPEP 2111 makes it clear that the Examiner must ensure that the record contains a clear indication of what the Applicant intends to claim. In this instance, Applicant provided in its prior response a discussion and dictionary definitions for the words "unitary" and "integral," to make it clear how those words were intended to be construed by Applicant and to also make the record clear in the application of what the meaning of those words should be.

For the avoidance of doubt, Applicant reiterates in this response its statements concerning what Applicant intends to claim by providing the definition of the word "unitary" as Applicant intends it: As used herein, "unitary" is meant to be understood in its normal dictionary meaning of having the character of a unit in being undivided from, or a whole with, the outer shell.[1]

[1] https://www.merriam-webster.com/dictionary/unitary retrieved on October 19, 2021.

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In view of Applicant's clear definition of the meaning of the term, reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 112(b) is appropriate and required.

9. Rejection of claim 4 under 35 U.S.C. § 112(b)

The Office Action rejects claim 4 and its dependent claims under 35 U.S.C. § 112(b) for being indefinite because claim 4, according to the Office Action, is unclear because it contains the word "integral." Specifically, the limitation "wherein the front receptacle is integral with the outer shell" is alleged to be unclear because it is, purportedly, unclear "what integral would require structurally, since the specification fails to mention this term and it can be interpreted differently." The Office Action goes on to explain that one "interpretation would be that integral requires one piece being formed by multiple attached parts, another interpretation would be that integral requires the material construction to be the same and continuous."

As discussed in the section above, MPEP 2111 requires that the Examiner establishes a clear record of what Applicant intends to claim. In the present application, Applicant has provided a dictionary definition, and has specifically spelled out in its response, the intended meaning of the work "integral."

For the avoidance of doubt, Applicant reiterates in this response its statements concerning what Applicant intends to claim by providing, once more, the definition of the word "integral" as Applicant intends it: As used herein, the term "integral" is used in its common dictionary definition of "formed as a unit with another part."[2] Because the meaning of the word is not unusual or contrary to its dictionary definition, the requirement to include this definition in the specification is believed to be unnecessary.

In view of Applicant's definition of the meaning of the term, reconsideration and withdrawal of the rejection of claim 4 under 35 U.S.C. § 112(b) is appropriate and required.

10. Rejection of claim 26 under 35 U.S.C. § 112(b)

The Office Action rejects claim 26 and its dependents for being indefinite because, according to the Office Action, it is unclear what is required structurally by the limitation

[2] https://www.merriam-webster.com/dictionary/integral, accessed on October 19, 2021.

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"wherein the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell" with respect to the front and rear receptacle. It is unclear what unitary would require structurally, since the specification fails to mention this term and it can be interpreted differently. One interpretation would be that unitary requires one piece being formed by multiple attached parts, another interpretation would be that unitary requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

As discussed in the section above, MPEP 2111 requires that the Examiner establishes a clear record of what Applicant intends to claim. In the present application, Applicant has provided a dictionary definition, and has specifically spelled out in its response, the intended meaning of the work "unitary."

For the avoidance of doubt, Applicant reiterates in this response its statements concerning what Applicant intends to claim by providing, once more, the definition of the word "unitary" as Applicant intends it: As used herein, "unitary" is meant to be understood in its normal dictionary meaning of having the character of a unit in being undivided from, or a whole with, the outer shell.[3]

In view of Applicant's definition of the meaning of the term, reconsideration and withdrawal of the rejection of claim 26 under 35 U.S.C. § 112(b) is appropriate and required.

11. Rejection of claims 1–6,13, 21, 23 and 25-32 under 35 U.S.C. § 103

In the Office Action, the claims were rejected as obvious given Ramey in view of Theisen. The Office Action relies on the teachings of Ramey to reject the claims, and admits that Ramey fails to teach a front receptacle including a protruding nub, which is a unitary feature of the outer shell. According to the Office Action, Theisen teaches a receptacle that includes a protruding nub that "can be molded" into the outer shell, Theisen otherwise does not explain or elaborate on the possibility of molding receptacles with nubs into an outer shell, and describes and shows embodiments having receptacles that are attached to a helmet with adhesives.

[3] https://www.merriam-webster.com/dictionary/unitary retrieved on October 19, 2021.

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In his Declaration, Mr. Hill makes it clear that features and structures that are molded into a component are important to the injection mold builder, because allowances for plastic flow and cooling rates must be provided for in the molding tool. Hill Declaration, §8. In his experience, features and structures that are molded into a component are not the same as structures that may be molded separately and then assembled onto another component, because the integral molding of structures and features requires the addition of molding aids such as fillets, draft angles to permit mold separation, gentle radii, plastic flow, cooling rates, and other parameters and considerations. Id.

In the particular application, Mr. Hill makes it clear that a host of different complexities are introduced when attempting to mold more than one plastic structure using a single mold and a single molding operation, for example, addition of molding aids such as at least fillets, draft angles to permit mold separation, gentle radii, plastic flow, and cooling rates.

In the Office Action, the rationale for combining Ramey with Theisen is that it would have been obvious before the effective filing date to one having ordinary skill in the art to have replaced the attachment means of Ramey with the molded attachment means of Theisen, since the attachment means of Ramey being molded into the outer shell would provide a helmet that can securely attach accessories thereto without having to secure the attachment means to the helmet which can alter the integrity of the helmet by screwing therein, or adhesively securing the attachment means to the outer shell which can more easily be unsecured/dislodged from the helmet.

Applicant respectfully disagrees. As can be seen in the device of Theisen, the alleged protruding nub, which is structured more as a ledge that hangs adjacent a closed opening, would require an insert of multi-piece mold to construct, which adds cost and complexity. Moreover, neither Ramey, who uses fasteners to connect the brackets to the helmet, nor Theisen, who uses adhesive, describe or suggest that the integrity of the helmet is compromised by use of the screws, or that the adhesive can be “easily” unsecured or dislodged from the helmet. In the absence of an issue to be solved, Applicant asserts that one of ordinary skill in the art would be motivated to use fasteners or an adhesive to attach brackets to the helmet, as described and shown in Ramey and Theisen, and would not opt for a more complex molding for the helmet that requires multiple inserts in addition to added

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complicating factors such as fillets, draft angles to permit mold separation, gentle radii, plastic flow, cooling rates, and other parameters and considerations, to mold the helmet out of a single piece. See Hill Declaration at § 8. At least for these reasons, Applicant submits that the claims are allowable.

Conclusion

Applicant respectfully submits that the present application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the present application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

DRAFT

Elias P. Soupos, Reg. No. 57,375
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: March 25, 2022

DRAFT

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DO NOT ENTER: /A.L.H/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Filed: January 14, 2019

TC/AU: 3732

Examiner: Hoey, Alissa L.

Docket No.: 741300

Customer No.: 161268

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132

Dear Sir:

I, James O. Hill, do declare and state:

1. I have worked in the field of manufacturing and, specifically, in the field of injection molding of plastic molded components, for over 20 years – a copy of my CV that includes my work experience is attached as an Exhibit to this declaration; my experience in this field includes experience in one, two and three shot moldings, as well as insert molding; I have led new injection molding tool builds in North America, Taiwan, China and Europe.
2. I received a Bachelor's of science degree in Plastics Engineering Technology from Ferris State University, with distinction in May, 1998, and an Associate's degree of Applied Science with a concentration in Plastics Technology from the same institution in December, 1996.
3. I currently hold an RJG Master Molder I Certification, and a Green Belt six sigma certification from the New Horizons Learning Center Lean Manufacturing.

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4. I am a not a joint inventor in the above above-captioned application, and am not compensated specifically for preparing the present declaration; I personally have no monetary or proprietary interest in the present patent application.

5. I have reviewed and understand the contents and disclosure of US Patent Application Ser. No. 16/246,935 (the "Instant Application"), and also US Provisional Application Ser. Nos. 62/622,472 and 62/645,491 (collectively, together with the Instant Application, the "Applicant's Original Disclosure"), and also an Office Action mailed on November 24, 2021, in the Instant Application. I have also reviewed a response filed by the Applicant on October 21, 2021, in the Instant Application.

6. I understand that certain elements included in the claims of the Instant Application are objected to or rejected by the Examiner of the Instant Application as allegedly not being present, described, disclosed or supported by the Applicant's Original Disclosure, such elements being specifically, as shown in the drawings:

   a. a front tapered receiver slot 5 that is "formed by" or that is a "unitary feature" of the outer shell 1;

   b. a rear tapered receiver slot 11 that is "formed by" the outer hard shell 1;

   c. a protruding nub 17 and a brim 7 that are "unitary features" of the hard outer shell; or

   d. a receiver slot 11 that is a "unitary feature" of, or that is "integral with," the outer shell 1.

7. In my experience working with injection mold builders, and injection molds for use in injection molding of plastic components, I am familiar with and can understand and interpret features of molded plastic components that are represented by way of two-dimensional engineering drawings, three-dimensional models of such components,

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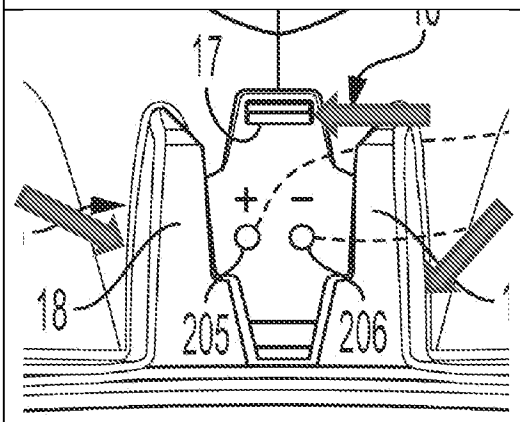
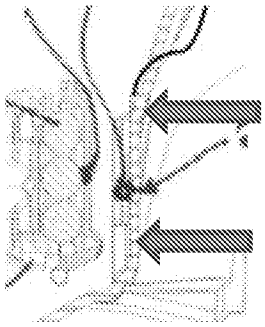
shaded or line views in two dimensions of three dimensional models, photos of prototypes, and any other media that may be used by a designer to convey the attributes of the design, especially with respect to any features a designer wishes to incorporate into the finished product by molding those features at the same time and using the same injection plastic material as the overall component.

8. Features and structures that are molded into a component are important to the injection mold builder, because allowances for plastic flow and cooling rates must be provided for in the molding tool; in my experience features and structures that are molded into a component are not the same as structures that may be molded separately and then assembled onto another component, because the integral molding of structures and features requires the addition of molding aids such as fillets, draft angles to permit mold separation, gentle radii, plastic flow, cooling rates, and other parameters and considerations.

9. With respect to the instant application, and specifically the application as it was amended on October 21, 2021, I have reviewed and can identify a feature recited in the claims as a "front tapered receiver" or a "rear tapered receiver" and denoted in the drawings by reference numeral "11," a feature recited in the claims as a "protruding nub" and denoted by reference numeral "17," and also a feature recited in the claims as an "outer shell" and denoted by reference numeral "1."

10. In my opinion, the front/rear tapered receiver (11), and the protruding nub (17), are each a feature that is formed by, unitary with, and/or integral with the outer shell (1) as shown by the fillets and draft angles shown in the outline and sectioned views of the drawings, for example, in FIG. 3 and in FIG. 8; I have provided annotated views of these figures below as an example:

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FIG. 3 (partial, annotated)	FIG. 8 (partial, annotated)
	

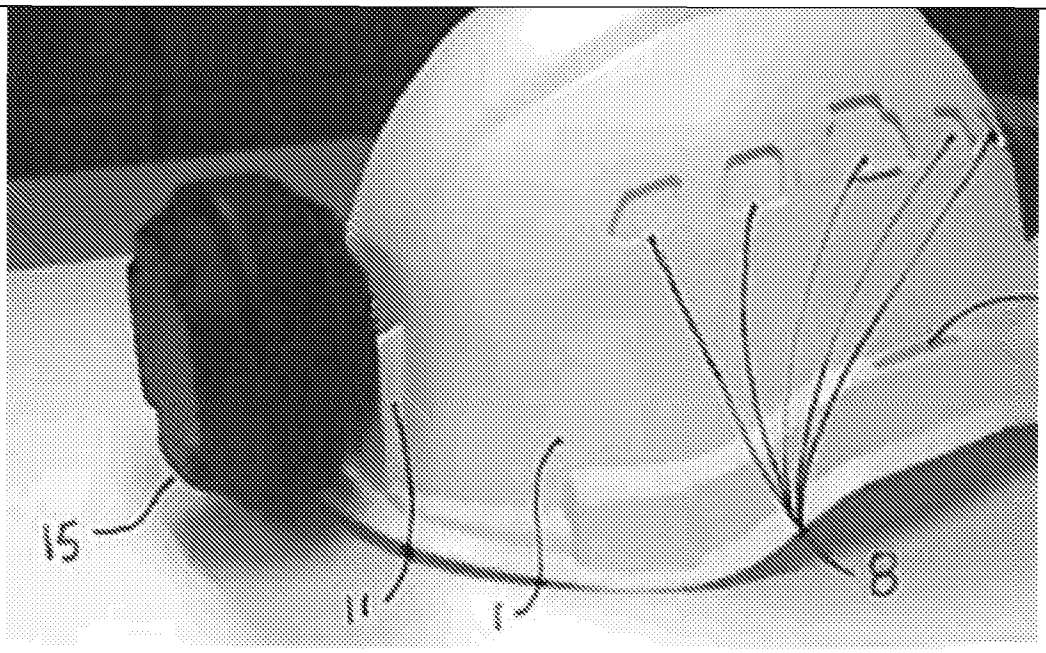
In the above illustration of FIGS. 3 and 8, annotations in the form of arrows show areas in which, in my understanding based on my knowledge and experience, corners are rounded, flat surfaces are inclined, and depressions are made to facilitate the molding of features integrally and unitarily out of plastic using the same mold; there is no question in my mind that the front and rear tapered receivers are formed from the same material and in the same mold during the same molding operation as the outer shell of the helmet illustrated. This is evident both from the original drawings in the instant application, and also from the drawings and pictures included in the two provisional applications.

11. That the front and rear receivers (11) shown in the drawings are molded from the same material and in the same mold during the same molding operation as the outer shell of the helmet illustrated, is also evident to me from the pictures presented as Figures 12 and 13 of the Instant Application. This conclusion is based on an observation of the photos illustrated in these figures because, in my opinion and based on my experience and knowledge, the material color, finish, and fit of the receiver 11

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onto the shell 1 indicates that they are molded together out of plastic using the same mold and during the same molding operation. A partial view of Figure 12 that, in opinion, shows the receiver 11 being integrated with the shell 1 is illustrated below.

Figure 12 (partial)



I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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Date: 2/24/2022

James O. Hill

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James O. Hill
322 Niles St.
Lakeview, MI 48850
(616) 788-7754
jhill7176@yahoo.com

PROFILE

Meticulous and inventive Plastics Professional with 20+ years of progressive experience across a broad range of complex assignments with tight deadlines and delivers superior performance in injection molding industry. Proven ability to combine vision, creativity, and strong business acumen with well-developed project management and leadership qualities to support injection molding facility, tool/plant transfers, product launches, and OEE improvement. Operates with strong sense of urgency and thrives in a fast-paced setting. Experience in one, two and three shot as well as insert molding. Lead and follow new tool builds in North America, Taiwan, China and Europe.

EDUCATION/ TRAINING

Ferris State University

Bachelor of Science, Plastics Engineering Technology
Graduated May 1998 with Distinction

Associate of Applied Science, Plastics Technology
December 1996

RJG Master Molder I Certification

New Horizons Learning Center Lean Manufacturing Green Belt Certification

WORK EXPERIENCE

Project Engineer – Advanced Product Quality Planning (2014-Current)
Klein Tools, Inc. Mansfield, TX (remote employee working from my home in Lakeview MI)
Manage new tool builds and engineering changes from launch through production sign-off. Quote new projects and engineering changes to existing products. Review data and prints for new product manufacturability. Specify and purchase project-specific equipment. Develop and establish process parameters for all new tools. Develop job and inspection instructions. Provided expertise and support during the relocation of the plastics manufacturing division of Klein Plastics in Rockford, MI to Klein Tools in Mansfield, TX.

Technical Service Manager (2014-2014)
Klein Plastics Co., LLC Rockford, MI
Manage Process Engineer and Process / Set Up Technician activities to ensure continuous production of products consistent with established standards in all molding operations. Design, document and implement manufacturing and plastic processes to improve process capability, reliability, consistency and throughput. Lead and facilitate Six Sigma projects. Participate in

operational and financial analysis to recommend the purchase of new tooling and equipment to provide improved manufacturing and plastic processes. Participate in financial analysis to recommend and implement cost reduction based on process improvements. Implement World-Class Principles (Lean Six Sigma, Kanban, Demand Flow and Cellular Manufacturing) to improve customer satisfaction. Utilize problem-solving skills to analyze production difficulties and define corrective actions in support of on-going operational activities.

Senior Process Engineer (2011-2014)
Klein Plastics Co., LLC Rockford, MI
Provide leadership to process engineering staff, including coaching, developing, disciplining, and evaluating work performance. Design, document and implement manufacturing and plastic processes to improve process capability, reliability, consistency and throughput. Lead and facilitate Six Sigma projects. Participate in operational and financial analysis to recommend the purchase of new tooling and equipment to provide improved manufacturing and plastic processes. Participate in financial analysis to recommend and implement cost reduction based on process improvements. Implement World-Class Principles (Lean Six Sigma, Kanban, Demand Flow and Cellular Manufacturing) to improve customer satisfaction. Provide direction, technical support, and assistance to other staff members. Utilize problem-solving skills to analyze production difficulties and define corrective actions in support of on-going operational activities.

Process Engineer (2007-2011)
Klein Plastics Co., LLC Rockford, MI
Develop and document processes for new and existing jobs using scientific molding methods. Improve processing capabilities and reduce cycle times through rigorous mold tryouts. Recommend, implement, and train users of production equipment (robots, fixtures, etc.). Lead and/or support corrective action projects. Mentor and lead process technicians.

Project Engineer (1999-2007)
Kalfact Plastics / Klein Plastics Co. LLC Rockford, MI
Manage new tool builds, engineering changes, and tool takeovers from launch through production sign-off. Quote new projects and engineering changes to existing products. Lead project feasibility discussions. Provide engineering involvement and sales support with customers. Specify and purchase project-specific equipment. Develop and maintain workstation layouts and job instructions. Develop and maintains bills of material and process routings.

Project Engineer (1998-1999)
Hilco Technologies Grand Rapids, MI
Manage new projects and existing tool engineering changes while following QS9000 procedures. Helped with tooling designs, sampling layouts, PPAP submissions, assembly operation designs, quoting and process control.

REFERENCES
Available upon request

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.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 11/24/2021

LEYDIG VOIT & MAYER, LTD (Klein Tools)
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180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
11/24/2021	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):

Chgpatent@leydig.com

Office Action Summary	Application No. 16/246,935	Applicant(s) Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	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 10/21/21.

☐ 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) 1-6,13,21,23 and 25-32 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) 1-6,13,21,23 and 25-32 is/are rejected.

8) ☐ Claim(s) _____ 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 10/21/21 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)

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.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/21/21 has been entered.

Drawings

Photographs and color drawings are not accepted in utility applications unless a petition filed under 37 CFR 1.84(a)(2) is granted. Any such petition must be accompanied by the appropriate fee set forth in 37 CFR 1.17(h), one set of color drawings or photographs, as appropriate, if submitted via EFS-Web or three sets of color drawings or photographs, as appropriate, if not submitted via EFS-Web, and, unless already present, an amendment to include the following language as the first paragraph of the brief description of the drawings section of the specification:

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

Photographs will be accepted if the conditions for accepting color drawings and black and white photographs have been satisfied. See 37 CFR 1.84(b)(2).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because the reference numerals used to identify the helmet structure has been used to designate both the embodiment as originally submitted and the newly added figures that deal with alternative embodiments, the numbering of different embodiments of an invention need to be different. 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. 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.

Specification

The amendment filed 10/21/21 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: in paragraph 0024 “the front tapered receiver slot 5 formed by the hard outer shell 1. The second headlamp device 201 is mounted to a rear tapered receiver slot 11 formed by the hard outer shell”, in paragraph 0024.1 “The safety helmet 100 of Fig. 8 shows that the protruding nub 17 and the brim 7 are unitary features of the hard outer shell. Stated in other words, the outer shell forms or defines the protruding nub 17 and the brim.”, in paragraph 0024.4 “the front tapered receiver slot 5 and the rear tapered slot 11 oppositely formed by the hard outer shell 1 of the safety helmet 100.”, in paragraph 0024.5 “the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11 are unitary features

of the outer shell 1. In other words, the outer shell 1 forms or defines the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11.", in paragraph 0024.5 "the accessory slot(s) 6 are integrated with the outer shell 1." and in paragraph 0024.5 "the receiver slot 11 is integrated with the outer shell 1."

Applicant is required to cancel the new matter in the reply to this Office Action.

The disclosure is objected to because of the following informalities: the added figures on 10/21/21 are drawn to embodiments that are different than that which was originally disclosed. These drawings are taken from related provisional applications, however, they are different embodiments of the invention with different helmet structure and need to be identified and discussed in the specification with different identifier numbers.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

> (a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

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

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 and the claims that depend therefrom are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification

in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for applications subject to pre-AIA 35 U.S.C. 112, the inventor(s), at the time the application was filed, had possession of the claimed invention. There was no support in the originally filed disclosure or the disclosure of provisional applications 62/622,472 and 62/645,491, for the protruding nub being a unitary feature of the outer shell. Applicant has provided new drawing figures in this application that were taken from the related provisional applications, to show support for this. However, the alleged support for the protruding nub being a unitary feature of the outer shell is not clear from the figures and there is no discussion of the nub being a unitary part of the outer shell. Therefore, this claim amendment is being considered new matter that was not originally disclosed in this application or the related provisional applications.

Claim 4 and the claims that depend therefrom are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for applications subject to pre-AIA 35 U.S.C. 112, the inventor(s), at the time the application was filed, had possession of the claimed invention. There was no support in the originally filed disclosure or the disclosure of provisional applications 62/622,472 and 62/645,491, for the front receptacle being integral with the outer shell. Applicant has provided new drawing figures in this application that were taken from the related provisional applications to show support for this. However, the alleged support for the front receptacle being integral with the outer shell is not clear from the figures and there is no discussion of the front receptacle being integral with the outer shell. Therefore, this claim amendment is being considered new matter that was not originally disclosed in this application or the related provisional applications.

Claim 25 and the claims that depend therefrom are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for applications subject to pre-AIA 35 U.S.C. 112, the inventor(s), at the time the application was filed, had possession of the claimed invention. There was no support in the originally filed disclosure or the disclosure of provisional applications 62/622,472 and 62/645,491, for the outer shell forming the protruding nub. Applicant has provided new drawing figures in this application that were taken from the related provisional applications, to show support for this. However, the alleged support for the outer shell forming the protruding nub is not clear from the figures and there is no discussion of the outer shell forming the nub. Therefore, this claim amendment is being considered new matter that was not originally disclosed in this application or the related provisional applications.

Claim 26 and the claims that depend therefrom are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for applications subject to pre-AIA 35 U.S.C. 112, the inventor(s), at the time the application was filed, had possession of the claimed invention. There was no support in the originally filed disclosure or the disclosure of provisional applications 62/622,472 and 62/645,491, for the front and rear receptacles being a unitary feature of the outer shell. Applicant has provided new drawing figures in this application that were taken from the related provisional applications, to show support for this. However, the alleged support for the front and rear receptacles being a unitary feature of the outer shell is not clear from the figures and there is no discussion of the front and rear receptacle being a unitary feature of the outer shell.

Therefore, this claim amendment is being considered new matter that was not originally disclosed in this application or the related provisional applications.

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 1 and the claims that depend therefrom 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. It is unclear what is required structurally by the limitation “wherein the protruding nub is a unitary feature of the outer shell”. It is unclear what unitary would require structurally, since the specification fails to mention this term and it can be interpreted differently. One interpretation would be that unitary requires one piece being formed by multiple attached parts, another interpretation would be that unitary requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

Claim 4 and the claims that depend therefrom 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. It is unclear what is required structurally by the limitation “wherein the front receptacle is integral with the outer shell”. It is unclear what integral would require structurally, since the specification fails to

mention this term and it can be interpreted differently. One interpretation would be that integral requires one piece being formed by multiple attached parts, another interpretation would be that integral requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

Claim 26 and the claims that depend therefrom 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. It is unclear what is required structurally by the limitation "wherein the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell" with respect to the front and rear receptacle. It is unclear what unitary would require structurally, since the specification fails to mention this term and it can be interpreted differently. One interpretation would be that unitary requires one piece being formed by multiple attached parts, another interpretation would be that unitary requires the material construction to be the same and continuous. Therefore, it is unclear what applicant requires by the limitation.

Claim Rejections - 35 USC § 103

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

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.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The factual inquiries for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6, 13, 21, 23 and 25-32 is/are rejected under 35 U.S.C. 103 as being unpatentable over Ramey (US 2019/0008228) in view of Theisen (US 6,497,493).

In regard to claims 1 and 25, Ramey teaches a safety helmet (helmet platform: 10, Figure 2A, 2B), comprising: an outer shell (shell: 60) adapted to be worn by a user (see figures 2A, 2B), the outer shell (60) having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris (see helmet in figures 2A, 2B), wherein the outer shell (60) is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user (sufficient structure capable of being worn as desired), and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user (sufficient structure capable of being worn as desired); a front receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim (platform feature: 12 and as discussed in paragraph 0080 located above brim on front of helmet: figure 2A slot being that of track fastener as illustrated and

described in figure 4B, the rail fastener of figure 4A, or the key hole clip: paragraph 0080 details that any of the corresponding fastener pieces can be on the helmet or on the accessory as desired); a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell (platform feature: 12 and as discussed in paragraph 0080 located in the rear of the helmet: figure 2B; slot being that of track fastener as illustrated and described in figure 4B, the rail fastener of figure 4A, or the key hole clip: paragraph 0080 details that any of the corresponding fastener pieces can be on the helmet or on the accessory as desired), wherein the front receptacle (12) and the rear receptacle (12) are of identical construction (capable of being of identical construction as illustrated in figure 2A, 2B and paragraph 0080); and an accessory device having a mating receptacle formed thereon (engagement feature as discussed in paragraph 0080 attached to an accessory and corresponding to platform feature attachment), at least a portion of the mating receptacle being selectively engageable within each of the external slot of the front receptacle or the additional external slot of the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle on the exterior of the outer shell (see figures 4A-4C, paragraph 0080).

However, Ramey fails to teach the front receptacle including a protruding nub, wherein the protruding nub is a unitary feature of the outer shell or wherein the outer shell forms the protruding nub.

Theisen teaches a safety helmet (helmet: 10) with a receptacle (attachment bracket: 30) to retain an accessory device therein (see figure 5 detailing accessory 40 attached within bracket), wherein the receptacle can be either attached to the already formed outer shell or can be molded into the outer shell (column 2, lines 12-19), making the receptacle unitary with and formed from the outer shell (column 3, lines 53-59); and wherein the receptacle includes a protruding nub (tang-engaging lower edge: 38 which would provide a protrusion element to engage locking tang: 50), which in the molded embodiment, is formed by the outer shell (column

3, lines 53-63 and Figs. 4 and 5). Further, Theisen teaches the receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim (see figures 4 and 5 see external slot opening).

Ramey and Theisen and in a related field of art, that being safety helmets with attachment receptacle(s) to attach accessories thereto. Ramey teaches that the atlachment receptacles can be any device now known or later developed device (bottom of paragraph 0080). Theisen teaches an attachment receptacle that can be separately attached to the helmet or molded into the helmet (column 2, lines 13-15). Here, we are taking one well-known helmet with multiple identical attachment receptacles (Ramey) and replacing those receptacles with another well-known attachment receptacle that is molded into the outer shell (Theisen). Replacing the attachment receptacles of Ramey with the molded atlachment receptacles of Theisen creates a helmet with multiple integrally molded attachment receptacles that are located along the front and rear of the helmet, above the brim, and of identical construction.

It would have been obvious before the effective filing date to one having ordinary skill in the art to have replaced the attachment means of Ramey with the molded attachment means of Theisen, since the attachment means of Ramey being molded into the outer shell would provide a helmet that can securely attach accessories thereto without having to secure the attachment means to the helmet which can alter the integrity of the helmet by screwing therein, or adhesively securing the attachment means to the outer shell which can more easily be unsecured/dislodged from the helmet.

In regard to claim 2, the combined references teach the external slot of the front receptacle is a receiver slot flanked by raised walls and the protruding nub comprises a stop, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebelween, and the stop engages the clip to releasably mount the accessory device in the front receptacle (Theisen

teaches the receptacle 30 having the slot flanked by raised walls: see walls surrounding slot: figures 4 and 5, the protruding nub is tang engaging lower edge: 38 which is a stop: column 4, lines 1-9; accessory device 40 includes a clip: 46 with tang: 50 that aligns in slot and engages stop: 38).

In regard to claims 3 and 6, Ramey teaches an outer shell (60) in a hard helmet for construction or military purposes (paragraph 0007). However, Ramey fails to teach the outer shell being made from a molded plastic material.

In regard to claims 3 and 6, Theisen teaches wherein the outer shell is made from a molded plastic material (column 1, lines 14-17 and 60-63).

In the related field of art Ramey and Theisen teach safety helmets, here we are taking one well-known safety helmet (Ramey) and making it out a well-known safety helmet material, molded plastic (Theisen).

It would have been obvious before the effective filing date to one having ordinary skill in the art to have provided the outer shell of Ramey in a molded plastic material as taught by Theisen, since the outer shell of Ramey being a molded plastic material would teach a protective helmet that can be molded in manufacturing creating a strong and durable helmet.

In regards to claims 4 and 26, Ramey teaches a safety helmet (helmet platform: 10, Figure 2A, 2B), comprising: an outer shell (shell: 60) adapted to be worn by a user (see figures 2A, 2B), the outer shell (60) having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris (see helmet in figures 2A, 2B), wherein the outer shell (60) is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user (sufficient structure capable of being worn as desired), and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being

oriented above the face of the user (sufficient structure capable of being worn as desired); a front receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim (platform feature: 12 and as discussed in paragraph 0080 located above brim on front of helmet: figure 2A slot being that of track fastener as illustrated and described in figure 4B, the rail fastener of figure 4A, or the key hole clip: paragraph 0080 details that any of the corresponding fastener pieces can be on the helmet or on the accessory as desired); a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell (platform feature: 12 and as discussed in paragraph 0080 located in the rear of the helmet: figure 2B; slot being that of track fastener as illustrated and described in figure 4B, the rail fastener of figure 4A, or the key hole clip: paragraph 0080 details that any of the corresponding fastener pieces can be on the helmet or on the accessory as desired), wherein the front receptacle (12) and the rear receptacle (12) are of identical construction (capable of being of identical construction as illustrated in figure 2A, 2B and paragraph 0080); and a first accessory device having a mating receptacle formed thereon (engagement features as discussed in paragraph 0080 attached to an accessory and corresponding to platform feature attachments), at least a portion of the mating receptacle being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell (engagement features can attach to any accessory with corresponding engagement feature: paragraph 0080); and a second accessory device having a second mating receptacle formed thereon (engagement features as discussed in paragraph 0080 attached to an accessory and corresponding to platform feature attachments); at least a portion of the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell (see figures 4A-4C, paragraph 0080); and wherein the brim is a unitary feature or integral with the outer shell (see figures 2A and 2B).

However, Ramey fails to teach the front receptacle and the rear receptacles are a unitary feature or integral with the outer shell.

Theisen teaches a brimmed safety helmet (helmet: 10) with a receptacle (attachment bracket: 30) to retain an accessory device therein (see figure 5 detailing accessory 40 attached within bracket), wherein the receptacle can be either attached to the already formed outer shell or can be molded into the outer shell (column 2, lines 12-19), making the receptacle integral with and formed from the outer shell (column 3, lines 53-59). Further, Theisen teaches the receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim (see figures 4 and 5 see external slot opening). Finally, Theisen teaches wherein the brim being a unitary feature of the outer shell (see figures 4 and 5: column 1, lines 66-67 through column 2, lines 1-5).

Ramey and Theisen and in a related field of art, that being safety helmets with attachment receptacle to attach accessories thereto. Ramey teaches multiple attachment receptacles on a helmet that can be any device now known or later developed (bottom of paragraph 0080). Theisen teaches a helmet attachment receptacle that is separately attached to the helmet or molded into the helmet (column 2, lines 13-15). Here, we are taking one well-known helmet with multiple identical attachment receptacles (Ramey) and replacing those receptacles with another well-known attachment receptacle that is molded into the outer shell (Theisen). Replacing the attachment receptacles of Ramey with the molded attachment receptacles of Theisen creates a helmet with multiple integrally molded attachment receptacles that are located along the front and rear of the helmet, above the brim, and of identical construction.

It would have been obvious before the effective filing date to one having ordinary skill in the art to have replaced the attachment means of Ramey with the molded attachment means of Theisen, since the attachment means of Ramey being molded into the outer shell would provide a helmet that can securely attach accessories thereto without having to secure the attachment means to the helmet which can alter the integrity of the helmet by screwing therein, or provide a less secure attachment by adhesively securing the attachment means to the outer shell.

In regard to claim 5, the combined references teach the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the stop engages the clip to releasably mount the accessory device in the front receptacle (Theisen teaches the receptacle 30 having the slot flanked by raised walls: see walls surrounding slot: figures 4 and 5, the protruding nub is tang engaging lower edge: 38 which is a stop: column 4, lines 1-9; accessory device 40 includes a clip: 46 with tang: 50 that aligns in slot and engages stop: 38).

In regard to claim 13, Ramey teaches wherein the front receptacle (front 12, Figure 2A) and the rear receptacle (back 12: figure 2B) are of identical construction (paragraph 0080 teaches the receptacles can be the same attachment).

In regard to claim 21, wherein the accessory device includes a clip, the external slot aligns the accessory device therein, and the protruding nub engages the clip to releasably mount the accessory device in the front receptacle (Theisen teach the protruding nub is tang engaging lower edge: 38 which is a stop: column 4, lines 1-9; accessory device 40 includes a clip: 46 with tang: 50 that aligns in slot and engages stop: 38).

In regard to claim 23, the combined references teach the external slot of the front receptacle being a receiver slot flanked by raised walls and including a protruding nub, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the protruding nub engages the clip to releasably mount the accessory device in the front receptacle (Theisen teaches the receptacle 30 having the slot flanked by raised walls: see walls surrounding slot:

figures 4 and 5, the protruding nub is tang engaging lower edge: 38, column 4, lines 1-9; accessory device 40 includes a clip: 46 with tang: 50 that aligns in slot and engages stop: 38).

In regard to claim 27, the combined references teach wherein the external slot of the front receptacle is configured to receive a portion of the accessory device to mount the accessory device to the front receptacle (Theisen teaches slot to receiver accessory 40 as seen in figure 5).

In regard to claims 28 and 31, the combined references teach wherein: the front receptacle includes a first sidewall; the accessory/first accessory device includes a bracket; and the bracket is retained by the first sidewall to mount the accessory/first accessory device to the front receptacle (Theisen: accessory device: 40 includes bracket: 46 with tang: 50 that is retained by the side walls of the receptacle: 30).

In regard to claims 29 and 32, the combined references teach wherein: the front receptacle includes a second sidewall; and the bracket is retained by the first sidewall and the second sidewall (Theisen: accessory device: 40 includes bracket: 46 with tang: 50 that is retained by the side walls of the receptacle: 30).

In regard to claim 30, the combined references teach wherein the external slot of the front receptacle is configured to receive a portion of the first accessory device to mount the first accessory device to the front receptacle (Theisen teaches the external slot receiving a portion of the accessory: 40, see figure 5).

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot because the new ground of rejection as detailed above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALISSA L HOEY whose telephone number is (571)272-4985. The examiner can normally be reached M-F 9:00-5:30 ET.

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, Clinton T Ostrup can be reached on (571)272-5559. 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.

ALISSA L. HOEY
Primary Examiner
Art Unit 3732

/ALISSA L HOEY/
Primary Examiner, Art Unit 3732

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

CPC - Searched*		
Symbol	**Date**	**Examiner**
A42B3/0446; A42B3/044; A42B3/042; A42B3/0406; A42B3/0426; A42B3/30	01/22/2021	ALH
Updated Search	04/14/2021	ALH
Updated Search	07/23/2021	ALH
Updated Search	09/30/2021	ALH
Updated Search	11/12/2021	ALH

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**
2	422		

* 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**
EAST Search, see for details	01/22/2021	ALH
NPL Google Search, see for details	01/22/2021	ALH
EAST Search, see for details	04/14/2021	ALH
EAST Search, see for details	07/23/2021	ALH
EAST Search, see for details	09/30/2021	ALH
EAST Search, see for details	11/12/2021	ALH

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 137
Patent No. 11,452,327 - IPR2025-00724

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

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

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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Patent No. 11,452,327 - IPR2025-00724

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	01/22/2021	04/14/2021	07/23/2021	09/30/2021	11/12/2021				
	1	✓	✓	✓	✓	✓				
	2	✓	O	✓	✓	✓				
	3	✓	✓	✓	✓	✓				
	4	✓	✓	✓	✓	✓				
	5	✓	O	✓	✓	✓				
	6	✓	✓	✓	✓	✓				
	7	✓	✓	-	-	-				
	8	✓	✓	-	-	-				
	9	✓	✓	-	-	-				
	10	✓	✓	-	-	-				
	11	✓	✓	-	-	-				
	12	✓	✓	-	-	-				
	13	✓	✓	✓	✓	✓				
	14	N	N	-	-	-				
	15	N	N	-	-	-				
	16	N	N	-	-	-				
	17	N	N	-	-	-				
	18	N	N	-	-	-				
	19	N	N	-	-	-				
	20	N	N	-	-	-				
	21		O	✓	✓	✓				
	22		✓	✓	-	-				
	23		O	✓	✓	✓				
	24		✓	✓	-	-				
	25			✓	✓	✓				
	26			✓	✓	✓				
	27			✓	✓	✓				
	28			✓	✓	✓				
	29			✓	✓	✓				
	30			✓	✓	✓				
	31			✓	✓	✓				
	32			✓	✓	✓				
	33			✓	-	-				
	34			✓	-	-				

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Patent No. 11,452,327 - IPR2025-00724

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	306	(A42B3/0446).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/11/03 14:12
S2	1,830	(A42B3/044).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/11/03 14:14
S3	1,887	(A42B3/042).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/11/03 14:16
S4	1,587	(A42B3/0406).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/11/03 14:17
S5	422	(A42B3/0426).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/11/03 14:20
S6	2,696	(A42B3/30).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/11/03 14:22
S7	2,153	(safety adj helmet) and brim	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/11/03 14:32

S8	135	S7 and (nub or receptacle or slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/11/03 14:32
S9	199	(hard same hat) and brim and (slot or receptacle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/11/03 14:48
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S12	21	("20110231977" | "20110318197" | "4238857" | "5425620" | "5577495" | "D617396" | "RE33286").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/11/03 16:39
S13	15	("20040061032" | "20090059063" | "20110024585" | "20110142436" | "20120057331" | "5026016" | "5605501" | "5620120" | "6457838" | "6497493" | "8517559" | "9380868" | "9468294").PN. OR ("9872531").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/03 16:42

S14	63	("4521831" | "4760373" | "4769629" | "4862331" | "5313187" | "5658065" | "5688039" | "5758947" | "5810467" | "5910764" | "6113244" | "D424247").PN. OR ("6497493").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/11/03 16:45

EAST Search History (Interference)

<This search history is empty>

11/4/2021 10:19:12 AM
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Sale Item Reference Number	Effective Date
16246935	09/27/2021

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I2021AID08021609	1201	INDEPENDENT CLAIMS IN EXCESS OF 3	$480.00	Deposit Account

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/246,935	Filing Date 01/14/2019	☐ 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 $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ 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	10/21/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 17	Minus	** 24	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0		x $480 =	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".	/NICOLE L NICHOLSON/
*** 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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Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	16246935	Filing Date	2019-01-14	Docket Number (if applicable)	741300	Art Unit	7407
First Named Inventor	Shantanu Deshpande			Examiner Name	Alissa L. Hoey		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☒ Other Replacement Drawings

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 121216

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

X Patent Practitioner Signature

Applicant Signature

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Signature of Registered U.S. Patent Practitioner			
Signature	/Elias P. Soupos/	Date (YYYY-MM-DD)	2021-10-21
Name	Elias P. Soupos	Registration Number	57375

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Patent No. 11,452,327 - IPR2025-00724

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Attorney Docket No. 741300

Customer No.: 23460

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO FINAL OFFICE ACTION

In reply to the Final Office Action dated October 6, 2021, please enter the following amendments and election, and consider the following remarks.

Amendments to the Specification appear on pages 2–5 of this paper.

Amendments to the Drawings begin on page 6 of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on page 7 of this paper.

Remarks/Arguments begin on page 12 of this paper.

A **Request for Continued Examination (RCE)** is filed herewith.

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AMENDMENTS TO THE SPECIFICATION

Please amend the specification as indicated below:

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1. Please amend paragraphs [0019] and [0024] of the specification as indicated below:

[0019] The safety helmet 100 is shown from a rear perspective in FIG. 2. As shown, the safety helmet 100 includes a second device 201 mounted on the rear side of the hard outer shell 1. While in certain embodiments the second device 201 may be releasably mounted to the safety helmet 100 using a second tapered receiver slot, similar to the front tapered receiver slot 5 on the front of the helmet (FIG. 1), in the illustrated embodiment of FIG. 2, the second device 201 is non-releasably or, generally permanently, mounted onto the safety helmet 100. The second device shown in FIG. 2 is a battery pack or power storage device that houses disposable or rechargeable battery power cells. The battery cells in the second device 201 are configured to provide electrical potential in the form of a direct current (DC) electrical power output into two conductors, 203 and 204 (shown in FIG. 1), which are integrated into the hard outer shell 1. As shown in FIGS. 7 and 9-13, in another embodiment, the safety helmet 100 includes a rear tapered slot 11 that is substantially identical to the front tapered receiver slot 5.

***

[0024] An alternative embodiment is shown in FIG. 7, in which a plurality of electrical devices, in this case, illumination devices 210, are integrated around the helmet and connected to be powered by the second device 201. For example, the illumination devices 210 may be low-powered LED lights or strobes that can be illuminated and used as safety devices, in addition to reflective devices, in low light environments. The electrical connections to power the illumination devices 210 can be integrated into the hard outer shell in a fashion similar to the conductors 203 and 204, and be electrically connected therewith. A headlamp device 200 is shown mounted via the mounting bracket 4 to the front tapered receiver slot 5 formed by the hard outer shell 1. The second headlamp device 201 is mounted to a rear tapered receiver slot 11 formed by the hard outer shell 1. In this embodiment, the front tapered receiver slot 5 is substantially identical to the rear tapered receiver slot 1.

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2. Please add the paragraphs indicated below after paragraph [0014] and before the "DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT" of the specification:

[0014.1] FIG. 8 is a cross section of the safety helmet of FIG. 1 in an alternate configuration.

[0014.2] FIG. 9 is a rear top right perspective view of the safety helmet of FIG. 1 in another configuration wherein an electronic device is releasably mounted on the rear of the safety helmet.

[0014.3] FIG. 10 is a left side view of the safety helmet shown in FIG. 9 in yet another configuration wherein the electronic device is releasably mounted on the front of the safety helmet.

[0014.4] FIG. 11 is a left side view of the safety helmet shown in FIG. 9 in an alternate configuration wherein one of the electronic devices is releasably mounted on the front of the safety helmet and another of the electronic devices is releasably mounted on the rear of the helmet.

[0014.5] FIG. 12 is a rear to right perspective view of the safety helmet shown in FIG. 9 in yet another alternate configuration wherein the electronic device is releasably mounted on the front of the safety helmet and a different type of electronic device is releasably mounted on the rear of the safety helmet.

[0014.6] FIG. 13 is a is a rear to right perspective view of the embodiment shown in FIG. 9 in another alternate configuration wherein the electronic device is releasably mounted on the front of the safety helmet and another type of electronic device is releasably mounted on the rear of the safety helmet.

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3. Please add the paragraphs indicated below after paragraph [0024], ending "be electrically connected therewith," and before paragraph [0025], starting "All references, including publications," of the specification:

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[0024.1] FIG. 8 shows a cross section view through the safety helmet 100 shown in FIG. 1 in an alternate configuration. FIG. 8 shows the safety helmet 100 including the detachably mounted headlamp device 200. The headlamp device 200 includes the light source 2, the headlamp body 9, and the rechargeable batteries 212. The conductors 203 are shown integrated into the outer shell 1 and terminating at the terminal 205. The headlamp device 200 includes the terminal 207 for releasable electrical connection with terminal 205. The safety helmet 100 of Fig. 8 shows that the protruding nub 17 and the brim 7 are unitary features of the hard outer shell 1. Stated in other words, the outer shell forms or defines the protruding nub 17 and the brim. The venting holes 8 may be present for ventilation of the interior of the safety helmet 100.

[0024.2] FIG. 9 shows a rear top right perspective view of the safety helmet 100 of FIG. 1 in an alternate configuration. The safety helmet features a detachable mounted headlamp device 200 mounted via the mounting bracket 4 in a rear tapered receiver slot 11 substantially identical to the front tapered receiver slot 5 disposed on the hard outer shell 1 of the safety helmet 100. In this configuration, the light emanating from the light source 2 projects rearward of the safety helmet 100, illuminating the area in front of a user when the safety helmet is in its reverse orientation, with the brim 7 behind the wearer's head.

[0024.3] FIG. 10 depicts a side view of the safety helmet 100 of FIG. 9, featuring the detachable mounted headlamp device 200 mounted via the mounting bracket 4 in the front tapered receiver slot 5 of the hard outer shell 1 of the safety helmet 100. In this configuration, the light emanating from the light source 2 projects forward of the safety helmet 100, illuminating the area in front of a user when the safety helmet is in its reverse orientation, with the brim 7 above the wearer's face. The rear tapered receiver slot 11 can be seen in this view, disposed on the hard outer shell 1 opposite from the front tapered receiver slot 5.

[0024.4] FIG. 11 depicts a side view of the safety helmet 100 of FIG. 9 with the front tapered receiver slot 5 and the rear tapered receiver slot 11 oppositely formed by the hard outer shell 1 of the safety helmet 100. In this view, a second headlamp device 201 is mounted via a second mounting bracket 10 to the rear tapered receiver slot 11, while the headlamp device 200 is mounted via the mounting bracket 4 to the front tapered receiver slot 5. In this configuration of the safety helmet 100, the headlamp device 200 and second headlamp device 201 can be used in various ways. Both the headlamp device 200 and the second headlamp device 201 could be powered on, such that the light source 2 illuminates the area in front of

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the user and a second light source 12 illuminates the area behind the user's head while the cap is in its standard orientation. Alternately, the light source 2 on the headlamp device 200 might be powered on illuminating the area in front of the user while the safety helmet 100 is in its standard orientation, with the brim 7 above the user's face, and if the user chooses to move the helmet to its reverse orientation, with the brim 7 behind the user's face, the light source 2 could be powered down by means of pressing the power switch 3 and the second light source 12 powered on by pushing the second power switch 13 on the second headlamp device 201, such that the second light source 12 illuminates the area in front of the user. The user might also store the second headlamp device 201 on the rear tapered receiver slot 11 as a backup to the headlamp device 200 on the front tapered receiver slot 11, switching the position of the headlamp device 200 and second headlamp device 201 as necessary, for example, to address a malfunction or low battery state of the headlamp device 200. If the headlamp device 200 and the second headlamp device 201 have a high and low setting for the light source 2 and the second light source 12, a user can quickly configure the safety helmet 100 such that in the standard orientation the light source 2 provides bright illumination while the second light source 12 provides only low brightness to allow for signaling and location of the wearer, and may be converted when in reverse orientation such that the second light source 12 provides bright illumination while the light source 2 provides only low brightness to allow for signaling and location of the wearer, without having to remove or reposition either the headlamp device 200 or the second headlamp device 201.

[0024.5] FIG. 12 shows the safety helmet 100 in a configuration with a speaker device 15 mounted to the receiver slot 11 and the headlamp device 200 mounted to the receiver slot 5. FIG. 13 shows the safety helmet 100 in another configuration with a battery pack 14 mounted to the receiver slot 11 and the headlamp device 200 mounted to the receiver slot 5. As shown in FIGS. 12 and 13, the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11 are unitary features of the outer shell 1. In other words, the outer shell 1 forms or defines the accessory slot(s) 6, the brim 7, the venting holes 8, and the receiver slot 11. The accessory slot(s) 6 are configured to accept various accessories. As shown in FIGS. 12 and 13, the accessory slot(s) 6 are integrated with the outer shell 1. As shown in FIGS. 12 and 13, the brim 7 is integrated with the outer shell 1. As shown in FIGS. 12 and 13, the venting holes 8 are integrated with the outer shell 1. As shown in FIGS. 12 and 13, the receiver slot 11 is integrated with the outer shell 1.

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AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim and a protruding nub, wherein the protruding nub is a unitary feature of the outer shell;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable within each of the external slot of the front receptacle or the additional external slot of the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle on the exterior of the outer shell.

2. (Currently Amended) The safety helmet of claim 1, wherein the external slot of the front receptacle is a receiver slot flanked by raised walls and the protruding nub comprises ~~including~~ a stop, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the stop engages the clip to releasably mount the accessory device in the front receptacle.

3. (Original) The safety helmet of claim 1, wherein the outer shell is made from a molded plastic material.

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4. (Currently Amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim, wherein the front receptacle is integral with the outer shell;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell;

a first accessory device having a first mating receptacle formed thereon, at least a portion of the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, at least a portion of the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell.

5. (Previously Presented) The safety helmet of claim 4, wherein the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the stop engages the clip to releasably mount the first accessory device in the front receptacle.

6. (Original) The safety helmet of claim 4, wherein the outer shell is made from a molded plastic material.

7–12. (Cancelled)

13. (Previously Presented) The safety helmet of claim 4, where in the front receptacle and the rear receptacle are of identical construction.

14–20. (Cancelled)

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21. (Currently Amended) The safety helmet of claim 1, ~~wherein the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub,~~ wherein the accessory device includes a clip, ~~and wherein~~ the ~~receiver~~ external slot aligns the accessory device therein, ~~the raised walls retain the accessory device therebetween,~~ and the protruding nub engages the clip to releasably mount the accessory device in the front receptacle.

22. (Cancelled)

23. (Previously Presented) The safety helmet of claim 4, wherein the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the protruding nub engages the clip to releasably mount the first accessory device in the front receptacle.

24. (Cancelled)

25. (Currently Amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending outwardly from the front side and configured to shield the user's eyes from sunlight or falling debris;

a front receptacle having an external slot extending upwardly on the front side on an exterior of the outer shell above the brim and a protruding nub, wherein the outer shell forms the protruding nub;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable within each of the external slot of the front receptacle or the additional external slot of the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle on the exterior of the outer shell.

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26. (Currently Amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending outwardly from the front side and configured to shield the user's eyes from sunlight or falling debris;

a front receptacle having an external slot extending upwardly on the front side on an exterior of the outer shell above the brim;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell;

a first accessory device having a first mating receptacle formed thereon, at least a portion of the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, at least a portion of the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell;

wherein the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell.

27. (Previously Presented) The safety helmet of claim 1, wherein the external slot of the front receptacle is configured to receive a portion of the accessory device to mount the accessory device to the front receptacle.

28. (Previously presented) The safety helmet of claim 1, wherein:

the front receptacle includes a first sidewall;

the accessory device includes a bracket; and

the bracket is retained by the first sidewall to mount the accessory device to the front receptacle.

29. (Previously presented) The safety helmet of claim 28, wherein:

the front receptacle includes a second sidewall; and

the bracket is retained by the first sidewall and the second sidewall.

30. (Previously Presented) The safety helmet of claim 4, wherein the external slot of the front receptacle is configured to receive a portion of the first accessory device to mount the first accessory device to the front receptacle.

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31. (Previously presented) The safety helmet of claim 4, wherein:

the front receptacle includes a first sidewall;

the first accessory device includes a bracket; and

the bracket is retained by the first sidewall to mount the first accessory device to the front receptacle.

32. (Previously presented) The safety helmet of claim 31, wherein:

the front receptacle includes a second sidewall; and

the bracket is retained by the first sidewall and the second sidewall.

33–34. (Cancelled)

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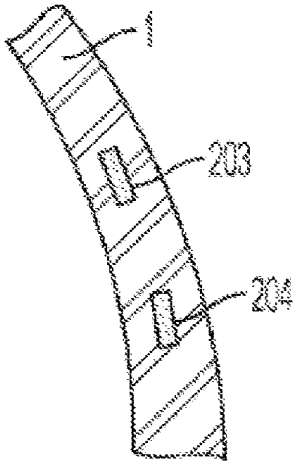


FIG. 6

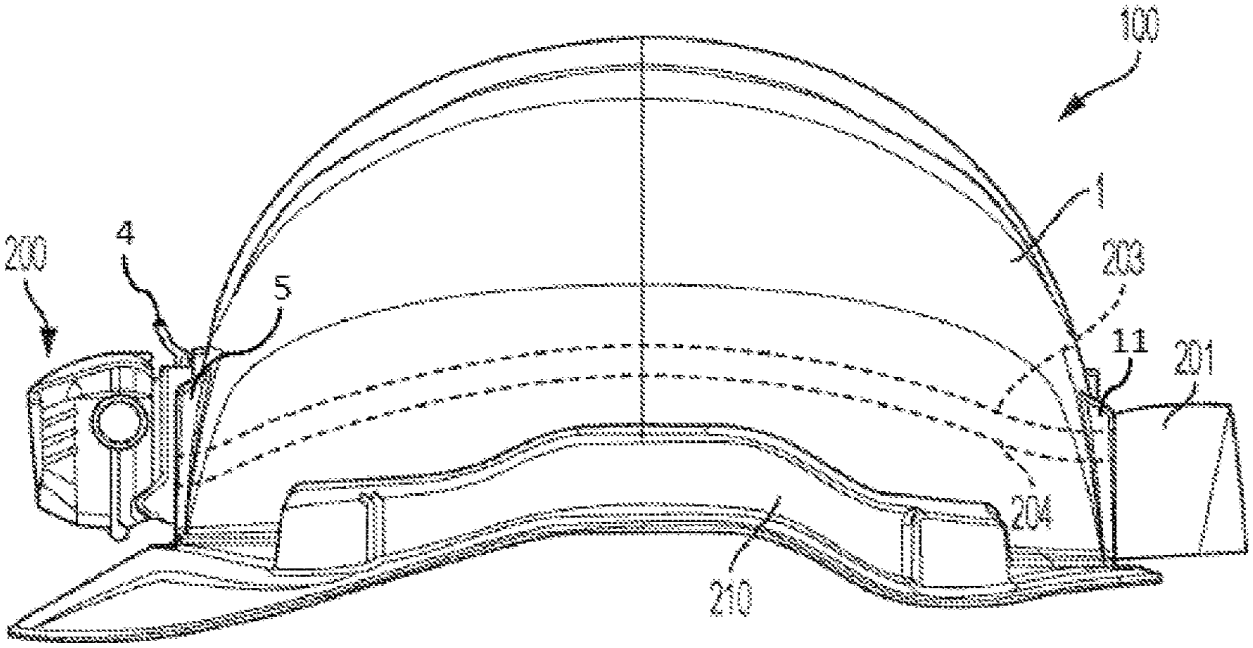


FIG. 7

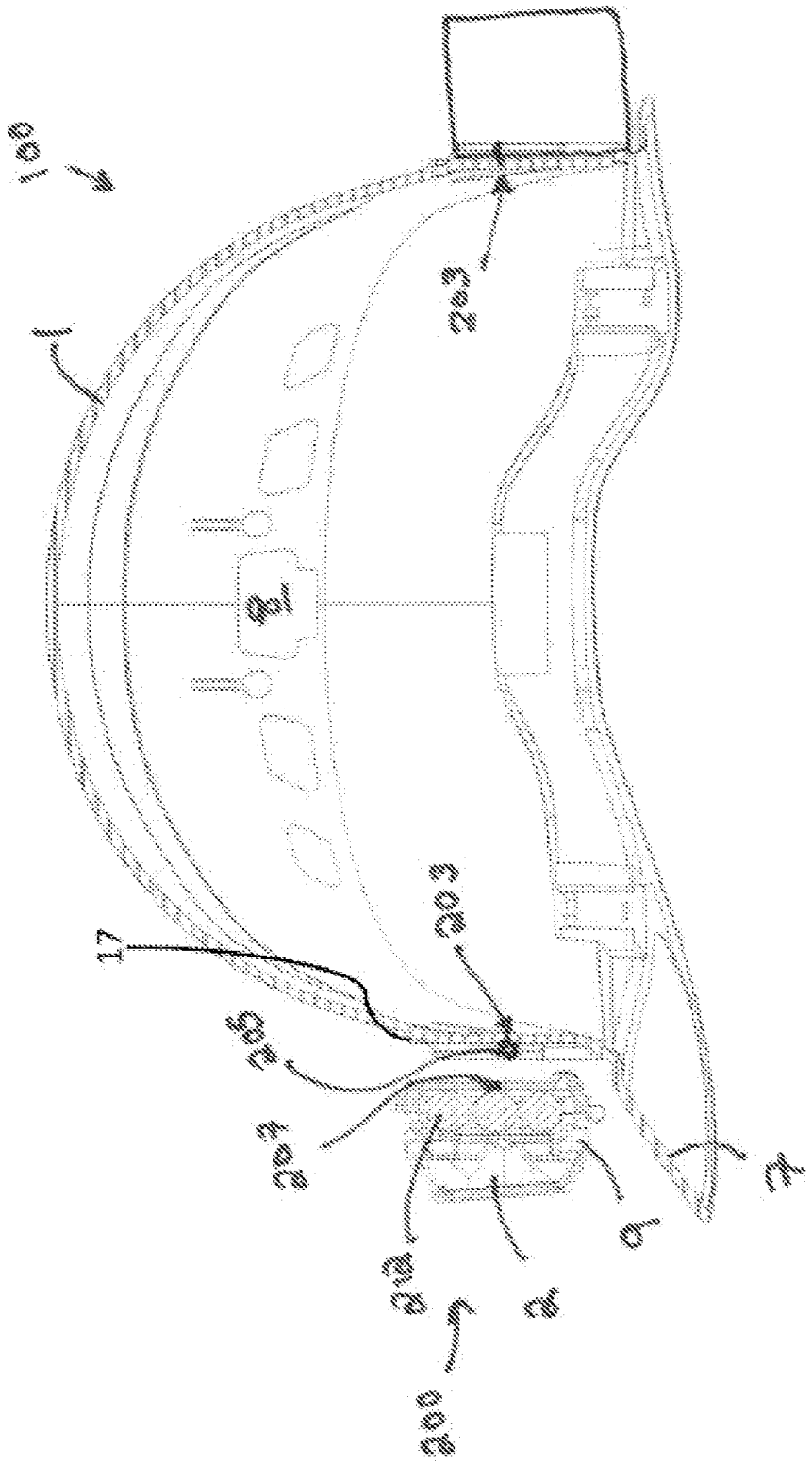


FIG. 8

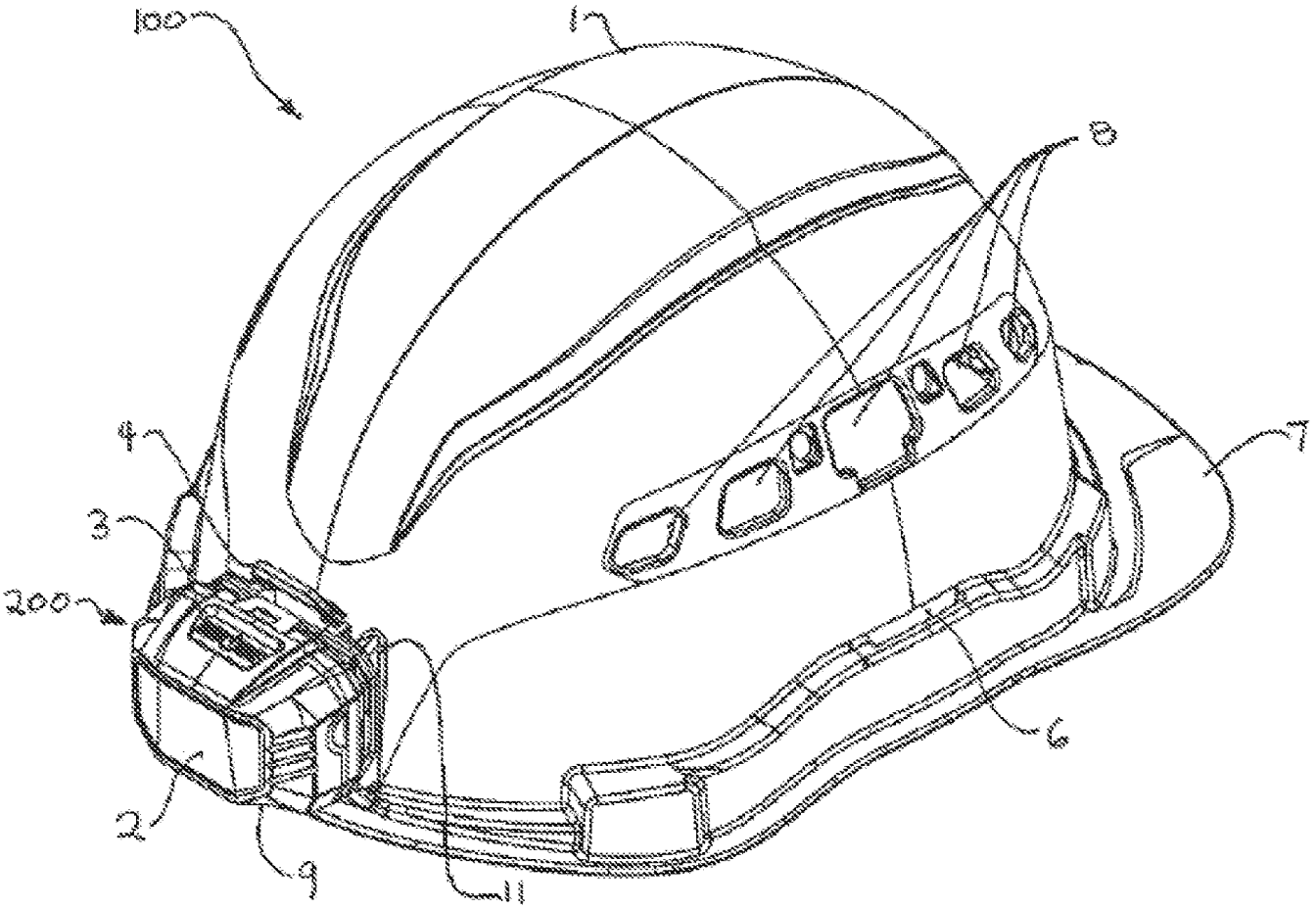


FIG. 9

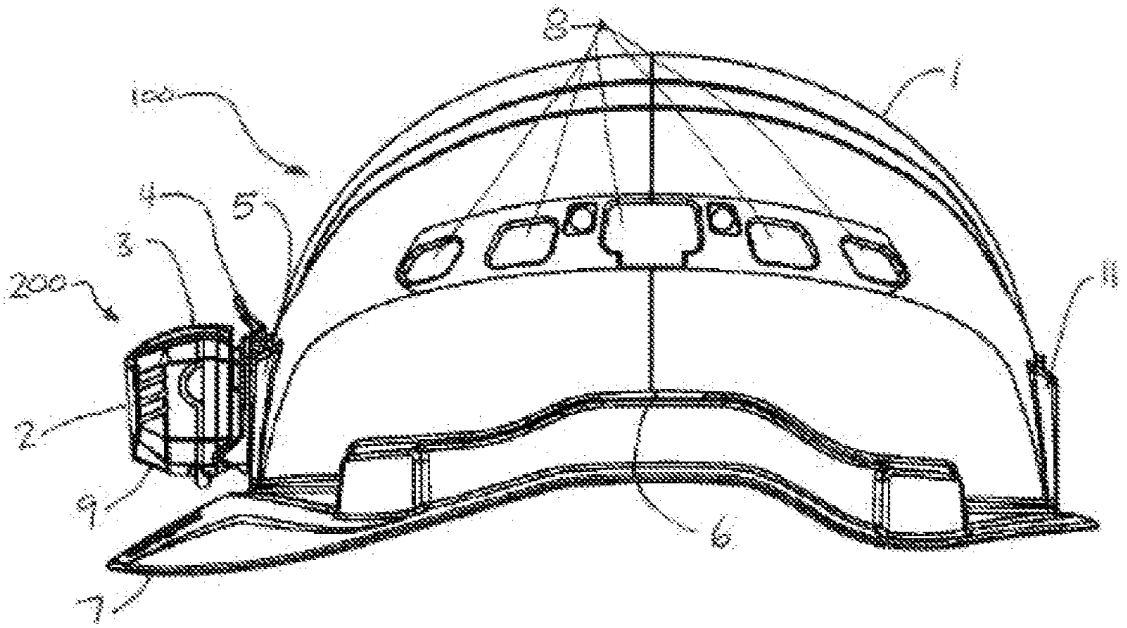


FIG. 10

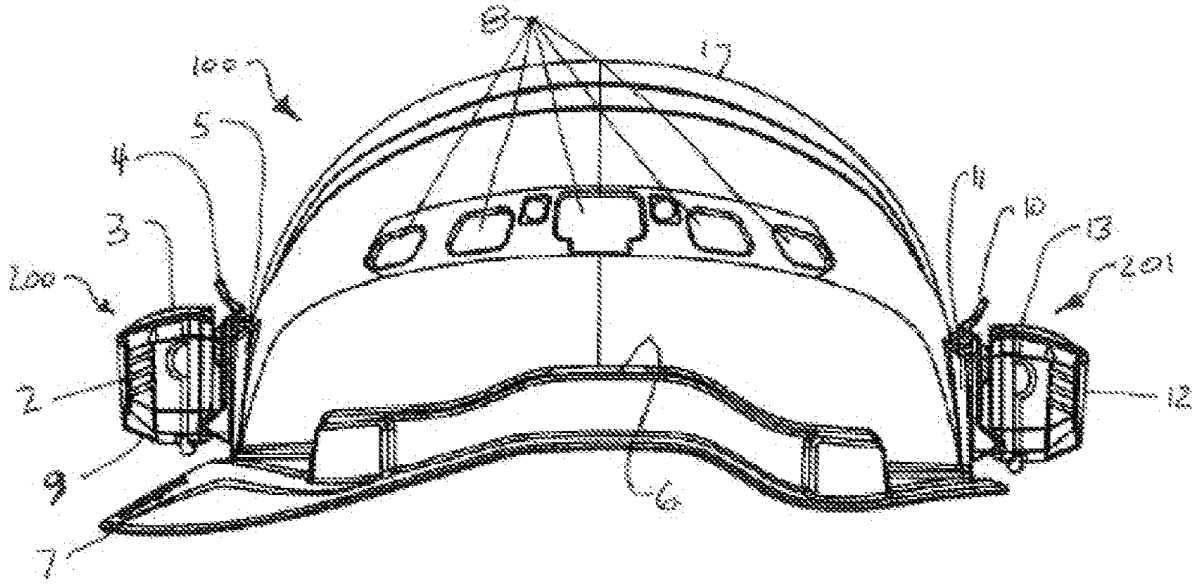


FIG. 11

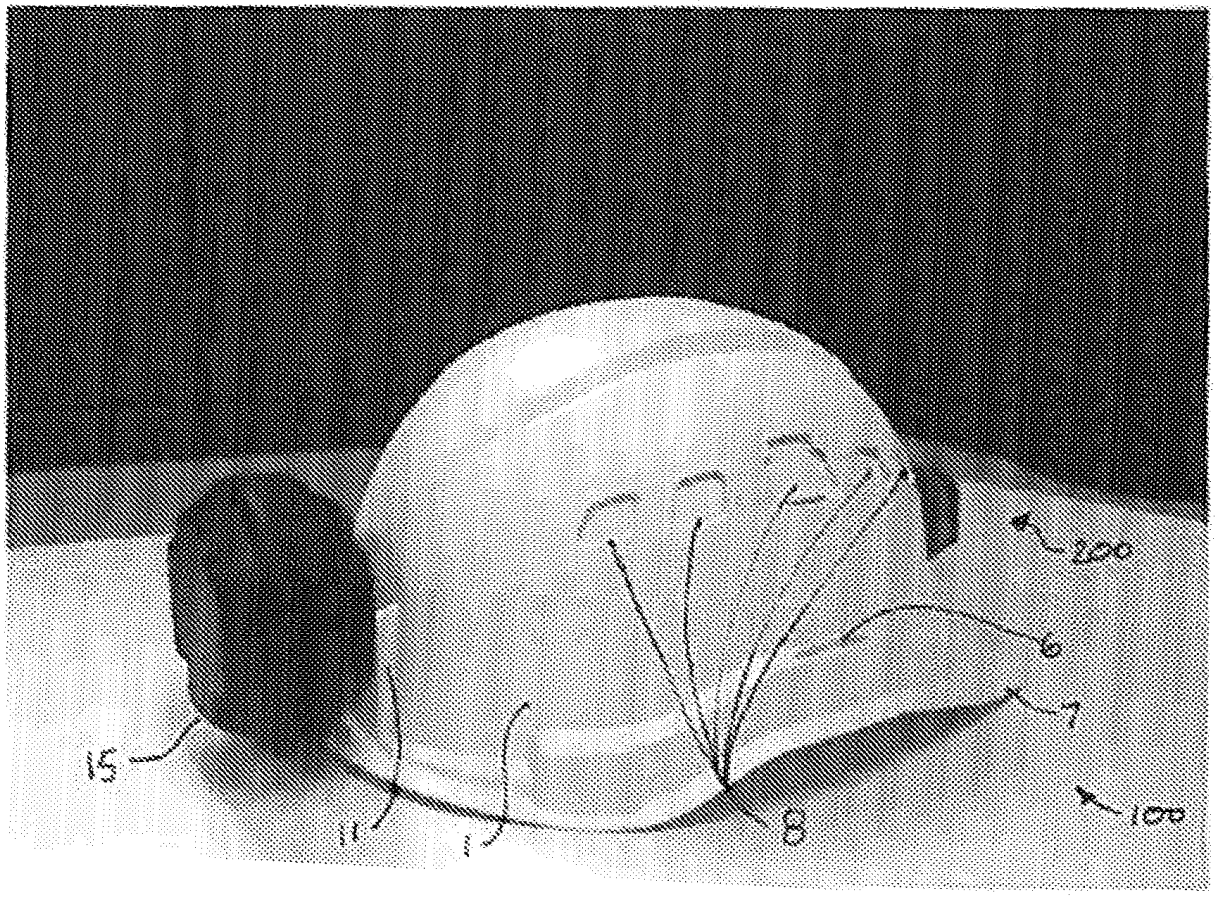


FIG. 12

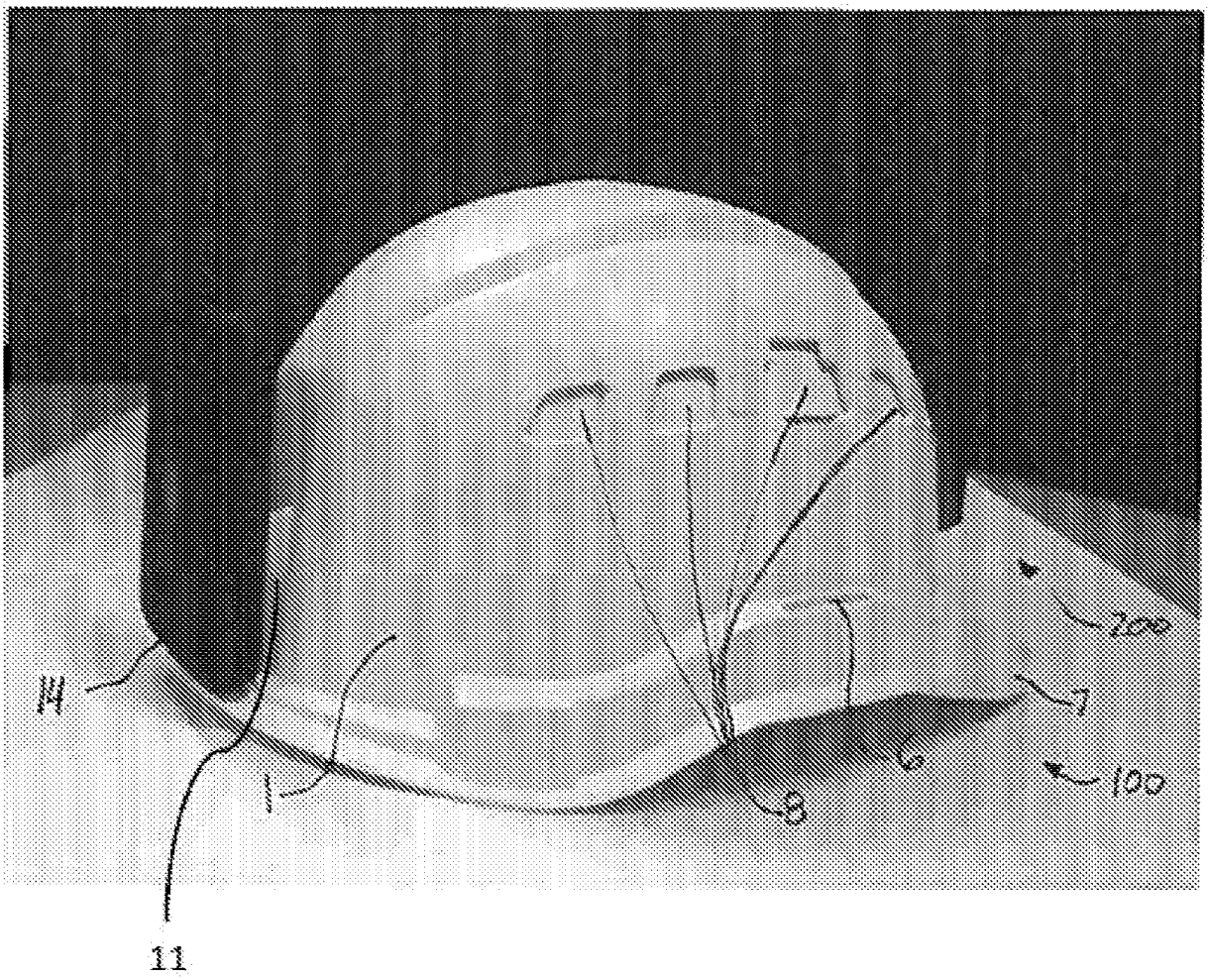


FIG. 13

Electronic Patent Application Fee Transmittal

Application Number:	16246935
Filing Date:	14-Jan-2019
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Filer:	Elias Panos Soupos/Robert Holland
Attorney Docket Number:	741300

Filed as Large 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:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
RCE- 2ND AND SUBSEQUENT REQUEST	1820	1	2000	2000
		Total in USD ($)		**2000**

Electronic Acknowledgement Receipt

EFS ID:	44092529
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	161268
Filer:	Elias Panos Soupos/Robert Holland
Filer Authorized By:	Elias Panos Soupos
Attorney Docket Number:	741300
Receipt Date:	21-OCT-2021
Filing Date:	14-JAN-2019
Time Stamp:	16:49:35
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$2000
RAM confirmation Number	E20210KG49582668
Deposit Account	
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	RCE-2nd.pdf	1349958 7250b6777e1e4f7bb136963d130e3d6644362604	no	3
Warnings:					
Information:					
2		ROA-5th.pdf	1059467 271cca48eba31db4b72dea074fa6617e1827db10	yes	18

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment Submitted/Entered with Filing of CPA/RCE	1	1
Specification	2	5
Drawings-only black and white line drawings	6	6
Claims	7	11
Applicant Arguments/Remarks Made in an Amendment	12	18

Warnings:					
Information:					
3	Drawings-only black and white line drawings	Drawings-Replacement.pdf	441401 454841ef0d4b9a6a9855356689eabc69b8ce9244	no	6
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	37929 ec007192b53e047c96f89e74ee1d3af32786e1f6	no	2
Warnings:					
Information:					

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

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

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New International Application Filed with the USPTO as a Receiving Office

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

***

AMENDMENTS TO THE DRAWINGS

The application was originally filed with five (5) sheets of drawings containing Figures 1-7. In the present response, amended drawing sheet 5/5 of drawings containing Figures 6 and 7 is submitted, and five (5) new sheets of drawings are added containing new figures 8–13.

In the amended drawing 5/5, changes are made to FIG. 7 to add reference numerals "4" and "5" on the left side of the figure, along with corresponding lead lines, and also reference numeral "11" is added to the right side of the figure along with its corresponding lead line. The replacement sheet containing Figures 6 and 7 replaces the original sheet that contained Figures 6 and 7.

Five new sheets are also submitted. In the new drawing sheets:

- Sheet 6 is added, containing new FIG. 8;
- Sheet 7 is added, containing new FIG. 9;
- Sheet 8 is added, containing new FIGS. 10 and 11;
- Sheet 9 is added, containing new FIG. 12; and
- Sheet 10 is added, containing new FIG. 13.

In sum, original FIG. 7 is amended and presented on a Replacement Sheet to add reference numerals 4, 5, and 11, and new sheets 6–10 are added to present new Figures 8–13. The newly presented figures are part of the provisional applications listed in par. [0001] of the specification and incorporated by reference into the present application. The amendments to FIG. 7 are consistent with the specification amendments made herein. Applicant asserts that no new matter has been introduced into the present application by way of the above amendments to the specification and drawings.

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REMARKS / ARGUMENTS

Reconsideration of the application and claims in light of the foregoing amendments and following remarks/arguments is respectfully requested.

I. Amendments to the Specification and Drawings

In the present response, amendments are made to the specification and drawings to specifically recite disclosure previously incorporated into the application by reference from prior-filed U.S. Provisional Patent Application No. 62/622,472, filed January 26, 2018, and prior-filed U.S. Provisional Patent Application No. 62/645,491, filed March 20, 2018, each of which disclosure was originally incorporated in the present application by reference, as stated in par. [0001] of the original specification. According to MPEP 2163.07(b), the information incorporated into the present application is "as much a part of the application as filed as if the text was repeated in the application, and should be treated as part of the text of the application as filed." As further stated in the MPEP, "[r]eplacing the identified material incorporated by reference with the actual text is not new matter." Id.

In the present application, all specification and drawing additions are supported by the two prior-filed provisional applications, Ser. Nos. 62/622,472 and 62/645,491, which were originally incorporated by reference into the present application (see Specification at par. [0001]), and thus no new matter has been introduced into the present application by way of the above additions to the specification of pars. [0014.1]–[0014.6] and [0024.1]–[0024.5], and of Figures 8–13. Specifically, newly presented FIG. 8 and par. [0024.1] are pulled from US Provisional Application Ser. No. 62/645,491, and the remaining newly presented figures and specification amendments are pulled from US Provisional Application Ser. No. 62/622,472.

The amendments to Figure 7 and to pars. [0019] and [0024] of the specification concern subject matter previously recited elsewhere in the original application and claims concerning the rear tapered slot being substantially identical to the front tapered receiver slot (see, for example, original claim 1 of the instant application as filed), and headlamp devices being mounted to the front and rear receiver slots, and thus no new matter is introduced into the present application by way of these amendments as well.

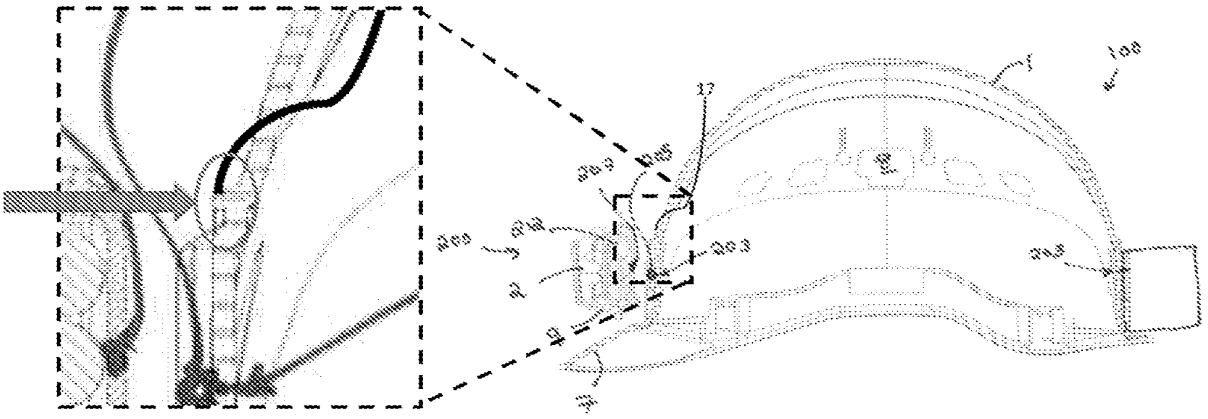
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II. Amendments to the Claims

A. Amendments to Claims 1 and 25

In the present response, claim 1 is amended to recite that the front receptacle further includes a "protruding nub, wherein the protruding nub is a unitary feature of the outer shell." Support for this amendment is present in the original application, for example, in par. [0018] ("a protruding nub 17 extending from the surface of the hard outer shell 1 of the safety helmet 100").

That the protruding nub is a unitary feature of the outer shell is also supported by the disclosure. For example, new Figure 8, which was pulled from the second-filed provisional to which the present application claims priority and which is incorporated into the present application by reference, shows a protruding nub (17) that is a unitary part of the outer shell of the helmet. An enlarged detail view of FIG. 8, to which reference numeral 17 has been added for clarity over the original version of the provisional figure, is reproduced below for illustration:



As can be seen from this illustration, which shows a portion of the outer shell (1) in cross section, the protruding nub is a unitary part that is molded in with the outer shell. As used herein, "unitary" is meant to be understood in its normal dictionary meaning of having the character of a unit in being undivided from, or a whole with, the outer shell.[1] Therefore, no

[1] https://www.merriam-webster.com/dictionary/unitary retrieved on October 19, 2021.

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new matter has been introduced into the present application by way of the above amendments to claim 1.

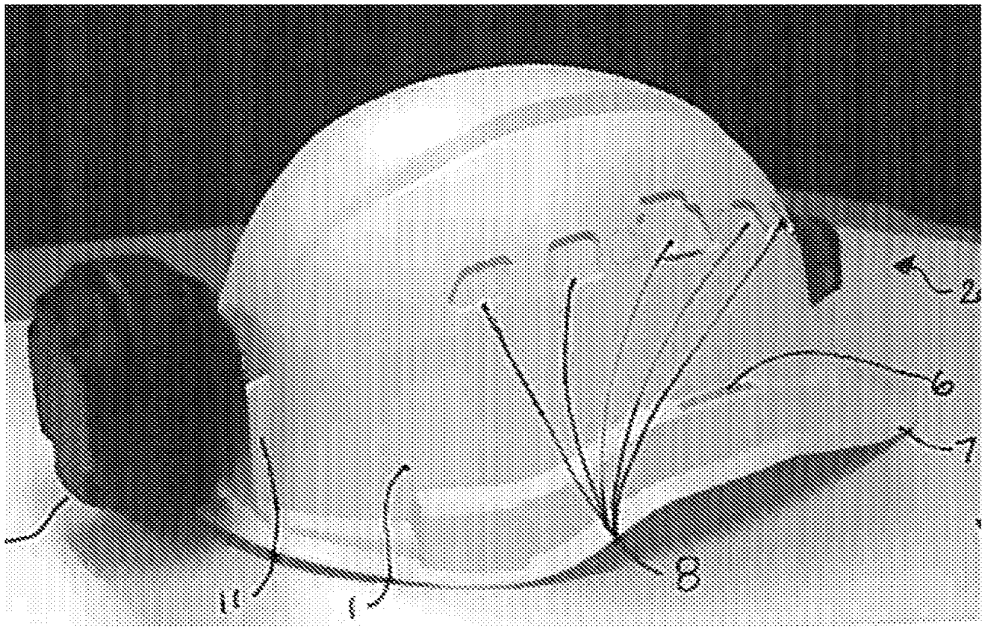
Claim 25 is amended to recite that the "outer shell forms the protruding nub." Based on the above discussion, it becomes clear that the unitary nature of the outer shell with the nub supports a recitation that the outer shell forms the protruding nub. The amended specification also supports this recitation, for example, as stated in newly added par. 24.1, in the same way as other features of the helmet such as the accessory slot 6 and the brim 7 (see FIG. 12).

B. Amendments to Claim 4

In the present response, claim 4 is amended to recite that the "front receptacle is integral with the outer shell." Support for this amendment is present in the original disclosure. For example, par. [0018] of the original specification states that "the front tapered receiver slot 5 includes... raised sidewalls 18.. .extending from the surface of the hard outer shell 1 of the safety helmet 100." A rear receive slot (11) is placed on the rear of the outer shell. The rear receiver slot (11) is "of identical construction" with the front receptacle, as recited in original claim 1, and also described as being "substantially identical" to the front receiver slot (5). See par. 19, 24, and 24.2 in the amendments above. The front and back receivers being identical is also supported in the provisional disclosures, and the present application, as shown in amended FIG. 7 and newly added FIGS. 10 and 11.

It is also clear that the rear receptacle, and by extension the front receptacle, are integrated with the outer shell of the helmet, as can be seen in the original figures where features are blended into the body of the outer shell, and also in the photos provided in newly added Figures 12 and 13, where it can be seen that the receptacles are made from the same white plastic material as the outer shell. A portion of Figure 12 is provided below for illustration:

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As can be seen from this illustration, the rear receptacle 11, side slot 6, brim 7, and other features of the helmet that can be seen formed from white plastic are all parts that are integral with the outer shell of the helmet. As used herein, the term "integral" is used in its common dictionary definition of "formed as a unit with another part."[2]

C. The Amendments to Claim 26

In the present response, claim 26 is amended to recite that "the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell." As discussed above relative to claim 1, and also in connection with the discussion and illustration provided above relative to claim 4, it can be appreciated that various features including the front receptacle, rear receptacle, and brim are all unitarily formed and thus form unitary features of the outer shell. This is especially evident when inspecting new figures 12 and 13, which show all these features made from the same white plastic material of the outer shell. This amendment is also supported in the specification as amended herein.

Accordingly, no new matter has been introduced into the present application by way of the amendments to claims 1, 4, 25, and 26.

[2] https://www.merriam-webster.com/dictionary/integral, accessed on October 19, 2021.

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III. Status of Claims

In the present response, independent claims 1, 4, 25, and 26 are amended. Upon entry of the present amendment, claims 1–6, 13, 21, 23, and 25–32 will remain pending. All amendments are supported by the original disclosure and introduce no new matter into the present application.

IV. Claim Rejections

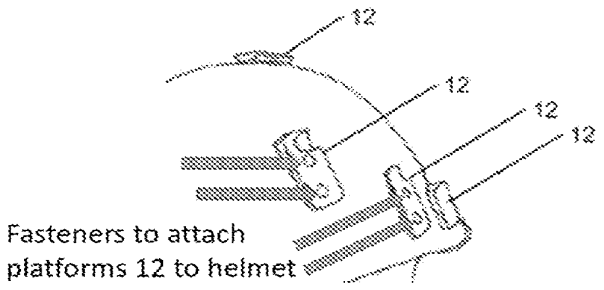
In the Final Office Action mailed on October 6, 2021, claims 1, 4, 13, and 25–32 were rejected under Section 102 in view of Ramey (US 2019/0008228). Claims 2, 5, 21, and 23 were rejected under Section 103 given Ramey in view of Uke (US 9,872,531). Claim 3 was rejected under Section 103 given Ramey in view of Teetzel (US 2014/0020159). These rejections are traversed on the basis of the above amendments on the basis that Ramey, either alone or in combination with Uke or Teetzel does not describe or suggest the recitations of the claims directed to receptacles and/or a protruding nub that is unitary or integrated with an outer shell of the helmet for mounting accessories to the front and back of the helmet, as recited in the claims.

To sustain a rejection under Section 102, it is well settled that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP § 2131. Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131. The elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990); MPEP § 2131. Without anticipation there can also be no obviousness under Section 103.

In this case, the Office Action asserts that certain claims are anticipated by Ramey and certain other claims are obvious given Ramey in view of Uke or Teetzel. Applicant respectfully disagrees but nonetheless presents amendments to the claims above to recite structural features that are neither described nor suggested by Ramey or the other cited references.

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Specifically, Ramey describes head gear in which "platform features" denoted in the drawings by reference numeral "12" are attached to a helmet for mounting accessories. Figures 2A and 2B of Ramey are illustrative of these mounting platforms. The mounting platforms of Ramey are formed as separate pieces and are attached to the helmet using rivets, screws or other fasteners, which Ramey does not specifically describe but which are readily discernable from the figures, for example, FIG. 2D, a portion of which is reproduced below with annotations added:



The same arrangement as Ramey is present in Uke, who describes a clip (200) attached to a bracket (300) that is adhered onto an otherwise plain helmet using an adhesive member (400), as shown in FIG. 1B.

Therefore, a person armed with the disclosure of Ramey or Uke would be instructed to mount accessories on a helmet using either fasteners, as described by Ramey, or adhesive pads, as described by Uke. None of the references describes or suggests that any mounting arrangement for accessories can be integrated with or form a unitary part or feature of the helmet. More specifically, Ramey, alone or in combination with Uke or Teetzel does not describe or suggest:

- a safety helmet having an outer shell including a front receptacle having a protruding nub that is a unitary feature of the outer shell, as recited in amended claim 1;
- a safety helmet having an outer shell including a front receptacle that is integral with the outer shell, as recited in amended claim 4;
- a safety helmet having an outer shell including a protruding nub, wherein the outer shell forms the protruding nub, as recited in amended claim 25, or

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- a safety helmet having an outer shell, wherein the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell, as recited in amended claim 26.

A careful consideration of Ramey, Uke and Teetzel will also reveal that even if, for sake of argument, one were to combine the technical aspects of these references, one would arrive at a head hear that include mounting anchors on a helmet that are either fastened (Ramey) or glued (Uke) onto the helmet. The integration of the mounting features onto the helmet, as recited in the present application, has distinct advantages over the prior art of Ramey and Uke in that there are no additional components to assemble, as is the case with Ramey, and the mounting is not as easily affected by heat or debris, as is the adhesive pad of Uke, especially in situations where the helmets are used in harsh environments such as mine shafts.

Based on the foregoing, Applicant respectfully submits that claims 1, 4, 25 and 26, as well as all claims that depend therefrom, are allowable over Ramey or any combination of Ramey with Uke or Teetzel. The dependent claims are allowable at least because they depend on an independent claim that has already shown to be allowable, so for sake of brevity arguments with respect to the dependent claims are not repeated herein.

V. Conclusion

Applicant respectfully submits that the present application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the present application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

/Elias P. Soupos/

Leydig

Elias P. Soupos, Reg. No. 57,375
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: October 21, 2021

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DocCode – SCORE

SCORE Placeholder Sheet for IFW Content

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 10/06/2021

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180 NORTH STETSON AVENUE
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EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
10/06/2021	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):

Chgpatent@leydig.com

Office Action Summary	Application No. 16/246,935	Applicant(s) Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	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 09/27/21.

☐ 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) 1-6,13,21,23 and 25-32 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) 1-6,13,21,23 and 25-32 is/are rejected.

8) ☐ Claim(s) _____ 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.

Response to Amendment

This is in response to amendment received on 09/27/21. Claims 1, 2, 4, 5, 21, 23, 25, 26, 27 and 30 have been amended and claims 7-12, 14-20, 22, 24 and 33-34 have been cancelled. Claims 1-6, 13, 21, 23 and 25-32 are examined herein.

Response to Arguments

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

Claim Rejections - 35 USC § 102

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the

patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

Claim(s) 1, 4, 13 and 25-32 is/are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Ramey (US 2019/0008228).

In regard to claims 1 and 25, Ramey teaches a safety helmet (helmet platform: 10, Figure 2A, 2B), comprising: an outer shell (shell: 60) adapted to be worn by a user (see figures 2A, 2B), the outer shell (60) having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris (see helmet in figures 2A, 2B), wherein the outer shell (60) is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user (sufficient structure capable of being worn as desired), and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user (sufficient structure capable of being worn as desired); a front receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim (platform feature: 12 and as discussed in paragraph 0080 located above brim on front of helmet: figure 2A slot being that of track fastener as illustrated and described in figure 4B, the rail fastener of figure 4A, or the key hole clip: paragraph 0080 details that any of the corresponding fastener pieces can be on the helmet or on the accessory as desired); a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell (platform feature: 12 and as discussed in paragraph 0080 located in the rear of the helmet: figure 2B; slot being that of track fastener as illustrated and described in figure 4B, the rail fastener of figure 4A, or the key hole clip: paragraph 0080 details that any of the corresponding fastener pieces can be on the helmet or on the accessory as desired), wherein the front receptacle (12) and the rear receptacle (12) are of identical construction (capable of being of identical construction as illustrated in figure 2A, 2B and paragraph 0080); and an accessory device having a mating receptacle formed thereon (engagement feature as

discussed in paragraph 0080 attached to an accessory and corresponding to platform feature attachment), at least a portion of the mating receptacle being selectively engageable within each of the external slot of the front receptacle or the additional external slot of the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle on the exterior of the outer shell (see figures 4A-4C, paragraph 0080).

In regards to claims 4 and 26, Ramey teaches a safety helmet (helmet platform: 10, Figure 2A, 2B), comprising: an outer shell (shell: 60) adapted to be worn by a user (see figures 2A, 2B), the outer shell (60) having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris (see helmet in figures 2A, 2B), wherein the outer shell (60) is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user (sufficient structure capable of being worn as desired), and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user (sufficient structure capable of being worn as desired); a front receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim (platform feature: 12 and as discussed in paragraph 0080 located above brim on front of helmet: figure 2A slot being that of track fastener as illustrated and described in figure 4B, the rail fastener of figure 4A, or the key hole clip: paragraph 0080 details that any of the corresponding fastener pieces can be on the helmet or on the accessory as desired); a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell (platform feature: 12 and as discussed in paragraph 0080 located in the rear of the helmet: figure 2B; slot being that of track fastener as illustrated and described in figure 4B, the rail fastener of figure 4A, or the key hole clip: paragraph 0080 details that any of the corresponding fastener pieces can be on the helmet or on the accessory as desired),

wherein the front receptacle (12) and the rear receptacle (12) are of identical construction (capable of being of identical construction as illustrated in figure 2A, 2B and paragraph 0080); and a first accessory device having a mating receptacle formed thereon (engagement features as discussed in paragraph 0080 attached to an accessory and corresponding to platform feature attachments), at least a portion of the mating receptacle being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell (engagement features can attach to any accessory with corresponding engagement feature: paragraph 0080); and a second accessory device having a second mating receptacle formed thereon (engagement features as discussed in paragraph 0080 attached to an accessory and corresponding to platform feature attachments); at least a portion of the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell (see figures 4A-4C, paragraph 0080).

In regard to claim 13, Ramey teaches wherein the front receptacle (front 12, Figure 2A) and the rear receptacle (back 12: figure 2B) are of identical construction (paragraph 0080 teaches the receptacles can be the same attachment).

In regard to claim 27, Ramey teaches wherein the external slot of the front receptacle is configured to receive a portion of the accessory device to mount the accessory device to the front receptacle (slot or rail track of key lock as illustrated in figures 4A-4E and paragraph 0080).

In regard to claims 28 and 31, Ramey teaches wherein: the front receptacle includes a first sidewall (track of Figure 4B has sidewall); the accessory/first accessory device includes a bracket (rail corresponds to track: figure 4A which has a back bracket); and the bracket is

retained by the first sidewall to mount the accessory/first accessory device to the front receptacle (see figure 4A, 4B and paragraph 0080).

In regard to claims 29 and 32, Ramey teaches wherein: the front receptacle includes a second sidewall (front receptacle can be track 4B: paragraph 0080); and the bracket is retained by the first sidewall and the second sidewall (back bracket of rail figure 4A is retained in side wall of track figure 4B: paragraph 0080).

In regard to claim 30, Ramey teaches wherein the external slot of the front receptacle is configured to receive a portion of the first accessory device to mount the first accessory device to the front receptacle (front receptacle 12 can be rail: figure 4A or track: figure 4B, which would mount accessory with the opposite corresponding fastener rail or track: paragraph 0080).

Claim Rejections - 35 USC § 103

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

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.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The factual inquiries for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 5, 21 and 23 is/are rejected under 35 U.S.C. 103 as being unpatentable over Ramey (US 2019/0008228) in view of Uke et al. (US 9,872,531).

Ramey teaches the front receptacle/attachment device as being any device that has corresponding features for attachment known now of later developed (Ramey: paragraph 0080). Further, Ramey teaches a track and rail as a device with corresponding features (Figures 4A, 4B); wherein the track has a receiver slot flanked by raised walls (see figure 4B); and wherein the accessory device includes the corresponding fastener, rail 4A, which includes a back clip.

However, Ramey fails to teach a stop and protruding nub on the front receptacle to retain the clip of the accessory device.

In regard to claims 2, 5, 21 and 23, Uke et al. teaches a receptacle/attachment device (clip: 200) with an external receiver slot flanked by raised walls and including a stop and protruding nub (slot between slotted members: 210, 210; stop: 240 and nub: 232), wherein an accessory device includes a clip (light: 100 is accessory and 134, 137 is clip), and wherein the receiver slot aligns the accessory device therein (see figure 4A), the raised walls (210, 210) retain the accessory device therebetween (figure 4A), and the stop (240) engages the clip (134, 137) to releasably mount the accessory device in the front receptacle (figure 4A).

It would have been obvious before the effective filing date to one having ordinary skill in the art to have provided the receptacle/attachment receiver slot of Ramey having a stop and protruding nub as taught by Uke et al., since the attachment of Ramey being a track attachment

having not only raised side walls but a protruding nub and a stop would teach an attachment to an accessory clip that correctly positions, stops and locks the accessory clip properly into the slot creating a more secure attachment of an accessory to a retainer/receptacle.

Claims 3 and 6 is/are rejected under 35 U.S.C. 103 as being unpatentable over Ramey (US 2019/0008228) in view of Teetzel et al. (US 2014/0020159).

Ramey teaches a helmet attachment system as described above in claims 1 and 4. Further, Ramey teaches an outer shell (60) in a hard helmet for construction or military purposes (paragraph 0007). However, Ramey fails to teach the outer shell being made from a molded plastic material.

In regard to claims 3 and 6, Teetzel et al. teaches wherein the outer shell is made from a molded plastic material (paragraphs 0003 and 0043).

It would have been obvious before the effective filing date to one having ordinary skill in the art to have provided the outer shell of Ramey in a molded plastic material as taught by Teetzel et al., since the outer shell of Ramey being a molded plastic material would teach a protective helmet that can be molded in manufacturing creating a strong and durable helmet.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited prior art to Ramey (US 2019/0008228) used in the rejection above is cited on PTO-892 form submitted herewith.

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 ALISSA L HOEY whose telephone number is (571)272-4985. The examiner can normally be reached on M-F 9:00-5:30 ET.

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, Clinton T Ostrup can be reached on (571)272-5559. 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.

ALISSA L. HOEY

Primary Examiner
Art Unit 3732

/ALISSA L HOEY/
Primary Examiner, Art Unit 3732

Notice of References Cited	Application/Control No. 16/246,935	Applicant(s)/Patent Under Reexamination Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20190008228-A1	01-2019	Ramey; David Francis	A42B3/044	1/1
	B					
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

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

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

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	01/22/2021	04/14/2021	07/23/2021	09/30/2021					
	1	✓	✓	✓	✓					
	2	✓	O	✓	✓					
	3	✓	✓	✓	✓					
	4	✓	✓	✓	✓					
	5	✓	O	✓	✓					
	6	✓	✓	✓	✓					
	7	✓	✓	-	-					
	8	✓	✓	-	-					
	9	✓	✓	-	-					
	10	✓	✓	-	-					
	11	✓	✓	-	-					
	12	✓	✓	-	-					
	13	✓	✓	✓	✓					
	14	N	N	-	-					
	15	N	N	-	-					
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	17	N	N	-	-					
	18	N	N	-	-					
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	20	N	N	-	-					
	21		O	✓	✓					
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	23		O	✓	✓					
	24		✓	✓	-					
	25			✓	✓					
	26			✓	✓					
	27			✓	✓					
	28			✓	✓					
	29			✓	✓					
	30			✓	✓					
	31			✓	✓					
	32			✓	✓					
	33			✓	-					
	34			✓	-					

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Patent No. 11,452,327 - IPR2025-00724

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

CPC - Searched*		
Symbol	**Date**	**Examiner**
A42B3/0446; A42B3/044; A42B3/042; A42B3/0406; A42B3/0426; A42B3/30	01/22/2021	ALH
Updated Search	04/14/2021	ALH
Updated Search	07/23/2021	ALH
Updated Search	09/30/2021	ALH

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**
2	422		

* 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**
EAST Search, see for details	01/22/2021	ALH
NPL Google Search, see for details	01/22/2021	ALH
EAST Search, see for details	04/14/2021	ALH
EAST Search, see for details	07/23/2021	ALH
EAST Search, see for details	09/30/2021	ALH

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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Patent No. 11,452,327 - IPR2025-00724

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

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

/ALISSA L HOEY/
Primary Examiner, Art Unit 3732

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Patent No. 11,452,327 - IPR2025-00724

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	158	("1947786" | "5688039" | "10743599" | "20190350292" | "20200329806" | "20190107247" | "6497493" | "6701649" | "6811348" | "20140020159" | "20190350291" | "6616294" | "9872531" | "20140000013" | "11019870" | "20190098952" | "20100083413" | "20190104797" | "20160242483" | "20120317706" | "20130086722" | "20140000014" | "20190101359" | "20020116749" | "20160249700" | "20200268088" | "4521831" | "8060951" | "20180192727" | "20180128459" | "20200170329" | "5026016" | "6532601" | "9702534" | "10886646" | "20080263752" | "20110072562" | "20120224356" | "9814622" | "20120320569" | "20170238642" | "20180249779").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/09/30 12:42
L2	19	L1 and molded	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/09/30 12:42
L3	14	L2 and plastic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/09/30 12:43
L4	4	L3 and (military or bullet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/09/30 12:46
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		"20190104797" | "20160242483" | "20120317706" | "20130086722" | "20140000014" | "20190101359" | "20020116749" | "20160249700" | "20200268088" | "4521831" | "8060951" | "20180192727" | "20180128459" | "20200170329" | "5026016" | "6532601" | "9702534" | "10886646" | "20080263752" | "20110072562" | "20120224356" | "9814622" | "20120320569" | "20170238642" | "20180249779").PN.				
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S4	1,852	(A42B3/042).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/09/30 10:58
S5	419	(A42B3/0426).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/09/30 11:03
S6	1,544	(A42B3/0406).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/09/30 11:04
S7	2,635	(A42B3/30).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/09/30 11:12
S8	817	(goggle and attachment and helmet and outer)	US-PGPUB; USPAT;	OR	OFF	2021/09/30 11:14

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S9	404	(goggle and attachment and helmet and outer and (slot or protrusion))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/09/30 11:15

EAST Search History (Interference)

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9/30/2021 1:44:19 PM
C:\Users\ahoey\Documents\EAST\Workspaces\16 246935.wsp

USPTO TRANSMITTAL

PATENT
Attorney Docket No. 741300

Application No. 16/246,935
Confirmation No. 7407

Transmitted herewith is a reply to office action in the subject application.

☒ Petition for an extension of time for the period noted below, as well as for any additional period necessary to render the present submission timely. Please charge Deposit Account No. 12-1216 for the appropriate petition fee.

☐ Other:

☒ Please charge Deposit Account No. 12-1216 in the total amount indicated below.

TIME EXTENSION PETITION FEE			none			$0
subtract time extension fee previously paid			none			($0)
CLAIM FEE	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	EXTRA CLAIMS PRESENT	RATE	ADDITIONAL CLAIM FEE
TOTAL	17	MINUS	24	= 0	x $100 =	$0
INDEPENDENT	4	MINUS	5	= 0	x $480 =	$0
☐	FIRST PRESENTATION OF MULTIPLY DEPENDENT CLAIM				+ $860 =	$0
SUBTOTAL (of all items above)						$0
☐	Small entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ½.					($0)
☐	Micro entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ¾.					($0)
OTHER FEES AS DESCRIBED:						$0
TOTAL AMOUNT TO BE CHARGED TO DEPOSIT ACCOUNT						**$0**

☒ The Commissioner is hereby authorized to charge any deficiencies in the following fees associated with this communication or credit any overpayment to Deposit Account No. 12-1216.
- ☒ Any filing fees under 37 CFR 1.16 and/or 1.492 for the presentation of extra claims.
- ☒ Any patent application processing fees under 37 CFR 1.17.

Leydig

/Elias P. Soupos/
Elias P. Soupos, Reg. No. 57,375
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: September 27, 2021

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Attorney Docket No. 741300

Customer No.: 23460

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

In reply to the Office Action dated August 2, 2021, please enter the following amendments and election, and consider the following remarks.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

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Patent No. 11,452,327 - IPR2025-00724

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable within each of the external slot of the front receptacle or the additional external slot of the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle on the exterior of the outer shell.

2. (Currently amended) The safety helmet of claim 1, wherein the external slot of the front receptacle is ~~includes~~ a receiver slot flanked by raised walls and including a stop, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the stop engages the clip to releasably mount the accessory device in the front receptacle.

3. (Original) The safety helmet of claim 1, wherein the outer shell is made from a molded plastic material.

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4. (Currently amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle having an external slot extending upwardly along the front side on an exterior of the outer shell above the brim;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell;

a first accessory device having a first mating receptacle formed thereon, at least a portion of the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, at least a portion of the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell.

5. (Currently amended) The safety helmet of claim 4, wherein the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the stop engages the clip to releasably mount the first accessory device in the front receptacle.

6. (Original) The safety helmet of claim 4, wherein the outer shell is made from a molded plastic material.

7–12. (Cancelled)

13. (Previously Presented) The safety helmet of claim 4, where in the front receptacle and the rear receptacle are of identical construction.

14–20. (Cancelled)

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21. (Currently amended) The safety helmet of claim 1, wherein the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the protruding nub engages the clip to releasably mount the accessory device in the front receptacle.

22. (Cancelled)

23. (Currently amended) The safety helmet of claim 4, wherein the external slot of the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the protruding nub engages the clip to releasably mount the first accessory device in the front receptacle.

24. (Cancelled)

25. (Currently amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending outwardly from the front side and configured to shield the user's eyes from sunlight or falling debris;

a front receptacle having an external slot extending upwardly on the front side on an exterior of the outer shell above the brim;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable within each of the external slot of the front receptacle or the additional external slot of the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle on the exterior of the outer shell.

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26. (Currently amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending outwardly from the front side and configured to shield the user's eyes from sunlight or falling debris;

a front receptacle having an external slot extending upwardly on the front side on an exterior of the outer shell above the brim;

a rear receptacle having an additional external slot disposed on the rear side on the exterior of the outer shell;

a first accessory device having a first mating receptacle formed thereon, at least a portion of the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, at least a portion of the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle on the exterior of the outer shell.

27. (Currently amended) The safety helmet of claim 1, wherein the external slot of the front receptacle is ~~includes a slot~~ configured to receive a portion of the accessory device to mount the accessory device to the front receptacle.

28. (Previously presented) The safety helmet of claim 1, wherein:

the front receptacle includes a first sidewall;

the accessory device includes a bracket; and

the bracket is retained by the first sidewall to mount the accessory device to the front receptacle.

29. (Previously presented) The safety helmet of claim 28, wherein:

the front receptacle includes a second sidewall; and

the bracket is retained by the first sidewall and the second sidewall.

30. (Currently amended) The safety helmet of claim 4, wherein the external slot of the front receptacle is ~~includes a slot~~ configured to receive a portion of the first accessory device to mount the first accessory device to the front receptacle.

31. (Previously presented) The safety helmet of claim 4, wherein:

the front receptacle includes a first sidewall;

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the first accessory device includes a bracket; and

the bracket is retained by the first sidewall to mount the first accessory device to the front receptacle.

32. (Previously presented) The safety helmet of claim 31, wherein:

the front receptacle includes a second sidewall; and

the bracket is retained by the first sidewall and the second sidewall.

33–34. (Cancelled)

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REMARKS / ARGUMENTS

Reconsideration of the application and claims in light of the foregoing amendments and following remarks/arguments is respectfully requested.

I. Substance of Interview Summary

An Applicant-initiated telephone interview was conducted on September 8, 2021, between Examiner Hoey, and attorneys for Applicant Jeff Fairchild, John Whelan, and Elias Soupos. During the interview, the rejections under Section 101, and under Section 102 in view of Bielefeld were discussed in view of Applicant's proposed amendments, which appear on the record and are appended to the Examiner's Interview Summary mailed on September 13, 2021. As discussed in the Interview, Applicant's proposed rejections suffice to overcome the rejections under Section 101.

In a subsequent communication via email on September 8, Applicant presented a revised amendment proposal for claim 1, which the Examiner indicated in a response sent on September 9, 2021, would suffice to also overcome the rejections under Section 102. Applicant's revised amendment proposal to claim 1 sent to the Examiner is reflected in the above amendments to claim 1.

Applicant thanks Examiner Hoey for her time and consideration in granting the interview.

II. Status of Claims

In the present response, independent claims 1, 4, 25, and 26 are amended. Dependent claims 2, 5, 21, 23, 27, and 30 are also amended. Claims 34, 22, 24, 33, and 34 are cancelled without prejudice or disclaimer. Upon entry of the present amendment, claims 1–6, 13, 21, 23, and 25–32 will remain pending. The amendments to claims 1, 4, 25, and 26 address the Section 101 and 112 rejections, and specify that the receptacles and corresponding accessories are externally mounted on the helmet, and that the brim is configured to shield the user's eyes, as discussed with the Examiner. All amendments are supported by the original disclosure and introduce no new matter into the present application.

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Patent No. 11,452,327 - IPR2025-00724

III. Claim Rejections

In the Office Action mailed on August 2, 2021, claims 22, 23, 33, and 34 were rejected under Section 112 for reciting that the slots were "unitary part" of the outer shell. These claims are cancelled above to promote the compact prosecution of the present application, and thus the rejection under Section 112 is rendered moot.

The Office Action also rejected claims 1, 4, 25, and 26 under Section 101 for appearing to claim a human body. Each of these claims is amended to recite that the brim is "configured to" shield the user's eyes, as suggested in the Office Action. Accordingly, and based on the Examiner's agreement during the interview, the rejections under Section 101 have been overcome.

The Office Action further rejected claims 1, 2, 4, 5, 13, and 21–34 under Section 102 in view of Bielefeld. These claims have been amended above to recite that each receptacle has an "external slot" extending along the "exterior of the outer shell," and that the accessory device(s) are mountable "on the exterior of the outer shell." In view of these amendments, and based on the Examiner's agreement during a subsequent communication following the interview, the rejections under Section 102 have been overcome. In addition, Applicant states that Bielefeld does not describe or suggest accessories that are externally mountable using slots formed on the exterior of the helmet. Instead, Bielefeld describes slots for mounting headgear internally to the helmet.

The Office Action also rejected claims 3 and 6 under Section 103 given Bielefeld in view of Silva. Applicant believes these claims to be allowable at least because they depend on an independent claim that has already been shown to be allowable.

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IV. Conclusion

Applicant respectfully submits that the present application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the present application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

/Elias P. Soupos/

Elias P. Soupos, Reg. No. 57,375
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: September 27, 2021

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 205
Patent No. 11,452,327 - IPR2025-00724

Electronic Acknowledgement Receipt

EFS ID:	43871158
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	161268
Filer:	Elias Panos Soupos/Robert Holland
Filer Authorized By:	Elias Panos Soupos
Attorney Docket Number:	741300
Receipt Date:	27-SEP-2021
Filing Date:	14-JAN-2019
Time Stamp:	12:20:24
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		ROA-4th.pdf	190136 81aaa54509576728324 5a7bb8c25f0cb3b13ed51	yes	10

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	1
	Applicant Arguments/Remarks Made in an Amendment	2	2
	Claims	3	7
	Applicant Arguments/Remarks Made in an Amendment	8	10
Warnings:			
Information:			
	Total Files Size (in bytes):	190136	

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/246,935	Filing Date 01/14/2019	☐ 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 $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ 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	09/27/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 17	Minus	** 24	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 3	= 1		x $480 =	480
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	480

		(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".	/ERNEST A MARFO/
*** 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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P.O. Box 1450
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 09/13/2021

LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
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EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
09/13/2021	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):

Chgpatent@leydig.com

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 209
Patent No. 11,452,327 - IPR2025-00724

Applicant-Initiated Interview Summary	**Application No.** 16/246,935	**Applicant(s)** Deshpande et al.		
	Examiner ALISSA L HOEY	**Art Unit** 3732	**AIA (First Inventor to File) Status** Yes	**Page** 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	**Title**	**Type**
ALISSA L HOEY	Primary Examiner	Telephonic
ELIAS SOUPOS	Attorney	
JOHN WHELAN	Attorney	
JEFFREY FAIRCHILD	Attorney	

Date of Interview: 08 September 2021

Issues Discussed:

35 U.S.C. 101

The claim amendments are sufficient to overcome the 101 rejections of claims 1, 4, 25 and 26.

35 U.S.C. 102

Amendments are not sufficient to overcome the Bielefeld et al. (US 2002/0116749) reference, since the receptacle being on the exterior of the helmet, still reads on the receptacle of Bielefeld et al., since the receptacles are formed outwardly along the exterior of the helmet (see figures 1 and 7). To get around the receptacles of Bielefeld et al. the claims need to capture that the receptacle's slot is accessible on the exterior of the shell.

☑ Attachment

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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
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

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the 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.

Proposed amendments – not for entry into the record

U.S. Pat. Application Ser. No. 16/246,935

Examiner Hoey

Atty. Docket 741300

Proposed Amendments to the Claims

1. (Proposed Amendment) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle extending upwardly along the front side on an exterior of the outer shell above the brim;

a rear receptacle disposed on the rear side on the exterior of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, the mating receptacle being selectively engageable with each of the front receptacle or the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.

***

4. (Proposed Amendment) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending forward from the front side and configured to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

NOT FOR ENTRY INTO THE RECORD

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Patent No. 11,452,327 - IPR2025-00724

a front receptacle extending upwardly along the front side on an exterior of the outer shell above the brim;

a rear receptacle disposed on the rear side on the exterior of the outer shell;

a first accessory device having a first mating receptacle formed thereon, the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

***

25. (Proposed Amendment) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending outwardly from the front side and configured to shield the user's eyes from sunlight or falling debris;

a front receptacle extending upwardly on the front side on an exterior of the outer shell above the brim;

a rear receptacle disposed on the rear side on the exterior of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, the mating receptacle being selectively engageable with each of the front receptacle or the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.

***

26. (Proposed Amendment) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending outwardly from the front side and configured to shield the user's eyes from sunlight or falling debris;

a front receptacle extending upwardly on the front side on an exterior of the outer shell above the brim;

NOT FOR ENTRY INTO THE RECORD

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Patent No. 11,452,327 - IPR2025-00724

a rear receptacle disposed on the rear side on the exterior of the outer shell;

a first accessory device having a first mating receptacle formed thereon, the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

NOT FOR ENTRY

NOT FOR ENTRY INTO THE RECORD

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 213
Patent No. 11,452,327 - IPR2025-00724

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 08/02/2021

LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
08/02/2021	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):

Chgpatent@leydig.com

Office Action Summary	Application No. 16/246,935	Applicant(s) Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	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 07/19/21.

☐ 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) 1-6,13 and 21-34 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) 1-6,13 and 21-34 is/are rejected.

8) ☐ Claim(s) _____ 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.

Specification

The amendment filed 06/16/21 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: there was no support in the originally filed disclosure of the receiver and slot being a unitary part of the outer shell.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

> (a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

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

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 34 is rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject

matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for applications subject to pre-AIA 35 U.S.C. 112, the inventor(s), at the time the application was filed, had possession of the claimed invention. There was no support in the originally filed disclosure for the limitation "wherein the front receptacle includes an additional slot configured to receive a portion of the first accessory device to mount the accessory device to the front receptacle and wherein the additional slot is a unitary part of the outer shell" as provided in new claim 34.

Claims 22, 24, 33 and the claims that depend therefrom are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for applications subject to pre-AIA 35 U.S.C. 112, the inventor(s), at the time the application was filed, had possession of the claimed invention. There was no support in the originally filed disclosure, including the drawings, for the teaching that the slot of the receiver is a unitary part of the outer shell. Applicant references Figure 5 as the disclosure for the receiver and slot being unitary with the outer shell, Figure 5 does not illustrate the slot or the receiver being unitary with the outer shell.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Section 33(a) of the America Invents Act reads as follows:

> Notwithstanding any other provision of law, no patent may issue on a claim directed to or encompassing a human organism.

Claims 1 and 4 are rejected under 35 U.S.C. 101 and section 33(a) of the America Invents Act as being directed to or encompassing a human organism. See also *Animals - Patentability*, 1077 *Off. Gaz. Pat. Office* 24 (April 21, 1987) (indicating that human organisms are excluded from the scope of patentable subject matter under 35 U.S.C. 101). The limitation "a brim extending forward from the front side to shield the user's eyes from sunlight or falling debris" should include the language "configured to", "adapted to", "sized to", "dimensioned to", or other similar language to avoid claiming a human body.

Section 33(a) of the America Invents Act reads as follows:

> Notwithstanding any other provision of law, no patent may issue on a claim directed to or encompassing a human organism.

Claims 25 and 26 are rejected under 35 U.S.C. 101 and section 33(a) of the America Invents Act as being directed to or encompassing a human organism. See also *Animals - Patentability*, 1077 *Off. Gaz. Pat. Office* 24 (April 21, 1987) (indicating that human organisms are excluded from the scope of patentable subject matter under 35 U.S.C. 101). The limitation "a brim extending outwardly from the front side to shield the user's eyes from sunlight or falling debris" should include the language "configured to", "adapted to", "sized to", "dimensioned to", or other similar language to avoid claiming a human body.

Claim Rejections - 35 USC § 102

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention.

Claim(s) 1, 2, 4, 5, 13 and 21-34 is/are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Bielefeld et al. (US 2002/0116749).

In regard to claims 1, 4, 13, 22, 24, 25, 26 and 30, Bielefeld et al. teaches a safety helmet (hard hat: 10), comprising: an outer shell (shell: 12) adapted to be worn by a user (see helmet in figures 4-6), the outer shell (12) having a front side, a rear side, and a brim extending forward or outwardly or away from the front side, in a generally forward direction, to shield the user's eyes from sunlight or falling debris (see figures 4-6 illustrating front, back, and brim), wherein the outer shell (12) is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user (sufficient structure, capable of being worn reversed as desired), and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user (see figures 5 brim can be worn above face); a front receptacle (sockets: 20a or 20d) extending upwardly along/on the front side of the outer shell above the brim (see figures 4-7); a rear receptacle (sockets: 20b or 20c) disposed on the rear side of the outer shell (see figures 4 and 5), wherein the front receptacle (20a/20d) and the rear receptacle (20b/20c) are of identical construction (20a-d are key sockets to receive keys 18a-18d); and a first accessory device (one of keys: 18a-18d) having a mating receptacle formed thereon (paragraph 0033 and 0035), the mating receptacle being selectively engageable/releasably mountable with each of the front receptacle or the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear

receptacle of the outer shell (see figures 1A-1C and paragraphs 0033 and 0035); and a second accessory device (another of Keys: 18a-18de) having a second mating receptacle formed thereon (paragraph 0033-0035), the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell (figures 1A-1C and paragraphs 0033 and 0035). In regard to claims 22, 24 and 30, Bielefeld et al. further teaches wherein when the accessory device (one of 18a) is mounted onto the front receptacle (20a/20d), the accessory device (18a/18d) is disposed above the brim (se figures 1 and 1C); wherein the front receptacle (20a or 20d) includes a slot configured to receive a portion of the accessory device to mount the accessory device to the front receptacle (see slot in figures 1B and 1C and 7); and wherein the slot is a unitary part of the outer shell (sockets 20 are molded into the shell: paragraph 0033).

In regard to claims 2 and 5, Bielefeld et al. teaches wherein the front receptacle (20a or 20d) includes a receiver slot flanked by raised walls and including a stop (see figures 1B and 1C, detailing raised side walls and top stop), wherein the accessory device (18) includes a clip, and wherein the receiver slot aligns the accessory device therein (see figures 1B, 1C), the raised walls retain the accessory device there between, and the stop engages the clip to releasably mount the accessory device in the front receptacle (figures 1B-1C, paragraphs 0033-0035).

In regard to claims 21 and 23, Bielefeld et al. teaches wherein the front receptacle (20a/20d) includes a receiver slot flanked by raised walls and including a protruding nub (see side walls and protruding nub of top cutout corners: figure 1B), wherein the accessory device (18) includes a clip (see figure 9), and wherein the receiver slot aligns the accessory device therein (see figures 1B and 1C: paragraphs 0033-0035), the raised walls retain the accessory device there between (see figures 1B and 1C), and the protruding nub engages the clip to

releasably mount the accessory device in the front receptacle (figures 1B and 1C; paragraphs 0033 and 0035).

In regards to claims 27 and 30, Bielefeld et al. teaches wherein the front receptacle (20a/20d) includes a slot configured to receive a portion of the accessory device to mount the accessory device to the front receptacle (see slot and key received therein, figures 1B-1C and paragraphs 0033 and 0035).

In regard to claims 28 and 31, Bielefeld et al. teaches wherein: the front receptacle (20a/20d) includes a first sidewall (see side wall: figure 1B); the accessory device (18) includes a bracket (see figure 9); and the bracket is retained by the first sidewall to mount the accessory device to the front receptacle (see figures 1B and 1C).

In regard to claims 29 and 32, Bielefeld et al. teaches wherein: the front receptacle (20a/20d) includes a second sidewall (sidewall on other side of slot: figure 1B)); and the bracket is retained by the first sidewall and the second sidewall (see figure 9 detailing bracket and bracket held between sidewalls within slot in figures 1B and 1C).

In regard to claim 34, Bielefeld et al. teaches further comprising: a second accessory device (another of 18) having a second mating receptacle formed thereon (see figure 9), the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell (see figure 1B and 1C and paragraph 0033 and 0035); wherein the front receptacle (20a/20d) includes an additional slot configured to receive a portion of the first accessory device to mount the accessory device to the front receptacle (see figure 1B having upper slot on top surface as the second slot and the fist slot being the opening to the

receptacle); and wherein the additional slot is a unitary part of the outer shell (key sockets: are molded with the helmet, including the slots: paragraph 0033).

Claim Rejections - 35 USC § 103

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

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.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The factual inquiries for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3 and 6 is/are rejected under 35 U.S.C. 103 as being unpatentable over Bielefeld et al. (US 2002/0116749) in view of Silva et al. (US 10,743,499).

Bielefeld et al. teaches a molded safety helmet as described above in claims 1 and 4 (paragraph 0033). However, Bielefeld et al. fails to specify the material of the molded safety helmet.

In regard to claims 3 and 6, Silva et al. teaches that it is known to manufacture safety helmets out of a molded plastic material (see column 2, lines 17-25).

It would have been obvious before the effective filing date to one having ordinary skill in the art to have provided the molded safety helmet of Bielefeld et al. to be constructed in a plastic material as taught by Silva et al., since the safety helmet of Bielefeld et al. provided in a plastic material would provide a helmet that can be formed by molded and when formed provides rigid protection to the user's head.

Response to Arguments

Applicant's arguments with respect to claim(s) 07/19/21 have been considered but are moot because the new ground of rejection does not rely on any reference applied in the prior rejection of record for any teaching or matter specifically challenged in the argument.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and can be found cited in PTO-892 form submitted herewith. The cited prior art to Teetzel et al. (US 2019/0107247) is of particular relevance to the claimed invention teaching a helmet with identical front and back receptacles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALISSA L HOEY whose telephone number is (571)272-4985. The examiner can normally be reached on M-F 9:00-5:30 ET.

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, Clinton T Ostrup can be reached on (571)272-5559. 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.

ALISSA L. HOEY
Primary Examiner
Art Unit 3732

/ALISSA L HOEY/
Primary Examiner, Art Unit 3732

Notice of References Cited	Application/Control No. 16/246,935	Applicant(s)/Patent Under Reexamination Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	Page 1 of 2

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	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

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

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

Notice of References Cited	Application/Control No. 16/246,935	Applicant(s)/Patent Under Reexamination Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	Page 2 of 2

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*	B	US-20200170329-A1	06-2020	Bohn; Alexa Danielle	A42B3/16	1/1
*	C	US-20190107247-A1	04-2019	Teetzel; James W.	A42B3/0406	1/1
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	O					
	P					
	Q					
	R					
	S					
	T					

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*		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.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	01/22/2021	04/14/2021	07/23/2021						
	1	✓	✓	✓						
	2	✓	O	✓						
	3	✓	✓	✓						
	4	✓	✓	✓						
	5	✓	O	✓						
	6	✓	✓	✓						
	7	✓	✓	-						
	8	✓	✓	-						
	9	✓	✓	-						
	10	✓	✓	-						
	11	✓	✓	-						
	12	✓	✓	-						
	13	✓	✓	✓						
	14	N	N	-						
	15	N	N	-						
	16	N	N	-						
	17	N	N	-						
	18	N	N	-						
	19	N	N	-						
	20	N	N	-						
	21		O	✓						
	22		✓	✓						
	23		O	✓						
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	25			✓						
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	27			✓						
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	29			✓						
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	31			✓						
	32			✓						
	33			✓						
	34			✓						

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

CPC - Searched*		
Symbol	**Date**	**Examiner**
A42B3/0446; A42B3/044; A42B3/042; A42B3/0406; A42B3/0426; A42B3/30	01/22/2021	ALH
Updated Search	04/14/2021	ALH
Updated Search	07/23/2021	ALH

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**
2	422		

* 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**
EAST Search, see for details	01/22/2021	ALH
NPL Google Search, see for details	01/22/2021	ALH
EAST Search, see for details	04/14/2021	ALH
EAST Search, see for details	07/23/2021	ALH

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

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
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	Examiner	Art Unit
	ALISSA L HOEY	3732

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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(19) Deutsches Patent- und Markenamt

(10) **DE 10 2016 115 897 A1** 2018.03.01

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(56) Ermittelter Stand der Technik:

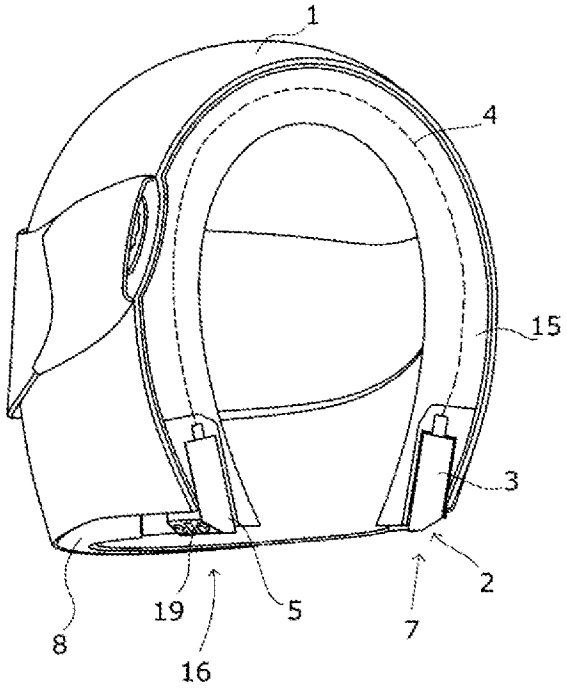
DE	**30 42 159**	**A1**
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EP	**1 393 643**	**A1**

Rechercheantrag gemäß § 43 PatG ist gestellt.

Die folgenden Angaben sind den vom Anmelder eingereichten Unterlagen entnommen.

(54) Bezeichnung: **Schutzhelm**

(57) Zusammenfassung: Die Erfindung betrifft einen Schutzhelm, insbesondere einen Motorradschutzhelm, mit einer Außenschale (1) zur Verteilung von Aufprallkräften, mit einem mit der Außenschale (1) fest verbundenen Batteriesteckplatz (2) zur lösbaren Aufnahme einer Batterie (3) und mit einer mit dem Batteriesteckplatz (2) elektrisch verbundenen Leitungsanordnung (4) zur Stromversorgung einer mit der Außenschale (1) mechanisch gekoppelten Elektrovorrichtung (5) durch die aufgenommene Batterie (3).



Beschreibung

[0001] Die Erfindung betrifft einen Schutzhelm und insbesondere einen Motorradschutzhelm.

[0002] Moderne Schutzhelme weisen nicht nur mechanische Vorrichtungen und Merkmale wie etwa ein Visier, eine Belüftung und Turbulatoren auf, sondern zunehmend auch elektrische Vorrichtungen, welche entweder fest an dem Schutzhelm vorgesehen sind oder nachgerüstet werden können.

[0003] Der Betrieb solcher elektrischer Vorrichtungen erfordert elektrische Energie, welche beispielsweise von einer Batterie bereitgestellt werden kann. Unter dem begriff der Batterie sind hier und nachfolgend sowohl Primärzellen – also nicht wiederaufladbare Energiespeicher – als auch Sekundärzellen – also wiederaufladbare Energiespeicher – zu verstehen. Solche Batterien weisen eine Speicherkapazität auf, welche insbesondere durch ihre Größe und ihr Gewicht begrenzt ist. Dabei ist es regelmäßig sehr umständlich, die Batterie einer an dem Schutzhelm angeordneten elektrischen Vorrichtung zu wechseln und meistens praktisch nicht möglich, wenn der Träger des Schutzhelms auch Motorradhandschuhe trägt.

[0004] Die Aufgabe der Erfindung besteht darin, einen Schutzhelm derart weiterzuentwickeln und zu verbessern, dass die Verwendung von Batterien für elektrische Vorrichtungen an dem Schutzhelm für den Träger des Schutzhelms erleichtert wird.

[0005] Diese Aufgabe wird durch einen Schutzhelm mit den Merkmalen des Anspruchs 1 gelöst.

[0006] Wesentlich für die Erfindung ist die Erkenntnis, dass an dem Schutzhelm selbst eine Möglichkeit vorgesehen werden kann, eine Batterie lösbar aufzunehmen und mit dieser aufgenommenen Batterie eine elektrische Vorrichtung an dem Schutzhelm zu betreiben. Auf diese Weise wird einerseits ein Austausch der Batterie – beispielsweise nach deren Entladung – ohne Entfernung oder Manipulation der von ihr versorgten elektrischen Vorrichtung ermöglicht. Andererseits kann auch die Batterieaufnahme so gestaltet werden, dass dieser Austausch sehr einfach ist und auch dann möglich ist, wenn der Träger des Schutzhelms Motorradhandschuhe trägt. Ein weiterer wesentlicher Vorteil ist, dass eine fachgerechte und ökologisch einwandfreie Entsorgung der Batterie erleichtert wird.

[0007] Der erfindungsgemäße Schutzhelm, bei dem es sich insbesondere um einen Motorradschutzhelm handeln kann, weist eine Außenschale zur Verteilung von Aufprallkräften, einen mit der Außenschale fest verbundenen Batteriesteckplatz zur lösbaren Aufnahme einer Batterie und eine mit dem Batteriesteckplatz elektrisch verbundene Leitungsanordnung zur Stromversorgung einer mit der Außenschale mechanisch gekoppelten Elektrovorrichtung durch die aufgenommene Batterie auf. Dabei kann diese Elektrovorrichtung Bestandteil des Schutzhelms sein. Die Elektrovorrichtung kann auch separat zum Schutzhelm sein. Die Elektrovorrichtung kann wahlweise lösbar oder fest mit der Außenschale mechanisch gekoppelt sein, wobei diese Kopplung sowohl direkt als auch indirekt – also mittelbar durch eine zwischen Elektrovorrichtung und Außenschale angeordnete Vorrichtung – erfolgen kann. Bei der Leitungsanordnung kann es sich insbesondere um einen oder mehrere elektrische Leiter handeln, wobei die Leitungsanordnung auch weitere aktive oder passive elektrische Bauteile aufweisen kann.

[0008] Eine bevorzugte Ausführungsform des Schutzhelms ist dadurch gekennzeichnet, dass der Batteriesteckplatz einen innenseitig zur Außenschale angeordneten Batterierahmen zur formschlüssigen Aufnahme der Batterie aufweist. Dieser Batterierahmen besteht vorzugsweise im Wesentlichen aus Kunststoff. Die Innenseite der Außenschale ist hier und nachfolgend die konkave Seite der Außenschale und damit die dem Kopf des Schutzhelmträgers zugewandte Seite der Außenschale. Der obige Formschluss bei der Aufnahme der Batterie kann in einer, in zwei oder in mehr als zwei Richtungen bestehen. Ein solcher Formschluss ist zum Fixieren der Batterie in dem Batterierahmen besonders geeignet. Vorzugsweise weist der Batterierahmen eine Batterierahmenöffnung zum Einführen der Batterie in den Batterierahmen auf.

[0009] Eine weitere bevorzugte Ausführungsform des Schutzhelms ist dadurch gekennzeichnet, dass der Batterierahmen an einen unteren Rand der Außenschale angrenzt und dass die Batterierahmenöffnung im Wesentlichen an dem unteren Rand der Außenschale angeordnet ist. Dabei bezieht sich die Richtungsangabe „unten" hier und nachfolgend auf den Schutzhelm im von einer Person getragenen Zustand. Vorzugsweise erstreckt sich der Batterierahmen ausgehend von der Batterierahmenöffnung im Wesentlichen entlang der Außenschale, und zwar insbesondere so, dass die Batterie im Wesentlichen in vertikal oberer Richtung in den Batterierahmen eingeführt wird. Auch hier und nachfolgend bezieht sich die Richtungsangabe der „vertikal oberen" Richtung auf den Schutzhelm im von einer Person getragenen Zustand. Eine solche Anordnung ermöglicht es, die Batterie unter der Außenschale des Schutzhelms unterzubringen ohne das von dem Schutzhelm benötigte Volumen übermäßig zu vergrößern. Ebenso erlaubt diese Anordnung einen besonders komfortablen Zugang des Schutzhelmträgers zu der Batterie.

[0010] Eine bevorzugte Ausführungsform des Schutzhelms ist dadurch gekennzeichnet, dass der

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Schutzhelm einen fest mit der Außenschale verbundenen Helmabschluss zum zumindest teilweisen Abdecken eines unteren Rands der Außenschale aufweist. Dieser Helmabschluss besteht vorzugsweise im Wesentlichen aus Kunststoff und verhindert Beschädigungen an der Außenschale wenn der unbenutzte Schutzhelm z. B. zu Boden fällt. Vorzugsweise dient der Helmabschluss auch zur unteren Begrenzung des Schutzhelms. Weiter kann es sein, dass der Batterierahmen fest und vorzugsweise formschlüssig mit dem Helmabschluss verbunden ist. Ein solcher Helmabschluss bietet eine Befestigungsmöglichkeit für den Batterierahmen, welche keine Bearbeitung der Außenschale etwa durch Bohrungen erfordert.

[0011] Eine weitere bevorzugte Ausführungsform des Schutzhelms ist dadurch gekennzeichnet, dass die Batterierahmenöffnung seitlich zu einer vertikalen Mittellängsebene des Schutzhelms versetzt angeordnet ist. Diese Mittellängsebene ist durch einen Vektor in Längsrichtung des Schutzhelms, welche Längsrichtung hier und nachfolgend als Blickrichtung einer den Schutzhelm tragenden Person definiert ist, und einen Vektor in einer vertikalen Richtung beschrieben, welche vertikale Richtung insbesondere entsprechend der obigen vertikal oberen Richtung definiert ist. Ein seitlicher Versatz zu dieser vertikalen Mittellängsebene ist also ein Versatz senkrecht zu der Mittellängsebene und daher in einer horizontalen Querrichtung bezogen auf die obige Blickrichtung einer den Schutzhelm tragenden Person. Vorzugsweise ist vorgesehen, dass die Batterierahmenöffnung im Wesentlichen mittig zwischen einer maximal hinteren und einer maximal seitlichen Position entlang des unteren Rands der Außenschale angeordnet ist. Diese Anordnung entspricht einem Bereich des unteren Rands, welcher von einer gedachten Mitte des Schutzhelms aus rückwärts diagonal versetzt liegt. Der Bereich eignet sich besonders für einen bequemen Griff der den Schutzhelm tragenden Person an den Schutzhelm ohne dabei das Sichtfeld des Schutzhelms einzuschränken.

[0012] Gemäß einer bevorzugten Ausführungsform des Schutzhelms ist vorgesehen, dass der Batteriesteckplatz eine Federvorrichtung zum Vorspannen der aufgenommenen Batterie in Auswurfrichtung und eine Arretieranordnung mit einer Greifvorrichtung zum formschlüssigen Festhalten der aufgenommenen Batterie in dem Batterierahmen aufweist. Auf diese Weise wird die Batterie zumindest teilweise herausgeworfen und kann dann leichter insbesondere mit Handschuhen gegriffen werden. Ein mühsames Herausziehen der Batterie entfällt hiermit. Bevorzugt ist, dass die Arretieranordnung eine Lösevorrichtung zum Lösen der Greifvorrichtung und zum Auswerfen der aufgenommenen Batterie aus dem Batterierahmen aufweist. Insbesondere kann es sein, dass die Lösevorrichtung durch Drücken betätigbar ist. Auf diese Weise ist sowohl das Verbinden der Batterie mit dem Batteriesteckplatz als auch das Entfernen der Batterie aus dem Batteriesteckplatz durch eine Druckbetätigung möglich, sodass effektiv ein sogenanntes Push-Push-System entsteht.

[0013] Grundsätzlich kann eine elektrische Verbindung zwischen der aufgenommenen Batterie und der Leitungsanordnung zur Stromversorgung der Elektrovorrichtung durch die aufgenommene Batterie auf beliebige Art und Weise hergestellt werden. Eine bevorzugte Ausführungsform des Schutzhelms ist dadurch gekennzeichnet, dass der Batteriesteckplatz eine Polanordnung zur elektrischen und lösbaren Kopplung der aufgenommenen Batterie aufweist. Vorzugsweise ist diese Polanordnung dazu eingerichtet, eine elektrische Verbindung zwischen der aufgenommenen Batterie und der Leitungsanordnung zur Stromversorgung der Elektrovorrichtung bereitzustellen. Vorzugsweise weist dabei die Polanordnung mindestens einen Leistungspol zur Übertragung elektrischer Energie und mindestens einen Signalpol zur Kommunikation mit der aufgenommenen Batterie auf. Vorzugsweise dient der Leistungspol zur Bereitstellung der obigen elektrischen Verbindung. Die obige Kopplung der Polanordnung kann sowohl berührungslos, z. B. induktiv, als auch mittels einer Kontaktierung durch die Polanordnung bzw. durch den Leistungspol und/oder den Signalpol erfolgen. Durch das Vorsehen des Signalpols kann sowohl der Zustand der Batterie abgefragt als auch ggf. das – unten weiter ausgeführte – Ladeverhalten der Batterie komplexer gestaltet werden, was z. B. die Verschlechterung der Batterie durch die Ladezyklen mildern oder vermeiden kann.

[0014] Eine weitere bevorzugte Ausführungsform des Schutzhelms ist dadurch gekennzeichnet, dass die Polanaordnung an einer der Batterierahmenöffnung gegenüber liegenden Wand des Batterierahmens angeordnet ist.

[0015] Gemäß einer bevorzugten Ausführungsform des Schutzhelms ist vorgesehen, dass der Schutzhelm eine von der Außenschale aufgenommene Innenschicht zur Dämpfung von Aufprallkräften aufweist und dass die Leitungsanordnung zumindest teilweise zwischen der Außenschale und der Innenschicht angeordnet ist. Eine solche Positionierung der Leitungsanordnung erlaubt eine vergleichsweise flexible Führung der Leitungsanordnung bei der diese gleichzeitig auch vor Beschädigungen geschützt ist.

[0016] Eine bevorzugte Ausführungsform des Schutzhelms ist dadurch gekennzeichnet, dass die Elektrovorrichtung eine Digitalvorrichtung zur drahtlosen Kommunikation ist. Weiter ist bevorzugt, dass die Digitalvorrichtung ein Funkmodul für ein Wireless Personal Area Network (WPAN) ist und insbesondere, dass die Digitalvorrichtung ein Funkmodul für Bluetooth ist.

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[0017] Eine weitere bevorzugte Ausführungsform des Schutzhelms ist dadurch gekennzeichnet, dass der Schutzhelm einen elektrisch mit der Leitungsanordnung und mechanisch, vorzugsweise fest, mit der Außenschale gekoppelten Gerätesteckplatz zur Kopplung mit der Elektrovorrichtung aufweist. Diese Kopplung mit der Elektrovorrichtung kann prinzipiell berührungslos oder über einen mechanische Kontaktierung erfolgen. Bevorzugt ist der Gerätesteckplatz zur Kontaktierung der Elektrovorrichtung eingerichtet. Auf diese Weise ist auch eine Anschlussmöglichkeit für die Elektrovorrichtung fest bei dem Schutzhelm vorgesehen. Insbesondere kann es sein, dass der Gerätesteckplatz zur vorzugsweise lösbaren Aufnahme der Elektrovorrichtung eingerichtet ist. Dies erlaubt dann einen Austausch nicht nur der Batterie, sondern auch der Elektrovorrichtung.

[0018] Durch die Batterie und insbesondere über die Leitungsanordnung können auch mehrere Elektrovorrichtungen mit Strom versorgt werden. Dabei können ein oder mehrere Elektrovorrichtungen an den ggf. mehreren Gerätesteckplätzen kontaktiert werden. Es können aber auch ein oder mehrere Elektrovorrichtungen fest in dem Schutzhelm angeordnet und hartverdrahtet sein, sodass für diese kein Gerätesteckplatz im obigen Sinne erforderlich ist.

[0019] Gemäß einer bevorzugten Ausführungsform des Schutzhelms ist vorgesehen, dass der Gerätesteckplatz einen innenseitig zur Außenschale angeordneten Geräterahmen zur formschlüssigen Aufnahme der Elektrovorrichtung aufweist. Auch dieser Formschluss bei der Aufnahme der Elektrovorrichtung, welcher zum Fixieren der Elektrovorrichtung in dem Geräterahmen besonders geeignet ist, kann in einer, in zwei oder in mehr als zwei Richtungen bestehen. Vorzugsweise besteht dieser Geräterahmen im Wesentlichen aus Kunststoff. Ebenso vorzugsweise weist der Geräterahmen eine Geräterahmenöffnung zum Einführen der Elektrovorrichtung in den Geräterahmen auf.

[0020] Eine bevorzugte Ausführungsform des Schutzhelms ist dadurch gekennzeichnet, dass der Geräterahmen an einen unteren Rand der Außenschale angrenzt und dass die Geräterahmenöffnung im Wesentlichen an dem unteren Rand der Außenschale angeordnet ist. Vorzugsweise erstreckt sich der Geräterahmen ausgehend von der Geräterahmenöffnung im Wesentlichen entlang der Außenschale, und zwar insbesondere so, dass die Elektrovorrichtung im Wesentlichen in vertikal oberer Richtung in den Geräterahmen eingeführt wird. Hieraus ergeben sich auch für die Anordnung der Elektrovorrichtung die oben bereits für die entsprechende Ausgestaltung des Batterierahmens und der Batterierahmenöffnung beschriebenen Vorteile. Vorzugsweise ist der Geräterahmen fest und ebenso vorzugsweise formschlüssig mit dem Helmabschluss verbunden.

[0021] Eine weitere bevorzugte Ausführungsform des Schutzhelms ist dadurch gekennzeichnet, dass die Geräterahmenöffnung seitlich zu einer vertikalen Mittellängsebene des Schutzhelms versetzt angeordnet ist. Hier kann es ferner sein, dass die Geräterahmenöffnung im Wesentlichen über die Mittellängsebene gespiegelt zu der Batterierahmenöffnung angeordnet ist. Auf diese Weise wird das einseitige Gewicht der Batterie an dem Helm zumindest teilweise durch die gespiegelte Anordnung der Elektrovorrichtung kompensiert.

[0022] Gemäß einer bevorzugten Ausführungsform des Schutzhelms ist vorgesehen, dass der Schutzhelm eine Ladevorrichtung zum Empfang von elektrischer Energie und zum Laden der aufgenommenen Batterie mit der empfangenen elektrischen Energie aufweist. Hier ist es bevorzugt, dass der Gerätesteckplatz einen Ladepol und insbesondere einen Ladekontakt zum Empfang der elektrischen Energie aufweist. Dieser Ladepol kann ebenso zur Stromversorgung der Elektrovorrichtung eingerichtet sein. Dieses Laden der aufgenommenen Batterie erfolgt vorzugsweise mittels der Leitungsanordnung. Auf diese Weise kann die Batterie aufgeladen werden, ohne dass sie von dem Batteriesteckplatz entfernt werden muss.

[0023] Weiter ist es bevorzugt, dass die Ladevorrichtung eine USB-Vorrichtung (universal serial bus) zum Herstellen einer USB-Verbindung, vorzugsweise zum Anschluss eines USB-Kabels, und zum obigen Empfang der elektrischen Energie über die USB-Verbindung aufweist. Bevorzugt ist weiter, dass die USB-Vorrichtung von dem Gerätesteckplatz umfasst ist.

[0024] Weitere vorteilhafte und bevorzugte Ausgestaltungen ergeben sich aus der nachfolgenden Beschreibung mit Bezug auf die Figuren. In der lediglich ein Ausführungsbeispiel wiedergebenden Zeichnung zeigt

[0025] **Fig.** 1 eine schematische hintere Schnittansicht eines Ausführungsbeispiels eines vorschlagsgemäßen Schutzhelms,

[0026] **Fig.** 2 eine schematische Schnittansicht des Schutzhelms der **Fig.** 1 mit von der Batterieaufnahme aufgenommener Batterie und

[0027] **Fig.** 3 eine schematische Schnittansicht des Schutzhelms der **Fig.** 1 ohne von der Batterieaufnahme aufgenommene Batterie.

[0028] Bei dem dargestellten vorschlagsgemäßen Schutzhelm handelt es sich um einen Motorradschutzhelm. Er weist eine Außenschale **1** zur Verteilung von Aufprallkräften auf. Im dargestellten Ausführungsbeispiel besteht die Außenschale **1** aus Glasfaser mit einem zugesetzten Spezialharz. Fest mit der Außenschale **1** verbunden ist der Batteriesteckplatz

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2, welcher lösbar eine Batterie **3** aufnehmen kann. Eine Leitungsanordnung **4** ist mit dem Batteriesteckplatz **2** elektrisch verbunden und dient dazu, eine Elektrovorrichtung **5**, bei welcher es sich vorliegend um ein Funkmodul für Bluetooth handelt, mit Strom von der Batterie **3** zu versorgen. Die Elektrovorrichtung **5** ist mit der Außenschale **1** mechanisch gekoppelt, was untenstehend noch näher erläutert wird.

[0029] Der aus Kunststoff bestehende Batterierahmen **6** des Batteriesteckplatzes **2** sowie die Batterierahmenöffnung **7** zum Einführen der Batterie **3** in den Batterierahmen **6** ist sowohl in der **Fig.** 2 als auch in der **Fig.** 3 zu erkennen. In der Ebene des Batterierahmens **6** besteht dabei ein Formschluss zwischen der Batterie **3** und dem Batterierahmen **6**.

[0030] Der Schutzhelm weist einen ebenfalls aus Kunststoff bestehenden Helmabschluss **8**, welcher den unteren Rand der Außenschale **1** abdeckt und mit dem der Batterierahmen **6** fest verbunden ist, hier beispielsweise auch durch eine hier nicht gezeigte Schraubverbindung. Dabei bildet die Batterierahmenöffnung **7** auch eine Öffnung des Helmabschlusses **8** und ist so ausgerichtet, dass die Batterie **3** vertikal nach oben und entlang der Außenschale **1** in den Batterierahmen **6** eingeführt wird. Die Anordnung des Batterierahmens **6** sowie der Batterierahmenöffnung **7** ist dabei zwecks komfortablen Zugriffs versetzt zu der in den **Fig.** 2 und **Fig.** 3 angedeuteten vertikalen Mittellängsebene **9**, und zwar senkrecht zu dieser etwa auf halbem Wege bis zu einer maximal seitlichen Position **10** entlang des unteren Rands der Außenschale **1**.

[0031] Bezüglich der Mechanik des Batterierahmens **6** selbst ist aus der **Fig.** 2 und insbesondere der **Fig.** 3 erkennbar, dass der Batteriesteckplatz **2** eine – hier einstückig mit dem Batterierahmen **6** ausgebildete – Arretieranordnung **11**, welche ihrerseits einen Haken als Greifvorrichtung **12** sowie eine Kontaktfläche als Lösevorrichtung **13** umfasst. Durch Betätigung der Kontaktfläche mittels Druck wird der Haken aus dem Eingriff mit der Batterie **3** gelöst, sodass die Batterie **3** durch eine – hier nicht dargestellte – Federvorrichtung des Batteriesteckplatzes **2** aus dem Batterierahmen zumindest teilweise ausgeworfen wird.

[0032] Die **Fig.** 3 zeigt eine Polanordnung **14**, welche einen Leistungspol **14a**, einen Signalpol **14b** sowie einen Massepol **14c** umfasst und mit welcher Polanordnung **14** sowohl Leistung von der Batterie **3** übertragen als auch mit einer entsprechenden Logik der Batterie **3** kommuniziert werden kann.

[0033] Wie aus der **Fig.** 1 hervorgeht, ist die Leitungsanordnung **4** zwischen der Außenschale **1** und einer Innenschicht **15** zur Dämpfung von Aufprallkräften angeordnet. Im vorliegenden Ausführungsbeispiel besteht die Innenschicht aus expandiertem Polystyrol (EPS).

[0034] Zur Kopplung der Elektrovorrichtung **5** mit der Außenschale **1** weist der Schutzhelm einen in der **Fig.** 1 erkennbaren Gerätesteckplatz **16** auf, welcher die Elektrovorrichtung **5** lösbar aufnehmen kann. Der Gerätesteckplatz **16** weist einen hier aus Kunststoff bestehenden und nur in den **Fig.** 2 und **Fig.** 3 dargestellten Geräterahmen **17** auf, welcher innenseitig zur Außenschale **1** angeordnet ist und welcher eine Geräterahmenöffnung **18** zum Einführen und zum Entfernen der Elektrovorrichtung **5** aufweist. Eine Kontaktvorrichtung des Gerätesteckplatzes **15** zur elektrischen Kontaktierung der Elektrovorrichtung **5** ist hier nicht gesondert dargestellt. Der Geräterahmen **17** ist ebenfalls durch eine Schraubverbindung mit dem Helmabschluss **8** verbunden. Insgesamt ist die Anordnung des Geräterahmens **17** und insbesondere die Anordnung der Geräterahmenöffnung **18** im Wesentlichen mit Bezug auf den Batterierahmen **6** und die Batterierahmenöffnung **7** an der obigen vertikalen Mittellängsebene **9** gespiegelt, sodass sich auch für das Einführen der Elektrovorrichtung **5** in den Geräterahmen **17** im Wesentlichen die gleichen Merkmale und Vorteile ergeben.

[0035] Schließlich ist in der **Fig.** 1 noch ein USB-Anschluss **19** der Elektrovorrichtung **5** dargestellt, welcher USB-Anschluss mit einer hier nicht dargestellten USB-Vorrichtung des Gerätesteckplatzes **16** gekoppelt ist, bei welcher es sich um eine USB-Buchse handelt und welche USB-Vorrichtung von einer ebenfalls nicht gezeigten Ladevorrichtung des Schutzhelms umfasst ist. Mit dieser USB-Vorrichtung kann eine USB-Verbindung hergestellt werden, indem hier ein USB-Kabel über den USB-Anschluss **19** der Elektrovorrichtung **5** angeschlossen wird. Bei dem passenden Anschluss des USB-Kabels am jeweils anderen Ende mit einer Versorgungsvorrichtung kann dann die Batterie **5** von dieser Versorgungsvorrichtung über das USB-Kabel und dann über die Leitungsanordnung **4** aufgeladen werden. Es kann auch sein, dass bei Anschluss eines USB-Kabels an den USB-Anschluss **19** der Elektrovorrichtung **5** die USB-Verbindung logisch nur mit der Elektrovorrichtung **5** hergestellt wird und die Elektrovorrichtung **5** diese elektrische Energie dann über einen Ladepol des Gerätesteckplatzes **16** an die Ladevorrichtung abgibt.

Patentansprüche

1. Schutzhelm, insbesondere Motorradschutzhelm, mit einer Außenschale (**1**) zur Verteilung von Aufprallkräften, mit einem mit der Außenschale (**1**) fest verbundenen Batteriesteckplatz (**2**) zur lösbaren Aufnahme einer Batterie (**3**) und mit einer mit dem Batteriesteckplatz (**2**) elektrisch verbundenen Leitungsanordnung (**4**) zur Stromversorgung einer mit der Außenschale (**1**) mechanisch gekoppelten

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Elektrovorrichtung (**5**) durch die aufgenommene Batterie (**3**).

2. Schutzhelm nach Anspruch 1, **dadurch gekennzeichnet,** dass der Batteriesteckplatz (**2**) einen, vorzugsweise im Wesentlichen aus Kunststoff bestehenden, innenseitig zur Außenschale (**1**) angeordneten Batterierahmen (**6**) zur formschlüssigen Aufnahme der Batterie (**3**) mit einer Batterierahmenöffnung (**7**) zum Einführen der Batterie (**3**) in den Batterierahmen (**6**) aufweist.

3. Schutzhelm nach Anspruch 2, **dadurch gekennzeichnet,** dass der Batterierahmen (**6**) an einen unteren Rand der Außenschale (**1**) angrenzt und dass die Batterierahmenöffnung (**7**) im Wesentlichen an dem unteren Rand der Außenschale (**1**) angeordnet ist, vorzugsweise, dass sich der Batterierahmen (**6**) ausgehend von der Batterierahmenöffnung (**7**) im Wesentlichen entlang der Außenschale (**1**) erstreckt, insbesondere, sodass die Batterie (**3**) im Wesentlichen in vertikal oberer Richtung in den Batterierahmen (**6**) eingeführt wird.

4. Schutzhelm nach Anspruch 2 oder 3, **dadurch gekennzeichnet,** dass die Batterierahmenöffnung (**7**) seitlich zu einer vertikalen Mittellängsebene (**9**) des Schutzhelms versetzt angeordnet ist, vorzugsweise, dass die Batterierahmenöffnung (**7**) im Wesentlichen mittig zwischen einer maximal hinteren und einer maximal seitlichen Position (**10**) entlang des unteren Rands der Außenschale (**1**) angeordnet ist.

5. Schutzhelm nach einem der Ansprüche 2 bis 4, **dadurch gekennzeichnet,** dass der Schutzhelm einen fest mit der Außenschale (**1**) verbundenen Helmabschluss (**8**), vorzugsweise im Wesentlichen bestehend aus Kunststoff, zum zumindest teilweise Abdecken eines unteren Rands der Außenschale (**1**), vorzugsweise auch zur unteren Begrenzung des Schutzhelms, aufweist, insbesondere, dass der Batterierahmen (**6**) fest, vorzugsweise formschlüssig, mit dem Helmabschluss (**8**) verbunden ist.

6. Schutzhelm nach einem der Ansprüche 1 bis 5, **dadurch gekennzeichnet,** dass der Batteriesteckplatz (**2**) eine Federvorrichtung zum Vorspannen der aufgenommenen Batterie (**3**) in Auswurfrichtung und eine Arretieranordnung (**11**) mit einer Greifvorrichtung (**12**) zum formschlüssigen Festhalten der aufgenommenen Batterie (**3**) in dem Batterierahmen (**6**) aufweist, vorzugsweise, dass die Arretieranordnung (**11**) eine Lösevorrichtung (**13**) zum Lösen der Greifvorrichtung (**12**) und zum Auswerfen der aufgenommenen Batterie (**3**) aus dem Batterierahmen (**6**) aufweist, insbesondere, dass die Lösevorrichtung (**13**) durch Drücken betätigbar ist.

7. Schutzhelm nach einem der Ansprüche 1 bis 6, **dadurch gekennzeichnet,** dass der Batteriesteckplatz (**2**) eine Polanordnung (**14**) zur elektrischen und lösbaren Kopplung der aufgenommenen Batterie (**3**) aufweist, vorzugsweise, dass die Polanordnung (**14**) mindestens einen Leistungspol (**14a**) zur Übertragung elektrischer Energie und mindestens einen Signalpol (**14b**) zur Kommunikation mit der aufgenommenen Batterie (**3**) aufweist.

8. Schutzhelm nach Anspruch 7, **dadurch gekennzeichnet,** dass die Polanordnung (**14**) an einer der Batterierahmenöffnung (**7**) gegenüber liegenden Wand des Batterierahmens (**6**) angeordnet ist.

9. Schutzhelm nach einem der Ansprüche 1 bis 8, **dadurch gekennzeichnet,** dass der Schutzhelm eine von der Außenschale (**1**) aufgenommene Innenschicht (**15**) zur Dämpfung von Aufprallkräften aufweist und dass die Leitungsanordnung (**4**) zumindest teilweise zwischen der Außenschale (**1**) und der Innenschicht (**15**) angeordnet ist.

10. Schutzhelm nach einem der Ansprüche 1 bis 9, **dadurch gekennzeichnet,** dass die Elektrovorrichtung (**5**) eine Digitalvorrichtung zur drahtlosen Kommunikation ist, vorzugsweise, dass die Digitalvorrichtung ein Funkmodul für ein Wireless Personal Area Network (WPAN) ist, insbesondere, dass die Digitalvorrichtung ein Funkmodul für Bluetooth ist.

11. Schutzhelm nach einem der Ansprüche 1 bis 10, **dadurch gekennzeichnet,** dass der Schutzhelm einen elektrisch mit der Leitungsanordnung (**4**) und mechanisch, vorzugsweise fest, mit der Außenschale (**1**) gekoppelten Gerätesteckplatz (**16**) zur Kopplung mit der Elektrovorrichtung (**5**) aufweist, insbesondere, dass der Gerätesteckplatz (**16**) zur vorzugsweise lösbaren Aufnahme der Elektrovorrichtung (**5**) eingerichtet ist.

12. Schutzhelm nach Anspruch 11, **dadurch gekennzeichnet,** dass der Gerätesteckplatz (**16**) einen, vorzugsweise im Wesentlichen aus Kunststoff bestehenden, innenseitig zur Außenschale (**1**) angeordneten Geräterahmen (**17**) zur formschlüssigen Aufnahme der Elektrovorrichtung (**5**) mit einer Geräterahmenöffnung (**18**) zum Einführen der Elektrovorrichtung (**5**) in den Geräterahmen (**17**) aufweist.

13. Schutzhelm nach Anspruch 12, **dadurch gekennzeichnet,** dass der Geräterahmen (**17**) an einen unteren Rand der Außenschale (**1**) angrenzt und dass die Geräterahmenöffnung (**18**) im Wesentlichen an dem unteren Rand der Außenschale (**1**) angeordnet ist, vorzugsweise, dass sich der Geräterahmen (**17**) ausgehend von der Geräterahmenöffnung (**18**) im Wesentlichen entlang der Außenschale (**1**) erstreckt, insbesondere, sodass die Elektrovorrichtung

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(**5**) im Wesentlichen in vertikal oberer Richtung in den Geräterahmen (**17**) eingeführt wird.

14. Schutzhelm nach Anspruch 12 oder 13, **dadurch gekennzeichnet,** dass die Geräterahmenöffnung (**18**) seitlich zu einer vertikalen Mittellängsebene (**9**) des Schutzhelms versetzt angeordnet ist, vorzugsweise, dass die Geräterahmenöffnung (**18**) im Wesentlichen über die Mittellängsebene (**9**) gespiegelt zu der Batterierahmenöffnung (**7**) angeordnet ist.

15. Schutzhelm nach einem der Ansprüche 1 bis 14, **dadurch gekennzeichnet,** dass der Schutzhelm eine Ladevorrichtung zum Empfang von elektrischer Energie und zum Laden der aufgenommenen Batterie (**3**) mit der empfangenen elektrischen Energie aufweist, vorzugsweise, dass der Gerätesteckplatz (**16**) einen Ladepol, insbesondere einen Ladekontakt, zum Empfang der elektrischen Energie aufweist.

Es folgen 3 Seiten Zeichnungen

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Anhängende Zeichnungen

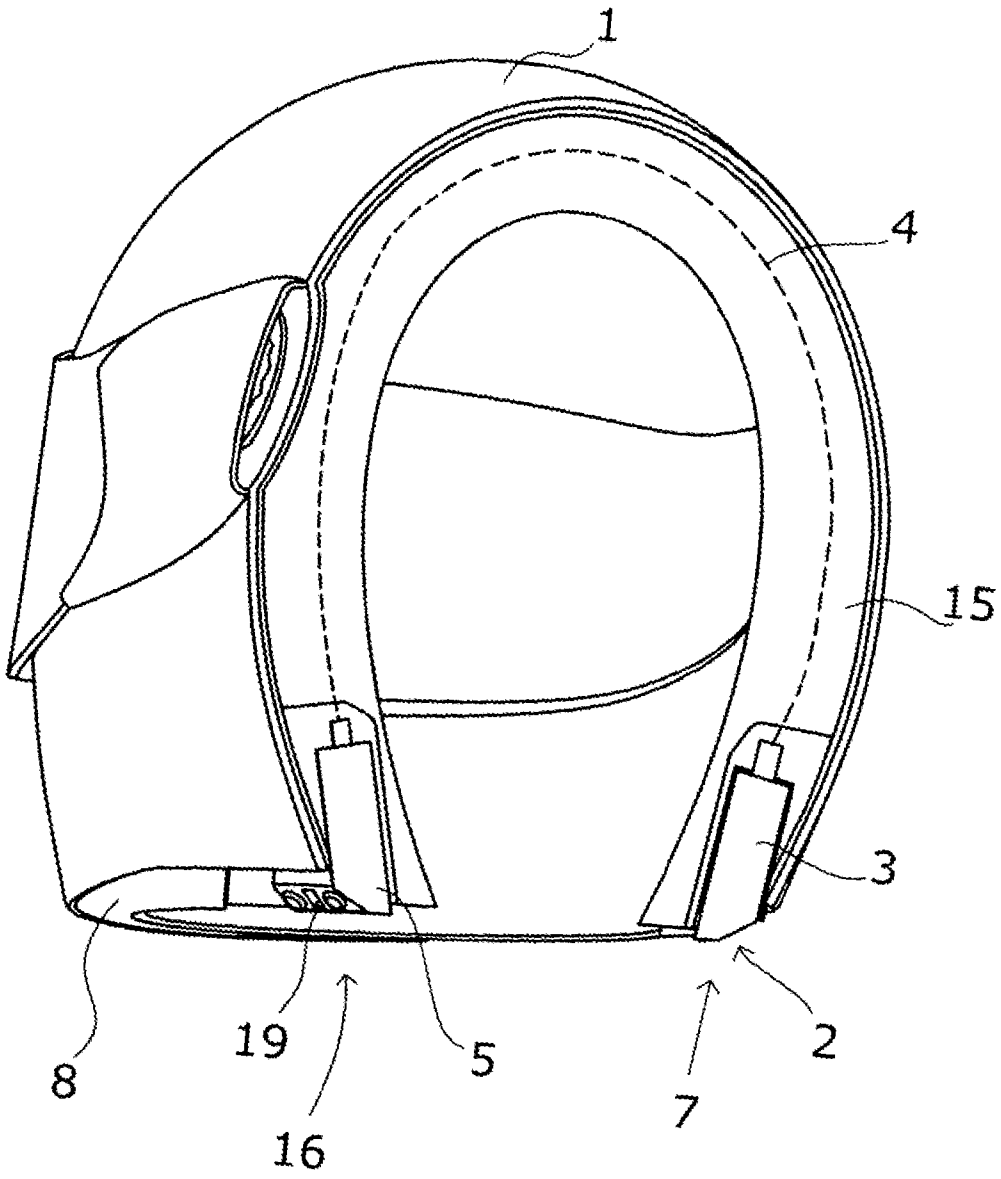


Fig. 1

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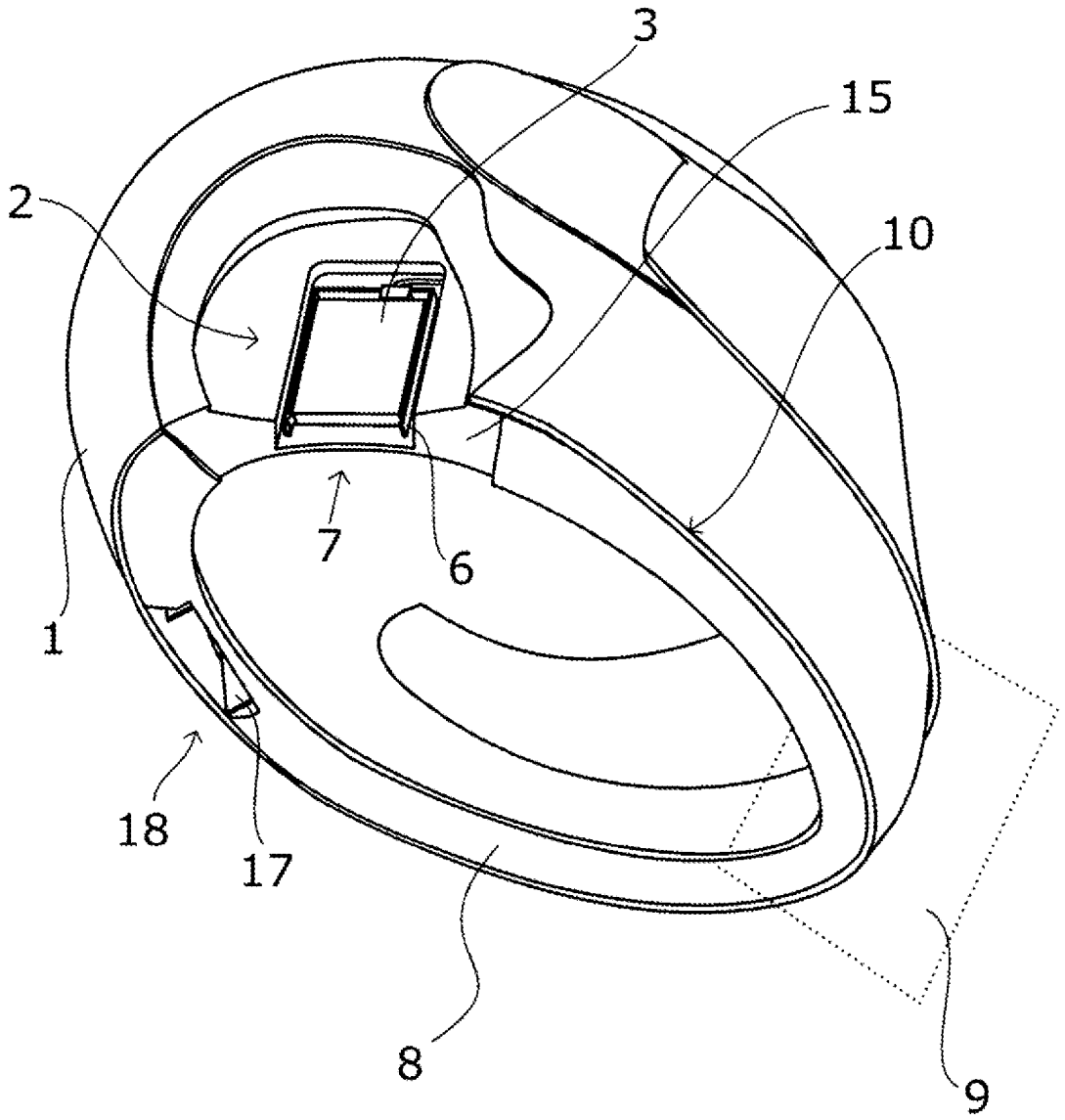


Fig. 2

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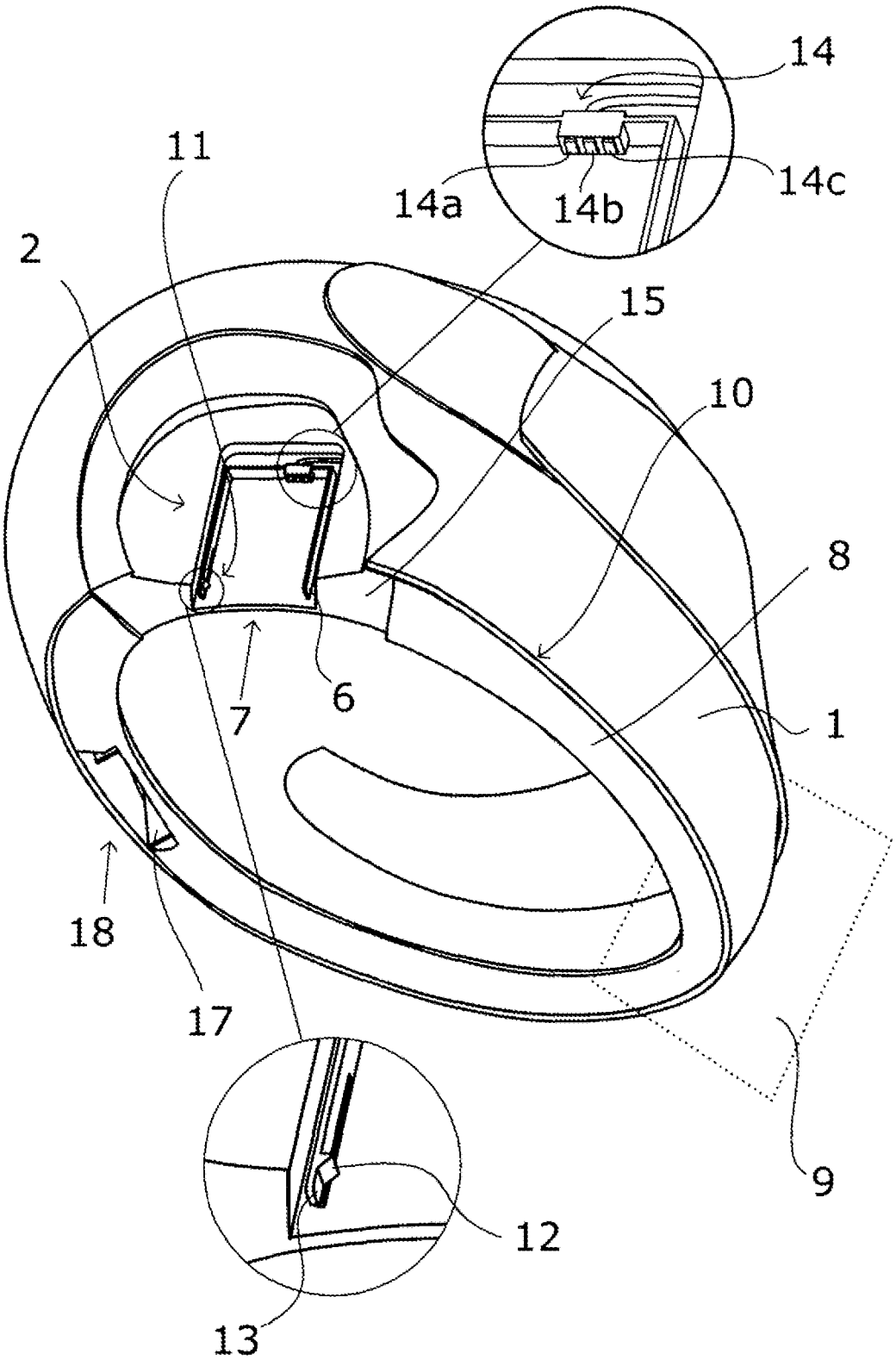


Fig. 3

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Patent No. 11,452,327 - IPR2025-00724

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	19	("20020116749" | "20050235403" | "20060048285" | "20060206994" | "4101983" | "5450631" | "5794272" | "5950243" | "6081931" | "6272692" | "6609254" | "7213271").PN. OR ("8060951").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/23 11:58
L2	1	("2019/0107247").URPN.	USPAT	OR	OFF	2021/07/23 11:59
L3	7	("10383387" | "20150351482" | "20190098952" | "20190104797" | "20190107247" | "6457838" | "9872531").PN. OR ("10939718").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/23 12:00
L4	15	("20040061032" | "20090059063" | "20110024585" | "20110142436" | "20120057331" | "5026016" | "5605501" | "5620120" | "6457838" | "6497493" | "8517559" | "9380868" | "9468294").PN. OR ("9872531").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/23 12:01
L5	66	("1252207" | "3021105" | "3346227" | "4088848" | "4346868" | "4805861").PN. OR ("5026016").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/23 12:02
L6	37	("3608935" | "3796901" | "5226181" | "5254852" | "5332183" | "5479294" | "5517337" | "5581806" | "5742937" | "6078428" | "6157471" | "6158866" | "6262849" | "6338586" | "6356393").PN. OR ("6811348").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/23 12:13
L7	229	(shoe same molded) and helmet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/23 12:14
L8	139	L7 and (safety or hard)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/23 12:15

L9	682	(shoe same molded) and (helmet or hat)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/23 12:15
L10	318	L9 and (work or safety)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/23 12:15
L11	220	L10 and (slot or aperture or opening)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/23 12:15
L12	1,486	(G02B23/125).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/23 12:18
L13	25	L12 and (shoe or mount) and (molding or moulding)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/23 12:19
L14	63	L12 and (shoe or mount) and (identical)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/23 12:20
L15	1,772	(A42B3/044).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/23 12:20

L16	25	L15 and (mount or shoe) and (molding or moulding)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/23 12:21
S1	61	("10886646" | "1947786" | "20080263752" | "20100083413" | "20110072562" | "20120224356" | "20120317706" | "20130086722" | "20140000013" | "20140000014" | "20140020159" | "20180192727" | "20190101359" | "20190104797" | "20200329806" | "5688039" | "9814622").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 16:45
S2	3	("2020/0329806").URPN.	USPAT	OR	OFF	2021/07/22 17:00
S3	28	("10702721" | "20190365011" | "20200329806" | "2362382" | "5148550" | "9707444" | "D241886" | "D256851" | "D277520" | "D280566" | "D311088" | "D317063" | "D340317" | "D459837" | "D522697" | "D525393" | "D527847" | "D536833" | "D557461" | "D630383" | "D654633" | "D658333" | "D665903" | "D667590" | "D741475" | "D885559").PN. OR ("D923880").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/22 17:00
S4	34	("10334902" | "20060174401" | "20070212930" | "20090077721" | "20110252546" | "20120182748" | "20120320569" | "20130086722" | "20130194784" | "20140000013" | "20140130241" | "20150223540" | "20150305425" | "20160208982" | "20170303619" | "20180292178" | "20190231016" | "20200329806" | "20200366872" | "4002895" | "4521831" | "5683831" | "6811348" | "6957449" | "7963426" | "7996917" | "8117676" | "8677516" | "8908389" | "9047790" | "9101175" | "9532621" | "9702534" | "9829182").PN. OR ("11019870").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/22 17:02
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		"6076295" | "6293038" | "6298591" | "6625913" | "6643847" | "6742294" | "7055275" | "7093305" | "7117621" | "7877909" | "8104208" | "D445262" | "D545573").PN. OR ("9047790").URPN.				
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S8	99	("1530402" | "2203028" | "2461201" | "2900696" | "3134548" | "3273163" | "3302018" | "3577561" | "4156942" | "4196966" | "4298913" | "4324158" | "4360930").PN. OR ("4521831").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/22 17:15
S9	42	("2931042" | "3068865" | "3106184" | "3946442" | "4521831" | "D133874" | "D154468" | "D162965" | "D169968" | "D171297" | "D171754" | "D179967" | "D204227" | "D205179" | "D226623" | "D230103" | "D244491" | "D257184" | "D274537" | "D278381" | "D283268").PN. OR ("D287061").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/22 17:19
S10	16	("20050174753" | "20110188236" | "3069539" | "3302018" | "4156942" | "4199802" | "4263588" | "4521831" | "4530112" | "5034747" | "5329637" | "6616294" | "8403515" | "8992039").PN. OR ("10743599").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/22 17:21
S11	63	("4521831" | "4760373" | "4769629" | "4862331" | "5313187" | "5658065" | "5688039" | "5758947" | "5810467" | "5910764" | "6113244" | "D424247").PN. OR ("6497493").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/22 17:23
S12	296	(A42B3/0446).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 17:52

S13	1,772	(A42B3/044).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 17:57
S14	1,802	(A42B3/042).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 19:58
S15	1,469	(A42B3/0406).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 20:14
S16	416	(A42B3/0426).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 21:09
S17	2,566	(A42B3/30).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 21:12
S18	2,994	(hard adj hat)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 21:17
S19	316	S18 and (slot and receive)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 21:17

S20	122	S19 and molded	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 21:17
S21	4	(safety adj helmet) and shell and brim and receptacle and slot	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 21:30
S22	0	(safety adj helmet) and shell and brim and recieve and accessory	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 21:31
S23	6	(safety adj helmet) and shell and brim and slot and accessory	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 21:36
S24	34	(helmet and slot and molding and accessory and receive and brim)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/07/22 21:37
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S26	11	("2002/0116749").URPN.	USPAT	OR	OFF	2021/07/22 21:46
S27	19	("20020116749" | "20050235403" | "20060048285" | "20060206994" | "4101983" | "5450631" | "5794272" | "5950243" | "6081931" | "6272692" | "6609254" | "7213271").PN. OR ("8060951").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/07/22 21:48

S28	2	("2016/0249700").URPN.	USPAT	OR	OFF	2021/07/22 21:49

EAST Search History (Interference)

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7/23/2021 12:25:33 PM
C:\Users\ahoey\Documents\EAST\Workspaces\16 246935.wsp

Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	16246935	Filing Date	2019-01-14	Docket Number (if applicable)	741300	Art Unit	3732
First Named Inventor	Shantanu Deshpande			Examiner Name	Alissa L. Hoey		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☒ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☒ Other Response to Final Office Action filed June 16, 2021

☐ Enclosed

☐ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 121216

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

X Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

Signature of Registered U.S. Patent Practitioner			
Signature	/Elias P. Soupos/	Date (YYYY-MM-DD)	2021-07-19
Name	Elias P. Soupos	Registration Number	57375

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Patent No. 11,452,327 - IPR2025-00724

Electronic Patent Application Fee Transmittal

Application Number:	16246935
Filing Date:	14-Jan-2019
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Filer:	Elias Panos Soupos/Robert Holland
Attorney Docket Number:	741300

Filed as Large 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:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
RCE- 1ST REQUEST	1801	1	1360	1360
		Total in USD ($)		**1360**

Electronic Acknowledgement Receipt

EFS ID:	43288015
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	161268
Filer:	Elias Panos Soupos/Robert Holland
Filer Authorized By:	Elias Panos Soupos
Attorney Docket Number:	741300
Receipt Date:	19-JUL-2021
Filing Date:	14-JAN-2019
Time Stamp:	16:59:11
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$1360
RAM confirmation Number	E20217IG59290900
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	Request for Continued Examination (RCE)	RCE.pdf	1349979 1c0df678706f5ecb5836d850b69ef35366f9d9c0	no	3
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30138 a56e0f275bd88d2b3bbbf47d5520a0124d419bd8	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1380117		

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 06/25/2021

LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
06/25/2021	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):

Chgpatent@leydig.com

Advisory Action Before the Filing of an Appeal Brief	Application No. 16/246,935	Applicant(s) Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	AIA (FITF) Status Yes

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

THE REPLY FILED 16 June 2021 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☑ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires ____ months from the mailing date of the final rejection.
   b) ☑ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection.The current period for reply expires ____ months from the mailing date of *the prior Advisory Action* or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.
   Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANTS FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37CFR 41.37(a).

AMENDMENTS

3. ☑ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   a) ☑ They raise new issues that would require further consideration and/or search (see NOTE below);
   b) ☐ They raise the issue of new matter (see NOTE below);
   c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: See Continuation Sheet (See 37CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicants reply has overcome the following rejection(s): _____
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☑ For purposes of appeal, the proposed amendment(s):(a) ☑ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____
9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☑ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
14. ☐ Other: _____.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:
    Claim(s) allowed:_____.
    Claim(s) objected to:2,5,21 and 23.
    Claim(s) rejected:1,3-4,6-13,22 and 24.
    Claim(s) withdrawn from consideration:_____.

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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Continuation of 3. NOTE: The amendments to all the pending independent claims and newly added claims 25-34 require further considerations and search.

Continuation of REQUEST FOR RECONSIDERATION/OTHER 12. The request for reconsideration has been considered but does NOT place the application in condition for allowance because: The claim amendments requiring a brim and the receptacle being located above the brim requires further consideration and search. The prior art to Teetzel et al. does not teach the slot being above the brim, but does teach a receptacle above a edge trim member of a helmet, which may be considered a brim, since it extends out further than the crown portion and is capable of blocking sun from a user's eyes depending upon angle and positioning of the helmet. However, further consideration is required to determine if the receptacles are identical on each side of the helmet. The 112 2nd paragraph rejection of claims 22 and 24 (also newly added claim 33) teach the slot being unitary with the helmet, Applicant points to figure 5, which does not detail the unitary formation of a slot with a helmet. This may still be considered new matter along with the amendments to the specification submitted 06/16/21. Further consideration is required.

DO NOT ENTER: /A.L.H/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Attorney Docket No. 741300

Customer No.: 23460

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO FINAL OFFICE ACTION

In reply to the Final Office Action dated April 19, 2021, please enter the following amendments and election, and consider the following remarks.

Amendments to the Specification appear on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper.

Remarks/Arguments begin on page 8 of this paper.

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PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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 16/246,935	Filing Date 01/14/2019	☐ 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 $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ 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	06/16/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 21	Minus	** 24	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $480 =	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".	/CHERYL A CLARK/
*** 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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Attorney Docket No. 741300

Customer No.: 23460

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO FINAL OFFICE ACTION

In reply to the Final Office Action dated April 19, 2021, please enter the following amendments and election, and consider the following remarks.

Amendments to the Specification appear on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper.

Remarks/Arguments begin on page 8 of this paper.

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AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0019] of the specification as indicated below:

[0019] The safety helmet 100 is shown from a rear perspective in FIG. 2. As shown, the safety helmet 100 includes a second device 201 mounted on the rear side of the hard outer shell 1. While in certain embodiments the second device 201 may be releasably mounted to the safety helmet 100 using a second tapered receiver slot that is a unitary part of the outer shell 1, similar to the front tapered receiver slot 5 on the front of the helmet (FIG. 1), in the illustrated embodiment, the second device 201 is non-releasably or, generally permanently, mounted onto the safety helmet 100. The second device shown in FIG. 2 is a battery pack or power storage device that houses disposable or rechargeable battery power cells. The battery cells in the second device 201 are configured to provide electrical potential in the form of a direct current (DC) electrical power output into two conductors, 203 and 204 (shown in FIG. 1), which are integrated into the hard outer shell 1.

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Patent No. 11,452,327 - IPR2025-00724

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, [[and]] a rear side, and a brim extending forward from the front side to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle ~~disposed on~~ extending upwardly along the front side of the outer shell above the brim;

a rear receptacle disposed on the rear side of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, the mating receptacle being selectively engageable with each of the front receptacle or the rear receptacle such that the accessory device is ~~being~~ releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.

2. (Previously presented) The safety helmet of claim 1, wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the stop engages the clip to releasably mount the accessory device in the front receptacle.

3. (Original) The safety helmet of claim 1, wherein the outer shell is made from a molded plastic material.

4. (Currently Amended) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, [[and]] a rear side, and a brim extending forward from the front side to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user,

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and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle ~~disposed on~~ extending upwardly along the front side of the outer shell above the brim;

a rear receptacle disposed on the rear side of the outer shell;

a first accessory device having a first mating receptacle formed thereon, the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

5. (Previously presented) The safety helmet of claim 4, wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the stop engages the clip to releasably mount the first accessory device in the front receptacle.

6. (Original) The safety helmet of claim 4, wherein the outer shell is made from a molded plastic material.

7–12. (Cancelled)

13. (Previously Presented) The safety helmet of claim 4, where in the front receptacle and the rear receptacle are of identical construction.

14–20. (Cancelled)

21. (Previously presented) The safety helmet of claim 1, wherein the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the protruding nub engages the clip to releasably mount the accessory device in the front receptacle.

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22. (Currently Amended) The safety helmet of claim [[1]]27, wherein the ~~front receptacle and the rear receptacle are of~~ slot is a unitary part of the outer shell.

23. (Previously presented) The safety helmet of claim 4, wherein the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the protruding nub engages the clip to releasably mount the first accessory device in the front receptacle.

24. (Currently Amended) The safety helmet of claim [[4]]30, wherein the ~~front receptacle and the rear receptacle are~~ slot is a unitary part of the outer shell.

25. (New) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending outwardly from the front side to shield the user's eyes from sunlight or falling debris;

a front receptacle extending upwardly on the front side of the outer shell above the brim;

a rear receptacle disposed on the rear side of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, the mating receptacle being selectively engageable with each of the front receptacle or the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.

26. (New) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim extending outwardly from the front side to shield the user's eyes from sunlight or falling debris;

a front receptacle extending upwardly on the front side of the outer shell above the brim;

a rear receptacle disposed on the rear side of the outer shell;

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a first accessory device having a first mating receptacle formed thereon, the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

27. (New) The safety helmet of claim 1, wherein the front receptacle includes a slot configured to receive a portion of the accessory device to mount the accessory device to the front receptacle.

28. (New) The safety helmet of claim 1, wherein:

the front receptacle includes a first sidewall;

the accessory device includes a bracket; and

the bracket is retained by the first sidewall to mount the accessory device to the front receptacle.

29. (New) The safety helmet of claim 28, wherein:

the front receptacle includes a second sidewall; and

the bracket is retained by the first sidewall and the second sidewall.

30. (New) The safety helmet of claim 4, wherein the front receptacle includes a slot configured to receive a portion of the first accessory device to mount the first accessory device to the front receptacle.

31. (New) The safety helmet of claim 4, wherein:

the front receptacle includes a first sidewall;

the first accessory device includes a bracket; and

the bracket is retained by the first sidewall to mount the first accessory device to the front receptacle.

32. (New) The safety helmet of claim 31, wherein:

the front receptacle includes a second sidewall; and

the bracket is retained by the first sidewall and the second sidewall.

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33. (New) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user;

a brim disposed on the front side and extending away from the outer shell in a generally forward direction;

a front receptacle disposed on the front side of the outer shell above the brim, the front receptacle extending along the outer shell in an upward direction;

a rear receptacle disposed on the rear side of the outer shell, the rear receptacle extending along the outer shell in the upward direction, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, the accessory device being releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell, wherein when the accessory device is mounted onto the front receptacle, the accessory device is disposed above the brim;

wherein the front receptacle includes a slot configured to receive a portion of the accessory device to mount the accessory device to the front receptacle; and

wherein the slot is a unitary part of the outer shell.

34. (New) The safety helmet of claim 33, further comprising:

a second accessory device having a second mating receptacle formed thereon, the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell;

wherein the front receptacle includes an additional slot configured to receive a portion of the first accessory device to mount the accessory device to the front receptacle; and

wherein the additional slot is a unitary part of the outer shell.

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REMARKS / ARGUMENTS

Reconsideration of the application and claims in light of the foregoing amendments and following remarks/arguments is respectfully requested.

I. Substance of Interview Summary

An Applicant-initiated telephone interview was conducted on May 10, 2021, between Examiner Hoey, and attorneys for Applicant Jeff Fairchild, John Whelan, and Elias Soupos. During the interview, the rejection under Section 112, first paragraph, relating to the receptacles being a unitary part of the outer shell, and the rejections under Section 102 in view of Teetzel were discussed, but no agreement was reached. Certain proposed amendments to the specification and drawings were also presented by Applicant's representative. Applicant thanks Examiner Hoey for her time and consideration in granting the interview.

II. Status of Claims

The instant application was filed with 20 claims. In the present response, claims 1, 4, 22, and 24 are amended, claims 7–12 and 14–20 are cancelled, and new claims 25–34 are introduced. Certain amendments to claims 1 and 4 introduce the "brim" element. Certain of the newly presented claims discuss elements of the recited "receptacles" for clarity. All amendments are supported by the original disclosure and introduce no new matter into the present application.

Following entry of the present response, claims 1–6, 13, and 21–34 will remain pending.

In a Final Office Action mailed on April 19, 2021, claims 22 and 24 were rejected under Section 112, first paragraph, for failing to comply with the written description requirement. Claims 1, 3–4, 6–13, 22 and 24 were rejected under Section 102(a)(1) in view of Teetzel (US 2014/0020159). Claims 2, 5, 21 and 23 were indicated as allowable if rewritten in independent form including all intervening claim limitations.

In the present response, claims 1 and 4 are amended to recite a "brim," which is stated to extend forward from the front side of the outer shell to shield the user's eyes, and is configured to be disposed above the face of the user; the front receptacle extends upwardly

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along the outer shell above the brim. Similar limitations are included in new independent claims 25, 26, and 33. Applicant asserts that the claims, as amended distinguish over Teetzel, who does not describe or suggest any such structure for a "brim." Applicant has further amended certain portions of the specification and claims to satisfy the written description requirement as provided under Section 112, first paragraph. Accordingly, reconsideration, withdrawal of the rejections, and allowance of the claims are hereby respectfully requested.

III. Amendments to the Specification

In the present response, par. [0019] of the specification is amended for clarity and consistency with the claims. With respect to claims 22 and 24, these claims are amended to recite that the "slot" is unitarily formed with the outer shell, support for which can be found, for example, in FIG. 5, where a portion of the slot being integrated with the outer shell (2) can be seen on the left side of the figure (adjacent 203). In view of the above amendment to the specification and claims, Applicant respectfully requests reconsideration and withdrawal of the rejection under Section 112, first paragraph.

IV. Claim Rejections Under 35 U.S.C. § 102

In the Office Action, the disclosure of Teetzel is relied upon for the rejection of the claims under Section 102. As explained during the telephone interview with the Examiner, Teetzel describes a combat-style helmet that does not include a "brim" as recited in the amended claims, for example, claim 1, in which the brim is recited to:

- extend forward from the front side of the outer shell;
- shield the user's eyes from sunlight or falling debris;
- configured to be disposed above the face of the user when the front side is oriented above the face of the user;
- have a front receptacle that extends upwardly along the front side of the outer shell and that is above the brim;

or any similar structure. Instead, Teetzel describes a helmet having an "edge trim member" (120, FIG. 3) connected to the helmet shell (110), which trim member does not extend forward or shield the user's eyes from above, as is now recited in the claims. An annotated illustration of Teetzel's FIG. 3, which was also previously submitted in Applicant's last response, is reproduced below for illustration:

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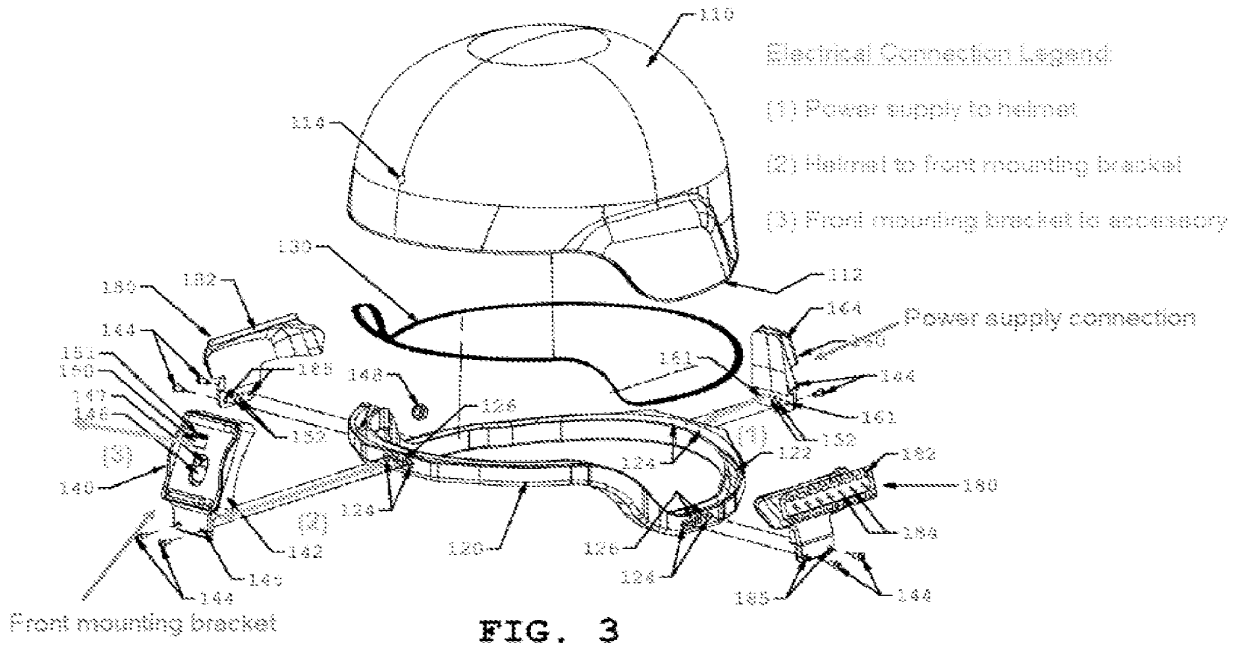


FIG. 3

Nor would it be obvious to modify Teetzel to include a brim such as those recited in the amended claims. Teetzel's helmet includes mounting brackets that extend across the edge trim member and are, in fact, connected to electrical conductors carried within the edge trim member. Moreover, Teetzel describes use of accessories such as night-vision goggles that are attached to the brackets and that would be unusable as intended if a brim was added to the helmet. Accordingly, the claims are allowable over Teetzel.

VIII. Conclusion

Applicant respectfully submits that the present application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the present application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

/Elias P. Soupos/

Elias P. Soupos, Reg. No. 57,375
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: June 16, 2021

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Electronic Patent Application Fee Transmittal

Application Number:	16246935
Filing Date:	14-Jan-2019
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Filer:	Elias Panos Soupos/Robert Holland
Attorney Docket Number:	741300

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
INDEPENDENT CLAIMS IN EXCESS OF 3	1201	2	480	960
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**960**

Electronic Acknowledgement Receipt

EFS ID:	42999791
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	161268
Filer:	Elias Panos Soupos/Robert Holland
Filer Authorized By:	Elias Panos Soupos
Attorney Docket Number:	741300
Receipt Date:	16-JUN-2021
Filing Date:	14-JAN-2019
Time Stamp:	10:55:51
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$960
RAM confirmation Number	E20216FA56133755
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		ROA-3rd.pdf	301720 9b99c78f534803e72b1fd9c58340c7f76521228f	yes	11

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	1
	Response After Final Action	2	2
	Specification	3	3
	Claims	4	8
	Applicant Arguments/Remarks Made in an Amendment	9	11

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30587 fd3df4a090f57a02bb13ce072ea04161d92bf004	no	2

Warnings:

Information:

Total Files Size (in bytes):	332307

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

USPTO TRANSMITTAL

PATENT
Attorney Docket No. 741300

Application No. 16/246,935
Confirmation No. 7407

Transmitted herewith is a reply to office action in the subject application.

☒ Petition for an extension of time for the period noted below, as well as for any additional period necessary to render the present submission timely. Please charge Deposit Account No. 12-1216 for the appropriate petition fee.

☐ Other:

☒ Please charge Deposit Account No. 12-1216 in the total amount indicated below.

TIME EXTENSION PETITION FEE			none			$0
subtract time extension fee previously paid			none			($0)
CLAIM FEE	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	EXTRA CLAIMS PRESENT	RATE	ADDITIONAL CLAIM FEE
TOTAL	21	MINUS	24	= 0	x $100 =	$0
INDEPENDENT	5	MINUS	3	= 2	x $480 =	$960
☐ FIRST PRESENTATION OF MULTIPLY DEPENDENT CLAIM					+ $860 =	$0
SUBTOTAL (of all items above)						$960
☐ Small entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ½.						($0)
☐ Micro entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ¾.						($0)
OTHER FEES AS DESCRIBED:						$0
TOTAL AMOUNT TO BE CHARGED TO DEPOSIT ACCOUNT						**$960**

☒ The Commissioner is hereby authorized to charge any deficiencies in the following fees associated with this communication or credit any overpayment to Deposit Account No. 12-1216.
- ☒ Any filing fees under 37 CFR 1.16 and/or 1.492 for the presentation of extra claims.
- ☒ Any patent application processing fees under 37 CFR 1.17.

Leydig

/Elias P. Soupos/
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Date: June 16, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 05/14/2021

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EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
05/14/2021	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):

Chgpatent@leydig.com

Applicant-Initiated Interview Summary	Application No. 16/246,935	Applicant(s) Deshpande et al.		
	Examiner ALISSA L HOEY	Art Unit 3732	AIA (First Inventor to File) Status Yes	Page 1 of 2

All Participants (applicant, applicants representative, PTO personnel)	Title	Type
ALISSA L HOEY	Primary Examiner	Telephonic
ELIAS SOUPOS	Attorney of Record	
JEFF FAIRCHILD	Attorney	
JOHN WHELAN	Attorney	

Date of Interview: 10 May 2021

Issues Discussed:

35 U.S.C. 112

Discussed the 112 1st paragraph rejection that the receptacles are a unitary part of the outer shell and ways to specifically define what portions of the receptacle are molded with the outer shell as opposed to the portions of the receptacles that deal with the electronic components and connections.

35 U.S.C. 102

Discussed that proposed claim amendments with respect to the Teetzel et al. reference detailing the brim portion. While Teetzel et al. does not specifically define a brim portion, brim portions on helmets are known. Detailing where the receptacle is connected on the crown above the brim might be a further way to define the claim to overcome a new 103 rejection with the receptacle located on the brim to retain a night vision accessory.

☑ Attachment

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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
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

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the 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.

PROPOSED AMENDMENTS TO THE SPECIFICATION

Please amend the following paragraphs of the specification as indicated below:

***

[0005] In one aspect, the present disclosure describes a safety helmet. The safety helmet includes an outer shell adapted to be worn by a user. The outer shell has a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user. A front receptacle is disposed on the front side of the outer shell, and a rear receptacle is disposed on the rear side of the outer shell. The front receptacle and the rear receptacle are of identical construction. An accessory device has a mating receptacle formed thereon, and is releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell. In a further aspect, the front receptacle and the rear receptacle are of a unitary part of the outer shell.

[0006] In another aspect, the disclosure describes a safety helmet, which includes an outer shell adapted to be worn by a user. The outer shell has a front side and a rear side. The outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user. A front receptacle is disposed on the front side of the outer shell, and a rear receptacle is disposed on the rear side of the outer shell. A first accessory device has a first mating receptacle formed thereon and is releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell, and a second accessory device has a second mating receptacle formed thereon and is releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell. In a further aspect, the front receptacle and the rear receptacle are of a unitary part of the outer shell.

***

[0018] The mounting bracket 4 and front tapered receiver slot 5 are one exemplary embodiment for releasably connecting the device 200 to the safety helmet 100. As also shown in ~~FIGS.~~ Fig. 3 ~~and 4~~, the front tapered receiver slot 5 is a unitary part of the outer shell 1 and includes a tapered channel 16 formed between a pair of raised sidewalls 18 and a protruding nub 17 extending from the surface of the hard outer shell 1 of the safety helmet 100. As shown in

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Patent No. 11,452,327 - IPR2025-00724

Fig. 4, the ~~The~~ mounting bracket 4 is in the form of a tapered clip 19 conforming to the tapered channel 16 such that it is retained by the raised sidewalls 18 when it is inserted into the tapered channel. A slot 20 in the tapered clip 19 receives the protruding nub 17 on the hard outer shell 1 of the safety helmet 100 locking it into place. The mounting bracket 4 can be detached from the front tapered receiver slot 5 by pulling on the release lever 21 of the tapered clip 19, which disengages the protruding nub 17 from the slot 20 to allow the headlamp device 200 to be lifted out of the tapered channel 16.

[0019] The safety helmet 100 is shown from a rear perspective in FIG. 2. As shown, the safety helmet 100 includes a second device 201 mounted on the rear side of the hard outer shell 1. While in certain embodiments the second device 201 may be releasably mounted to the safety helmet 100 using a second tapered receiver slot that is a unitary part of the outer shell 1, similar to the front tapered receiver slot 5 on the front of the helmet (FIG. 1), in the illustrated embodiment, the second device 201 is non-releasably or, generally permanently, mounted onto the safety helmet 100. The second device shown in FIG. 2 is a battery pack or power storage device that houses disposable or rechargeable battery power cells. The battery cells in the second device 201 are configured to provide electrical potential in the form of a direct current (DC) electrical power output into two conductors, 203 and 204 (shown in FIG. 1), which are integrated into the hard outer shell 1.

***

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PROPOSED AMENDMENTS TO THE CLAIMS

1. (Proposed amendment) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, [[and]] a rear side, and a brim disposed on the front side to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user, and wherein the brim is configured to be disposed above the face of the user when the outer shell is worn by the user with the front side being oriented above the face of the user;

a front receptacle disposed on the front side of the outer shell above the brim;

a rear receptacle disposed on the rear side of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, the mating receptacle being selectively engageable with each of the front receptacle or the rear receptacle such that the accessory device is ~~being~~ releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.

2. (Previously presented) The safety helmet of claim 1, wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the stop engages the clip to releasably mount the accessory device in the front receptacle.

3. (Original) The safety helmet of claim 1, wherein the outer shell is made from a molded plastic material.

4. (Proposed amendment) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, [[and]] a rear side, and a brim formed on the front side to shield the user's eyes from sunlight or falling debris, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user;

a front receptacle disposed on the front side of the outer shell above the brim;

a rear receptacle disposed on the rear side of the outer shell;

NOT FOR ENTRY

a first accessory device having a first mating receptacle formed thereon, the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

5 (Previously presented) The safety helmet of claim 4, wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the stop engages the clip to releasably mount the first accessory device in the front receptacle.

6. (Original) The safety helmet of claim 4, wherein the outer shell is made from a molded plastic material.

7. (Previously Presented) The safety helmet of claim 1,

wherein the front receptacle includes a front set of terminals associated therewith, and the rear receptacle includes a rear set of terminals associated therewith; and

wherein a set of conductors is connected between the front set of terminals and the rear set of terminals.

8. (Original) The safety helmet of claim 7, wherein the set of conductors are integrated into the outer shell.

9. (Original) The safety helmet of claim 7, wherein the outer shell is made from a molded plastic material, and wherein the front set of terminals and the rear set of terminals are molded into the outer shell.

10. (Original) The safety helmet of claim 7, wherein a first accessory device is connected to the front receptacle and is a consumer of power, wherein a second accessory device is connected to the rear receptacle and is a power storage device, and wherein a circuit providing power from the second accessory device to the first accessory device is created while the first

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accessory device and the second accessory device are mounted onto the front receptacle and rear receptacles.

11. (Currently Amended) The safety helmet of claim 10, wherein each of the first accessory device and the second accessory device is a consumer of power [[a]] having a power source integrated therewith.

12. (Original) The safety helmet of claim 11, wherein the power source of the first accessory device and the power source of the second accessory device are in electrical contact with one another to share power through the circuit.

13. (Previously Presented) The safety helmet of claim 4, where in the front receptacle and the rear receptacle are of identical construction.

14. (Withdrawn) A method for using a protective device, comprising:

providing an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that the front side or the rear side is oriented above a face of the user when the user wears the outer shell;

providing a front receptacle disposed on the front side of the outer shell;

providing a rear receptacle disposed on the rear side of the outer shell;

releasably attaching an accessory device having a mating receptacle formed thereon into one of the front receptacle or the rear receptacle; and

detaching the accessory device and reattaching the accessory device into another one of the front receptacle or the rear receptacle.

15. (Withdrawn) The method of claim 14, further comprising electrically interconnecting terminals associated with the front and rear receptacles using a set of conductors.

16. (Withdrawn) The method of claim 15, wherein the outer shell is made from a molded plastic material, and wherein the terminals are molded into the outer shell.

17. (Withdrawn) The method of claim 15, further comprising:

connecting an additional accessory device into the front or rear receptacles; and

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transferring electrical power between the accessory device and the additional accessory device through the set of conductors.

18. (Withdrawn) The method of claim 17, wherein the accessory device is a lantern and wherein the additional accessory device includes one or more batteries.

19. (Withdrawn) The method of claim 15, wherein the set of conductors is molded into the outer shell.

20. (Withdrawn) The method of claim 14, where in the front receptacle and the rear receptacle are of identical construction.

21. (Previously presented) The safety helmet of claim 1, wherein the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the protruding nub engages the clip to releasably mount the accessory device in the front receptacle.

22. (Previously presented) The safety helmet of claim 1, wherein the front receptacle and the rear receptacle are of a unitary part of the outer shell.

23. (Previously presented) The safety helmet of claim 4, wherein the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the protruding nub engages the clip to releasably mount the first accessory device in the front receptacle.

24. (Previously presented) The safety helmet of claim 4, wherein the front receptacle and the rear receptacle are a unitary part of the outer shell.

25. (Proposed – New) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim disposed on the front side and above the face of the user to shield the user's eyes from sunlight or falling debris;

a front receptacle disposed on the front side of the outer shell above the brim;

NOT FOR ENTRY

a rear receptacle disposed on the rear side of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction; and

an accessory device having a mating receptacle formed thereon, the mating receptacle being selectively engageable with each of the front receptacle or the rear receptacle such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.

26. (Proposed – New) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side, a rear side, and a brim formed on the front side and above the face of the user to shield the user's eyes from sunlight or falling debris;

a front receptacle disposed on the front side of the outer shell above the brim;

a rear receptacle disposed on the rear side of the outer shell;

a first accessory device having a first mating receptacle formed thereon, the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 04/19/2021

LEYDIG VOIT & MAYER, LTD (Klein Tools)
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180 NORTH STETSON AVENUE
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EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
04/19/2021	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):

Chgpatent@leydig.com

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 285
Patent No. 11,452,327 - IPR2025-00724

Office Action Summary	Application No. 16/246,935	Applicant(s) Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	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 _____.

☐ 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) 1-24 is/are pending in the application.

5a) Of the above claim(s) 14-20 is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1,3-4,6-13,22 and 24 is/are rejected.

8) ☑ Claim(s) 2,5,21 and 23 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.

Response to Amendment

This is in response to amendment received on 04/07/21. Claims 2 and 5 have been amended, claims 21-24 have been newly added, and claims 14-20 are withdrawn. Claims 1-13 and 21-24 are examined herein.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

> (a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

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

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 22 and 24 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for applications subject to pre-AIA 35 U.S.C. 112, the inventor(s), at the time the application was filed, had

possession of the claimed invention. There was no support in the originally filed disclosure teaching the receptacles being a unitary part of the outer shell. The receptacles are disclosed as being disposed on the outer shell, but there is no mention of the front and rear receptacles being a unitary part of the molded outer shell.

Claim Rejections - 35 USC § 102

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention.

Claim(s) 1, 3-4, 6-13, 22 and 24 is/are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Teetzel et al. (US 2014/0020159).

In regard to claim 1, Teetzel et al. teaches the following: a safety helmet (helmet: 100), comprising: an outer shell (shell: 110) adapted to be worn by a user (figure 1), the outer shell having a front side and a rear side (see Figures 1, 4 and 5), wherein the outer shell (110) is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user (reversible as desired, capable of being worn as such); a front receptacle (contacts: 126 and openings: 124) disposed on the front side of the outer shell (figure 4); a rear receptacle (contacts: 126 and openings: 124) disposed on the rear side of the outer shell (figure 5), wherein the front receptacle and the rear receptacle are of identical

construction (front and rear construction are of identical contacts and openings); an accessory device (140 or 160) having a mating receptacle formed thereon (fasteners: 144 and contacts: 152; paragraph 0051), the accessory device (140 or 160) being releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell (capable of being detached to front and rear receptacle as desired, since both front and rear receptacle have the same mounting structure).

In regard to claim 3, Teetzel et al. teaches wherein the outer shell (110) is made from a molded plastic material (paragraph 0043).

In regard to claim 4, Teetzel et al. teaches an outer shell (110) adapted to be worn by a user (see figure 1), the outer shell having a front side and a rear side (see figures 4 and 5), wherein the outer shell (110) is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user (sufficient structure capable of being worn as desired); a front receptacle (connectors: 126 and openings:124) disposed on the front side of the outer shell (figure 4); a rear receptacle (connectors: 126 and openings: 124) disposed on the rear side of the outer shell (figure 5); a first accessory device (140) having a first mating receptacle (connectors: 152) formed thereon, the first accessory device (140) being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell (sufficient structure to mount to identical front or rear connectors); and a second accessory (160) device having a second mating receptacle formed thereon (connectors: 152), the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell (sufficient structure to mount to identical front or rear connectors).

In regard to claim 6, Teetzel et al. teaches wherein the outer shell (110) is made from a molded plastic material (paragraph 0043).

In regard to claim 7, Teetzel et al. teaches wherein the front receptacle includes a front set of terminals (connectors: 126) associated therewith, and the rear receptacle includes a rear set of terminals (connectors: 126) associated therewith; and wherein a set of conductors (circuit member: 130 and conductors: 132) is connected between the front set of terminals and the rear set of terminals (paragraph 0045 and 0016).

In regard to claim 8, Teetzel et al. teaches wherein the set of conductors (130, 132) are integrated into the outer shell (figure 3 and paragraph 0045).

In regard to claim 9, Teetzel et al. teaches wherein the outer shell (shell: 110) is made from a molded plastic material (paragraph 0043), and wherein the front set of terminals and the rear set of terminals are molded into the outer shell (paragraphs 044-0045: figure 3).

In regard to claim 10, Teetzel et al. teaches wherein a first accessory device (140) is connected to the front receptacle and is a consumer of power (mounting member with night vision: 142 is a consumer of power: paragraph 0048), wherein a second accessory device (160) is connected to the rear receptacle and is a power storage device (160 receiver battery pack: 162), and wherein a circuit (130, 132) providing power from the second accessory device to the first accessory device is created while the first accessory device and the second accessory device are mounted onto the front receptacle and rear receptacles (paragraph 0045 and 0016; sufficient identical structure for front or back connectors to retain the battery or the night vision).

In regard to claim 11, Teetzel et al. teaches wherein each of the first accessory device (140, 142) and the second accessory device (168, 174) is a consumer of power a having power source integrated therewith (associated with battery attached via 176 and 172: paragraph 0053).

In regard to claim 12, Teetzel et al. teaches wherein the power source of the first accessory device (140, 142) and the power source (168, 174) of the second accessory device are in electrical contact with one another to share power through the circuit (paragraph: 0053, share power from matter attached to 176 and are connected via wires and conductors: 130, 132).

In regard to claim 13, Teetzel et al. teaches wherein the front receptacle and the rear receptacle are of identical construction (conductors: 126 and openings: 124 on front and back in figures 4 and 5).

In regard to claims 22 and 24, Teetzel et al. teaches wherein the front receptacle and the rear receptacle are a unitary part of the outer shell (see figures 4 and 5, identifiers 124, 126 detailing the front and rear receptacle which are a unitary part of the outer shell 110, 102).

Allowable Subject Matter

Claims 2, 5, 21 and 23 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.

Response to Arguments

Applicant's arguments filed 04/07/21 have been fully considered but they are not persuasive.

Applicant argues that Teetzel et al. (US 2014/0020159) fails to teach the outer shell being reversible.

The helmet of Teetzel et al. is capable of being worn in the reverse on a user's head as desired. Teetzel et al. teaches all of the structure of the claimed invention and has the ability to be worn in the reverse such that the front side or rear side is above the face of the user. Applicant has not claimed any helmet structure that differentiates a "reversible" helmet to the helmet structure of Teetzel et al., therefore, since the helmet of Teetzel et al. is capable of being reversible such that the front or back side is above the user's face, it reads on the limitation as claimed.

Applicant argues that Teetzel et al. (US 2014/0020159) fails to teach the front and rear receptacles being identical to each other.

The front and back receptacles are openings and contacts 124, 126 as seen illustrated in Figures 4 and 5. The front receptacle is illustrated in Figure 4 and the back receptacle is illustrated in Figure 5, both the front and back receptacles have openings 124 and contacts 126 with the same size, arrangement and structure making them identical receptacles.

Applicant argues that Teetzel et al. (US 2014/0020159) fails to teach an accessory releasable mountable to each of the front and rear receptacles.

The accessory device (140 or 160) is capable of being releasably mountable onto each of the contacts and openings (124, 126) of the front receptacle and the rear receptacle, since receptacles 124, 126 have the same configuration and therefore the mounting structures 140 and 160 that are capable of mounting to receptacle 124, 126 of the front and rear would also be capable of mounting to the opposing receptacle with the same structure. Mounting structure 140 that is attachable to front receptacle (124, 126), would be capable of mounting onto the identical rear receptacle (124, 126) as desired and the mounting structure 160 that is attachable to rear

receptacle (124, 126) would be capable of mounting onto the identical front receptacle (124, 126) as desired (See corresponding mounting structure to interact with receptacle 124, 126 on the back of mounts 140 and 160 in figures 9 and 3 respectively).

Applicant argues that Teetzel et al. fails to teach a set of conductor that are integrated into the outer shell as required by claims 8 and 9.

Teetzel et al. teaches a set of conductors (130, 132) integrated into the outer shell (figure 3 and paragraph 0045), wherein the outer shell (shell: 110 which includes the trim member: 120) is made from a molded plastic material (paragraph 0043), and wherein the front set of terminals and the rear set of terminals are molded into the trim of the outer shell (paragraphs 0044-0045: figure 3).

Conclusion

THIS ACTION IS MADE FINAL. 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 mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALISSA L HOEY whose telephone number is (571)272-4985. The examiner can normally be reached on M-F 9:00-5:30 ET.

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, Clinton T Ostrup can be reached on (571)272-5559. 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.

ALISSA L. HOEY
Primary Examiner
Art Unit 3732

/ALISSA L HOEY/
Primary Examiner, Art Unit 3732

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

CPC - Searched*		
Symbol	**Date**	**Examiner**
A42B3/0446; A42B3/044; A42B3/042; A42B3/0406; A42B3/0426; A42B3/30	01/22/2021	ALH
Updated Search	04/14/2021	ALH

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**
2	422		

* 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**
EAST Search, see for details	01/22/2021	ALH
NPL Google Search, see for details	01/22/2021	ALH
EAST Search, see for details	04/14/2021	ALH

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

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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Patent No. 11,452,327 - IPR2025-00724

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	**Art Unit**
	ALISSA L HOEY	3732

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	01/22/2021	04/14/2021							
	1	✓	✓							
	2	✓	O							
	3	✓	✓							
	4	✓	✓							
	5	✓	O							
	6	✓	✓							
	7	✓	✓							
	8	✓	✓							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							
	13	✓	✓							
	14	N	N							
	15	N	N							
	16	N	N							
	17	N	N							
	18	N	N							
	19	N	N							
	20	N	N							
	21		O							
	22		✓							
	23		O							
	24		✓							

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Patent No. 11,452,327 - IPR2025-00724

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	61	("10886646" | "1947786" | "20080263752" | "20100083413" | "20110072562" | "20120224356" | "20120317706" | "20130086722" | "20140000013" | "20140000014" | "20140020159" | "20180192727" | "20190101359" | "20190104797" | "20200329806" | "5688039" | "9814622").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 14:37
L2	282	(A42B3/0446).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 14:50
L3	1,740	(A42B3/044).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 14:54
L4	1,768	(A42B3/042).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 15:01
L5	1,402	(A42B3/0406).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 15:04
L6	411	(A42B3/0426).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 15:20
L7	2,517	(A42B3/30).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2021/04/14 15:48

			DERWENT; IBM_TDB			
L8	1,848	(reversible and helmet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 16:00
L9	177	(reversible same helmet) and (receptacle or contact or mount)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 16:10
L10	0	(helemet and (identical same mount))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 16:50
L11	187	(helmet and (identical same mount))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 16:50
L12	255	(helmet and mount and reversible and identical)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/04/14 17:12

EAST Search History (Interference)

<This search history is empty>

4/14/2021 5:47:03 PM
C:\Users\ahoey\Documents\EAST\Workspaces\16 246935.wsp

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/246,935	Filing Date 01/14/2019	☐ 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 $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ 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	04/07/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 24	Minus	** 20	= 4		x $100 =	400
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $480 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	400

		(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".	/POLIN ANG/
*** 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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Attorney Docket No. 741300

Customer No.: 23460

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

In reply to the Office Action dated January 29, 2021, please enter the following amendments and election, and consider the following remarks.

Amendments to the Specification appear on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper.

Remarks/Arguments begin on page 7 of this paper.

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Patent No. 11,452,327 - IPR2025-00724

AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0018] of the specification as indicated below:

[0018] The mounting bracket 4 and front tapered receiver slot 5 are one exemplary embodiment for releasably connecting the device 200 to the safety helmet 100. As also shown in FIGS. 3 and 4, the front tapered receiver slot 5 includes a tapered channel 16 formed between a pair of raised sidewalls 18 and a stop, shown in the preferred embodiment as a protruding nub 17 extending from the surface of the hard outer shell 1 of the safety helmet 100. The mounting bracket 4 is in the form of a tapered clip 19 conforming to the tapered channel 16 such that it is retained by the raised sidewalls 18 when it is inserted into the tapered channel. A slot 20 in the tapered clip 19 receives the protruding nub 17 on the hard outer shell 1 of the safety helmet 100 locking it into place. The mounting bracket 4 can be detached from the front tapered receiver slot 5 by pulling on a [[the]] release lever 21 of the tapered clip 19, which disengages the protruding nub 17 from the slot 20 to allow the headlamp device 200 to be lifted out of the tapered channel 16.

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AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Original) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user;

a front receptacle disposed on the front side of the outer shell;

a rear receptacle disposed on the rear side of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction;

an accessory device having a mating receptacle formed thereon, the accessory device being releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.

2. (Currently Amended) The safety helmet of claim 1, wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the accessory device includes a clip ~~spring tab with a pawl~~, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and ~~the pawl engages~~ the stop engages the clip to releasably mount the accessory device in the front receptacle.

3. (Original) The safety helmet of claim 1, wherein the outer shell is made from a molded plastic material.

4. (Original) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user;

a front receptacle disposed on the front side of the outer shell;

a rear receptacle disposed on the rear side of the outer shell;

a first accessory device having a first mating receptacle formed thereon, the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell; and

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a second accessory device having a second mating receptacle formed thereon, the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

5 (Currently Amended) The safety helmet of claim 4, wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the first accessory device includes a clip ~~spring tab with a pawl~~, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and ~~the pawl engages~~ the stop engages the clip to releasably mount the first accessory device in the front receptacle.

6. (Original) The safety helmet of claim 4, wherein the outer shell is made from a molded plastic material.

7. (Previously Presented) The safety helmet of claim 1,

wherein the front receptacle includes a front set of terminals associated therewith, and the rear receptacle includes a rear set of terminals associated therewith; and

wherein a set of conductors is connected between the front set of terminals and the rear set of terminals.

8. (Original) The safety helmet of claim 7, wherein the set of conductors are integrated into the outer shell.

9. (Original) The safety helmet of claim 7, wherein the outer shell is made from a molded plastic material, and wherein the front set of terminals and the rear set of terminals are molded into the outer shell.

10. (Original) The safety helmet of claim 7, wherein a first accessory device is connected to the front receptacle and is a consumer of power, wherein a second accessory device is connected to the rear receptacle and is a power storage device, and wherein a circuit providing power from the second accessory device to the first accessory device is created while the first accessory device and the second accessory device are mounted onto the front receptacle and rear receptacles.

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11. (Currently Amended) The safety helmet of claim 10, wherein each of the first accessory device and the second accessory device is a consumer of power [[a]] having a power source integrated therewith.

12. (Original) The safety helmet of claim 11, wherein the power source of the first accessory device and the power source of the second accessory device are in electrical contact with one another to share power through the circuit.

13. (Previously Presented) The safety helmet of claim 4, where in the front receptacle and the rear receptacle are of identical construction.

14. (Withdrawn) A method for using a protective device, comprising:

providing an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that the front side or the rear side is oriented above a face of the user when the user wears the outer shell;

providing a front receptacle disposed on the front side of the outer shell;

providing a rear receptacle disposed on the rear side of the outer shell;

releasably attaching an accessory device having a mating receptacle formed thereon into one of the front receptacle or the rear receptacle; and

detaching the accessory device and reattaching the accessory device into another one of the front receptacle or the rear receptacle.

15. (Withdrawn) The method of claim 14, further comprising electrically interconnecting terminals associated with the front and rear receptacles using a set of conductors.

16. (Withdrawn) The method of claim 15, wherein the outer shell is made from a molded plastic material, and wherein the terminals are molded into the outer shell.

17. (Withdrawn) The method of claim 15, further comprising:

connecting an additional accessory device into the front or rear receptacles; and

transferring electrical power between the accessory device and the additional accessory device through the set of conductors.

18. (Withdrawn) The method of claim 17, wherein the accessory device is a lantern and wherein the additional accessory device includes one or more batteries.

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19. (Withdrawn) The method of claim 15, wherein the set of conductors is molded into the outer shell.

20. (Withdrawn) The method of claim 14, where in the front receptacle and the rear receptacle are of identical construction.

21. (New) The safety helmet of claim 1, wherein the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the accessory device includes a clip, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the protruding nub engages the clip to releasably mount the accessory device in the front receptacle.

22. (New) The safety helmet of claim 1, wherein the front receptacle and the rear receptacle are of a unitary part of the outer shell.

23. (New) The safety helmet of claim 4, wherein the front receptacle includes a receiver slot flanked by raised walls and including a protruding nub, wherein the first accessory device includes a clip, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the protruding nub engages the clip to releasably mount the first accessory device in the front receptacle.

24. (New) The safety helmet of claim 4, wherein the front receptacle and the rear receptacle are a unitary part of the outer shell.

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REMARKS / ARGUMENTS

Reconsideration of the application and claims in light of the foregoing amendments and following remarks/arguments is respectfully requested.

I. Status of Claims

The instant application was filed with 20 claims, all of which are currently pending. Claims 1–13 stand rejected, and claims 14–20 stand withdrawn as directed to a non-elected invention. In the present response, claims 21–24 are added. Following entry of the present response, claims 1–24 will be pending.

In an Office Action mailed on January 29, 2021, the drawings were objected to under 37 C.F.R. § 1.83(a), the specification was objected to, claims 2, 5, and 11 were rejected under 35 U.S.C. § 112, and claims 1, 3–4, and 6–13 were rejected under 35 U.S.C. § 102(a)(1) in view of Teetzel et al. (US 2014/0020159, hereinafter, "Teetzel").

In the present Response, the specification is amended for clarity, and each of claims 2 and 5 is amended for clarity and consistency with the disclosure to recite a "clip." Support for these amendments is present in the original disclosure, for example, generally throughout the specification and in the drawings. Claim 11 is amended to correct an informality. Newly presented claims 21–24 recite structures and features that are present in the original disclosure, for example, generally throughout the specification, in the drawings, and in the original claims. Therefore, no new matter has been introduced into the present application by way of the above amendments to the claims or the introduction of the new claims.

Applicant asserts that the claims recite structures that are neither described nor suggested in Teetzel. Specifically, Teetzel does not describe or suggest that the *outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user,* nor does Teetzel describe or suggest that the *front receptacle and the rear receptacle are of identical construction,* and that an accessory device is *releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.* Instead, Teetzel describes a combat helmet that includes a non-reversible shell, and has a front connector (140) and a rear connector (160) that are of different construction and accommodate different devices thereon, which are non-interchangeable. On at least this basis, Applicant respectfully suggests that Teetzel does not anticipate the claims and

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respectfully requests reconsideration, withdrawal of the rejections, and allowance of the claims in view of the foregoing amendments and following remarks.

II. Amendments to the Specification

In the present response, par. [0018] is amended for clarity, consistency with the claims, and to correct an informality. In view of the above amendment to the specification and claims, Applicant respectfully requests reconsideration and withdrawal of the specification objection.

III. Objections to the Drawings

The drawings were objected to under 37 C.F.R. § 1.83(a) for failing to show the "accessory device spring tab and pawl" found in claims 2 and 5. Applicant has amended claims 2 and 5 above to replace the recitation of a "spring tab with a pawl" with the recitation of a "clip." In light of the amendments to the claims, Applicant believes the drawings objection to be moot and respectfully requests reconsideration and withdrawal of the objection to the drawings.

IV. Rejections Under 35 U.S.C. § 112

Further to the above remarks, Applicant has amended claims 2 and 5 for clarity, and claim 11 to correct an informality, and believes that the claims, as amended, are consistent with the requirements under 35 U.S.C. § 112(b), and respectfully requests reconsideration, and withdrawal of the rejections.

V. Claim Rejections Under 35 U.S.C. § 102

In the Office Action, the disclosure of Teetzel is relied upon to reject all claims as anticipated. To sufficiently set forth an anticipation rejection of a claim in view of a reference, the "disclosure must teach every element required by the claim under its broadest reasonable interpretation." MPEP 2131. In essence, an anticipation rejection under Section 102 asserts that the Applicant's invention as claimed, and the structures described in the prior art reference, are identical.

But the burden is on the Office Action to demonstrate that the claimed invention and the disclosure of the reference said to anticipate the claims are identical. The allegedly

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"identical invention must be shown in as complete detail as is contained in the ... claim"[1], and its "elements must be arranged as required by the claim"[2].

This is not the case here. Claim 1, for example, recites (1) that the outer shell worn by the user has a front side and a rear side, and the shell is ***reversible*** *such that one of the front side or the rear side is oriented above the face of the user*; (2) that *the front receptacle and the rear receptacle are of* ***identical construction****;* and (3) that the same accessory device is *releasably mountable onto* ***each of*** *the front receptacle and the rear receptacle.* Teetzel does not describe or suggest any of these elements included in claim 1.

1. Helmet shell is reversible

As recited in claim 1, the "outer shell [of the helmet] is reversible such that one of the front or rear side [of the shell] is oriented above [the] face of the user." In the helmet of Teetzel, as shown, for example, in FIG. 10 of Teetzel, the brim of the helmet is raised in the front (left side of the figure) and drops towards the back (right side of the figure) such that, if the helmet was oriented with the rear portion aligned with the wearer's face, the helmet would obstruct the user's view. Such orientation would be inconsistent with a normal and expected use of a helmet such as Teetzel's, and would impede the user's activities while wearing the helmet (especially in a combat environment as contemplated by Teetzel). Teetzel's FIG. 10 is reproduced below with annotations to illustrate this point:

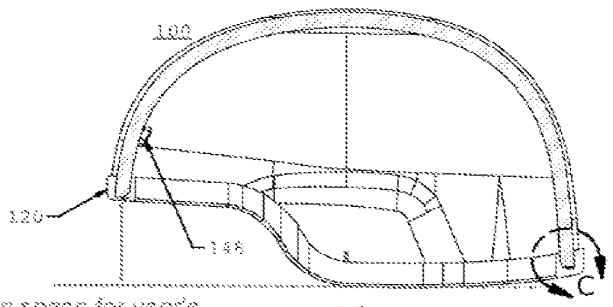


FIG. 10

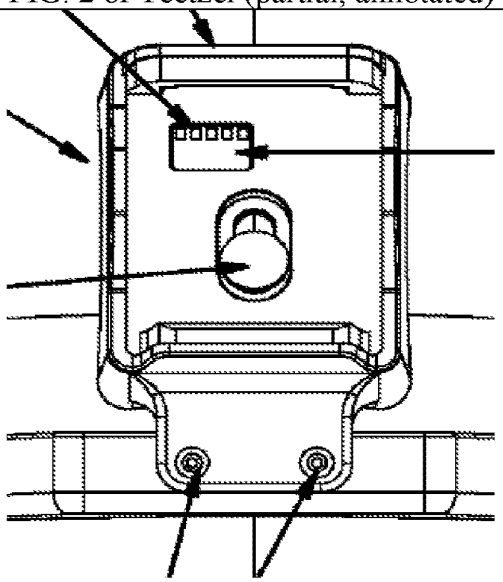
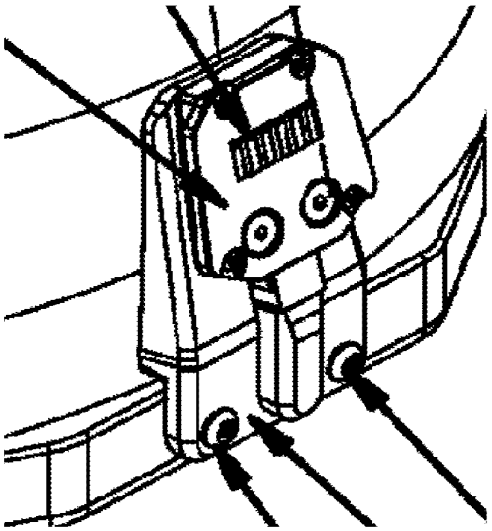
[1] MPEP 2131; quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)
[2] Id; quoting *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)

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Accordingly, Applicant respectfully submits that Teetzel does not describe or suggest that the outer shell is "reversible" as recited in claim 1, nor would it be obvious to modify Teetzel in this fashion as the base structure taught by Teetzel involves front and rear sides of the helmet to be at different heights, which is consistent with a combat or law enforcement helmet tasked with protecting the user's neck. For at least this reason, Applicant submits that claim 1 is allowable over Teetzel.

2. Front and Rear receptacles are of identical construction

As further recited in claim 1, "the front receptacle and the rear receptacle are of **identical construction**." In the device of Teetzel, the front connector 140 and rear connector 164 are of different construction because they accommodate different devices that have different functions. This is evident in Teetzel's disclosure, for example, by comparing FIG. 2 with FIG. 8 of Teetzel, portions of which are reproduced below partially and in juxtaposed relation for sake of discussion:

FIG. 2 of Teetzel (partial, annotated)	FIG. 8 of Teetzel (partial, annotated)
	

As can be seen from these illustrations, the front connector (denoted by "140" in the drawings) and the rear connector (denoted by "164" in the drawings) are not of identical construction. In addition, Teetzel describes that the front connector accommodates a bracket

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(142) that is "adapted to attach a pivoting mount which allows the user to selectively move the optical or viewing device between a lower, operable position in front of the user's eyes and to a raised, stowed position on the helmet out of the lien of sight of the viewer." Par. [0048].

With respect to the rear connector, Teetzel describes that it includes a "mounting shoe" for connecting to an electrical connector. This electrical connector is the only device Teetzel discusses in connection with the rear connector on the helmet. Accordingly, Teetzel shows and describes front and rear connectors that are of different construction and not of "identical construction." For this reason as well, Teetzel does not anticipate claim 1. Nor would it be obvious to modify Teetzel in this fashion as Teetzel specifically describes connecting a power supply to the rear connector, and nothing more, and accessories to the front connector, some of which can be pivoting, and there would be no reason to alternate the two, especially in view of the fact that Teetzel's helmet is not reversible as discussed in the previous section (Section V(1)). For these reasons as well, claim 1 is allowable over Teetzel.

3. An accessory is releasably mountable to each of the front and rear receptacles

Claim 1 recites an accessory device, which accessory device is releasably mountable to each of the front and rear receptacles. As shown in the immediately preceding section (Section V(2)), Teetzel describes different mounting connectors disposed at the front and rear portions of the helmet, which necessarily means that the same accessory device, e.g. a battery or night vision optics, are not interchangeably mountable to the front or rear of Teetzel's helmet. Nor would there be a use for such interchangeability because Teetzel's helmet is not reversible, as Applicant has already shown (see discussion in Section V(1)). For at least this reason, Teetzel does not anticipate the recitation of claim 1 that the accessory is releasably mountable to each of the front and rear receptacles, nor would it be obvious to modify Teetzel in this fashion. For this reason as well, claim 1 is allowable over Teetzel.

Because Teetzel fails to disclose at least the above-recited features of independent claim 1, Teetzel does not anticipate claim 1 or any of its dependent claims 3, 4, or 6–13. Accordingly, reconsideration and withdrawal of the rejection of claims 1, 3, 4, and 6–13 under 35 U.S.C. § 102(a)(1) based on Teetzel are respectfully requested.

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VI. Claims 8 and 9

Claim 8 recites that the "set of conductors are integrated into the outer shell," and claim 9 recites that "the outer shell is made from a molded plastic material" such that the "terminals are "molded into the outer shell." In this respect, the Office Action cites to FIG. 3 and par. [0045] of Teetzel relative to claim 8. Applicant respectfully disagrees. In par. [0045], Teetzel describes that the "circuit member 130 is received within the groove 122" or is alternatively "formed directly in the **edge trim** member 120" (emphasis added). As shown in FIG. 3, and as further discussed in para.[0044], the circuit member (130) of Teetzel that comprises the plurality of conductors (132) is, at best, integrated into the edge trim member (120) of the helmet and not the shell (110) of the helmet. The same applies to the terminals recited in claim 9, whereby Teetzel describes those to be part of the edge trim and not the helmet shell. Teetzel's FIG. 3 is reproduced below with annotations added for sake of discussion.

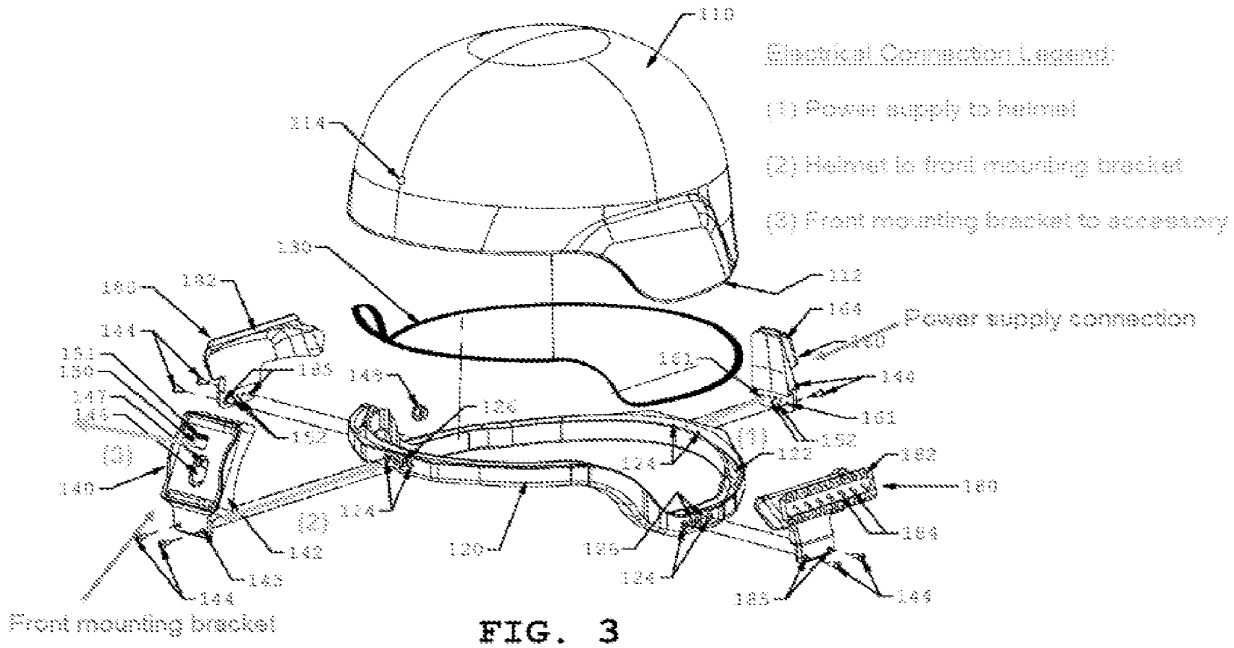


FIG. 3

As can be seen from this illustration, there are no conductors integrated with the shell (110) of Teetzel's helmet. Instead, the conductors (130) are disposed in a groove of Teetzel's brim. Because the conductors and terminals of Teetzel are not integrated with the outer shell of the helmet, as recited in claims 8 and 9, and also because those claims depend on an independent claim that has already been shown to be allowable, claims 8 and 9 are allowable over Teetzel.

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VII. Conclusion

Applicant respectfully submits that the present application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the present application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

/Elias P. Soupos/

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Date: April 7, 2021

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Electronic Patent Application Fee Transmittal

Application Number:	16246935
Filing Date:	14-Jan-2019
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Filer:	Elias Panos Soupos/Robert Holland
Attorney Docket Number:	741300

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	1202	4	100	400
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**400**

Electronic Acknowledgement Receipt

EFS ID:	42390402
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	161268
Filer:	Elias Panos Soupos/Robert Holland
Filer Authorized By:	Elias Panos Soupos
Attorney Docket Number:	741300
Receipt Date:	07-APR-2021
Filing Date:	14-JAN-2019
Time Stamp:	14:18:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$400
RAM confirmation Number	E202147E18380834
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		ROA-2nd.pdf	442305 6c8e8642de2e84c27ae33cc48d604e6d88d9fe6f	yes	14

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	1
	Amendment/Req. Reconsideration-After Non-Final Reject	2	2
	Specification	3	3
	Claims	4	7
	Applicant Arguments/Remarks Made in an Amendment	8	14

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30239 c58e2ec5142fc7a11d2dc102168544c348a23819	no	2

Warnings:

Information:

Total Files Size (in bytes):	472544

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

USPTO TRANSMITTAL

PATENT
Attorney Docket No. 741300

Application No. 16/246,935
Confirmation No. 7407

Transmitted herewith is a reply to office action in the subject application.

☒ Petition for an extension of time for the period noted below, as well as for any additional period necessary to render the present submission timely. Please charge Deposit Account No. 12-1216 for the appropriate petition fee.

☐ Other:

☒ Please charge Deposit Account No. 12-1216 in the total amount indicated below.

TIME EXTENSION PETITION FEE			none			$0
subtract time extension fee previously paid			none			($0)
CLAIM FEE	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	EXTRA CLAIMS PRESENT	RATE	ADDITIONAL CLAIM FEE
TOTAL	24	MINUS	20	= 4	x $100 =	$400
INDEPENDENT	3	MINUS	3	= 0	x $480 =	$0
☐ FIRST PRESENTATION OF MULTIPLY DEPENDENT CLAIM					+ $860 =	$0
SUBTOTAL (of all items above)						$400
☐ Small entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ½.						($0)
☐ Micro entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ¾.						($0)
OTHER FEES AS DESCRIBED:						$0
TOTAL AMOUNT TO BE CHARGED TO DEPOSIT ACCOUNT						**$400**

☒ The Commissioner is hereby authorized to charge any deficiencies in the following fees associated with this communication or credit any overpayment to Deposit Account No. 12-1216.
- ☒ Any filing fees under 37 CFR 1.16 and/or 1.492 for the presentation of extra claims.
- ☒ Any patent application processing fees under 37 CFR 1.17.

Leydig

/Elias P. Soupos/
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Facsimile: 312-616-5700

Date: April 7, 2021

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 01/29/2021

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EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
01/29/2021	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):

Chgpatent@leydig.com

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Office Action Summary	Application No. 16/246,935	Applicant(s) Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	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 01/15/21.

☐ 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) 1-20 is/are pending in the application.

5a) Of the above claim(s) 14-20 is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-13 is/are rejected.

8) ☐ Claim(s) _____ 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.

Election/Restrictions

Applicant's election with traverse of Invention I and Species A in the reply filed on 01/15/21 is acknowledged. The traversal is on the ground(s) that the apparatus, method, and the different species would not create an undue search burden on the examiner. Species B, found in claim 4, as amended to depend from claim 1, has been rejoined and the claims are examined herein. However, the argument with respect to the method and apparatus not creating an undue burden on the examiner is not found persuasive because the apparatus does not need to be used in the method required by claims14-20. Therefore, Claim 14-20 remain withdrawn, but are subject to rejoinder based upon allowance of claim 1.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the accessory device spring tab and pawl as found in claims 2 and 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: support needs to be provided for "wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the accessory device includes a spring tab with a pawl, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the pawl engages the stop to releasably mount the accessory device in the front receptacle" as found in claim 2 and 5.

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.

The claims in this application are given their broadest reasonable interpretation using the plain meaning of the claim language in light of the specification as it would be understood by one of ordinary skill in the art. The broadest reasonable interpretation of a claim element (also commonly referred to as a claim limitation) is limited by the description in the specification when 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, is invoked.

As explained in MPEP § 2181, subsection I, claim limitations that meet the following three-prong test will be interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph:

(A) the claim limitation uses the term "means" or "step" or a term used as a substitute for "means" that is a generic placeholder (also called a nonce term or a non-structural term having no specific structural meaning) for performing the claimed function;

(B) the term "means" or "step" or the generic placeholder is modified by functional language, typically, but not always linked by the transition word "for" (e.g., "means for") or another linking word or phrase, such as "configured to" or "so that"; and

(C) the term "means" or "step" or the generic placeholder is not modified by sufficient structure, material, or acts for performing the claimed function.

Use of the word "means" (or "step") in a claim with functional language creates a rebuttable presumption that the claim limitation is to be treated in accordance with 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph. The presumption that the claim limitation is interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, is rebutted when the claim limitation recites sufficient structure, material, or acts to entirely perform the recited function.

Absence of the word "means" (or "step") in a claim creates a rebuttable presumption that the claim limitation is not to be treated in accordance with 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph. The presumption that the claim limitation is not interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, is rebutted when the claim limitation recites function without reciting sufficient structure, material or acts to entirely perform the recited function.

Claim limitations in this application that use the word "means" (or "step") are being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, except as otherwise indicated in an Office action. Conversely, claim limitations in this application that do not use the word "means" (or "step") are not being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, except as otherwise indicated in an Office action.

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 2 and 5 and the claims that depend therefrom 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. It is unclear what the metes and bounds of the accessory device attachment pawl and spring tab would be. It is unclear what the pawl and spring tab require structurally and how they related with the accessory device, the specification and drawings fail to provide support and definition of what these structures would include or exclude.

Claim 11 and the claims that depend therefrom 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. It is unclear what is meant by the limitation "the second accessory device is a consumer of power a having power source integrated therein", specifically what "a having power source" is. Further, there is no antecedent basis for "power source" do you mean "having a power source"?

Claim Rejections - 35 USC § 102

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention.

Claim(s) 1, 3-4 and 6-13 is/are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Teetzel et al. (US 2014/0020159).

In regard to claim 1, Teetzel et al. teaches the following: a safety helmet (helmet: 100), comprising: an outer shell (shell: 110) adapted to be worn by a user (figure 1), the outer shell having a front side and a rear side (see Figures 1, 4 and 5), wherein the outer shell (110) is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user (reversible as desired, capable of being worn as such);

a front receptacle (contacts: 126 and openings: 124) disposed on the front side of the outer shell (figure 4); a rear receptacle (contacts: 126 and openings: 124) disposed on the rear side of the outer shell (figure 5), wherein the front receptacle and the rear receptacle are of identical construction (front and rear construction are of identical contacts and openings); an accessory device (140 or 160) having a mating receptacle formed thereon (fasteners: 144 and contacts: 152; paragraph 0051), the accessory device (140 or 160) being releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell (capable of being detached to front and rear receptacle as desired, since both front and rear receptacle have the same mounting structure).

In regard to claim 3, Teetzel et al. teaches wherein the outer shell (110) is made from a molded plastic material (paragraph 0043).

In regard to claim 4, Teetzel et al. teaches an outer shell (110) adapted to be worn by a user (see figure 1), the outer shell having a front side and a rear side (see figures 4 and 5), wherein the outer shell (110) is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user (sufficient structure capable of being worn as desired); a front receptacle (connectors: 126 and openings:124) disposed on the front side of the outer shell (figure 4); a rear receptacle (connectors: 126 and openings: 124) disposed on the rear side of the outer shell (figure 5); a first accessory device (140) having a first mating receptacle (connectors: 152) formed thereon, the first accessory device (140) being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell (sufficient structure to mount to identical front or rear connectors); and a second accessory (160) device having a second mating receptacle formed thereon (connectors: 152), the second accessory device being releasably mountable onto each of the front receptacle

or the rear receptacle of the outer shell (sufficient structure to mount to identical front or rear connectors).

In regard to claim 6, Teetzel et al. teaches wherein the outer shell (110) is made from a molded plastic material (paragraph 0043).

In regard to claim 7, Teetzel et al. teaches wherein the front receptacle includes a front set of terminals (connectors: 126) associated therewith, and the rear receptacle includes a rear set of terminals (connectors: 126) associated therewith; and wherein a set of conductors (circuit member: 130 and conductors: 132) is connected between the front set of terminals and the rear set of terminals (paragraph 0045 and 0016).

In regard to claim 8, Teetzel et al. teaches wherein the set of conductors (130, 132) are integrated into the outer shell (figure 3 and paragraph 0045).

In regard to claim 9, Teetzel et al. teaches wherein the outer shell (shell: 110) is made from a molded plastic material (paragraph 0043), and wherein the front set of terminals and the rear set of terminals are molded into the outer shell (paragraphs 044-0045; figure 3).

In regard to claim 10, Teetzel et al. teaches wherein a first accessory device (140) is connected to the front receptacle and is a consumer of power (mounting member with night vision: 142 is a consumer of power; paragraph 0048), wherein a second accessory device (160) is connected to the rear receptacle and is a power storage device (160 receiver battery pack: 162), and wherein a circuit (130, 132) providing power from the second accessory device to the first accessory device is created while the first accessory device and the second accessory device are mounted onto the front receptacle and rear receptacles (paragraph 0045 and 0016;

sufficient identical structure for front or back connectors to retain the battery or the night vision).

In regard to claim 11, Teetzel et al. teaches wherein each of the first accessory device (140, 142) and the second accessory device (168, 174) is a consumer of power a having power source integrated therewith (associated with battery attached via 176 and 172: paragraph 0053).

In regard to claim 12, Teetzel et al. teaches wherein the power source of the first accessory device (140, 142) and the power source (168, 174) of the second accessory device are in electrical contact with one another to share power through the circuit (paragraph: 0053, share power from matter attached to 176 and are connected via wires and conductors: 130, 132).

In regard to claim 13, Teetzel et al. teaches wherein the front receptacle and the rear receptacle are of identical construction (conductors: 126 and openings: 124 on front and back in figures 4 and 5).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and can be found cited in PTO-892 form submitted herewith. The cited prior art references to Redpath et al. (US 2014/0000013) and Redpath et al. (US 2014/0000014) are of particular relevance to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALISSA L HOEY whose telephone number is (571)272-4985. The examiner can normally be reached on M-F 9:00-5:30 ET.

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, Clinton T Ostrup can be reached on (571)272-5559. 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.

ALISSA L. HOEY
Primary Examiner
Art Unit 3732

/ALISSA L HOEY/
Primary Examiner, Art Unit 3732

Notice of References Cited	Application/Control No. 16/246,935	Applicant(s)/Patent Under Reexamination Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	Page 1 of 2

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*	B	US-5688039-A	11-1997	Johnson; Lyndon F.	A42B3/0446	362/106
*	C	US-20140000013-A1	01-2014	Redpath; David	H05K1/028	2/422
*	D	US-20140000014-A1	01-2014	Redpath; David	A42B3/04	2/422
*	E	US-20110072562-A1	03-2011	Prendergast; Jonathon R.	G02B27/0176	2/422
*	F	US-20190101359-A1	04-2019	Zimmer; Trent	A42B3/166	1/1
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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N	CA-2759794-A1	11-2010	CA	PATTON CHARLES ROYSTON III	A42B3/04
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	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

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

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Notice of References Cited	Application/Control No. 16/246,935	Applicant(s)/Patent Under Reexamination Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	Page 2 of 2

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*	B	US-10886646-B2	01-2021	Goupil; Dominic R.	H01R33/94	1/1
*	C	US-1947786-A	02-1934	LUECK HENRY W	A42B3/225	2/10
*	D	US-9814622-B2	11-2017	Sommers; Eric	A42B3/06	1/1
	E					
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FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

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

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

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	**Art Unit**
	ALISSA L HOEY	3732

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

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	01/22/2021								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
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	7	✓								
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	14	N								
	15	N								
	16	N								
	17	N								
	18	N								
	19	N								
	20	N								

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/246,935	Deshpande et al.
	Examiner	Art Unit
	ALISSA L HOEY	3732

CPC - Searched*		
Symbol	Date	Examiner
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CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
2	422		

* 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
EAST Search, see for details	01/22/2021	ALH
NPL Google Search, see for details	01/22/2021	ALH

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

/ALISSA L HOEY/ Primary Examiner, Art Unit 3732	

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Web Search History

date, time	web site	search string
1/22/2021 11:45:05 AM	Google	helmet and receptacle and reversible
1/22/2021 11:45:24 AM	Google	reversible helmet
1/22/2021 11:45:53 AM	Google	helmet and accessory mount
1/22/2021 11:47:02 AM	Google	m-lok helmet accessories
1/22/2021 11:47:08 AM	Google	m-lok headset adapter
1/22/2021 11:47:12 AM	Google	tactical headset adapter
1/22/2021 11:47:29 AM	Google	arc rail adapter walker razor
1/22/2021 11:47:38 AM	Google	helmet with moulded mount
1/22/2021 11:48:30 AM	Google	helmet with gopro mount built in
1/22/2021 11:48:45 AM	Google	bike helmet with gopro mount built in

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(71) Demandeur/Applicant:
NOROTOS, INC., US

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(74) Agent: FETHERSTONHAUGH & CO.

(54) Titre : PLAQUE DE PROTECTION A SYSTEME D'ECLAIRAGE
(54) Title: SHROUD PLATE WITH LIGHTING SYSTEM

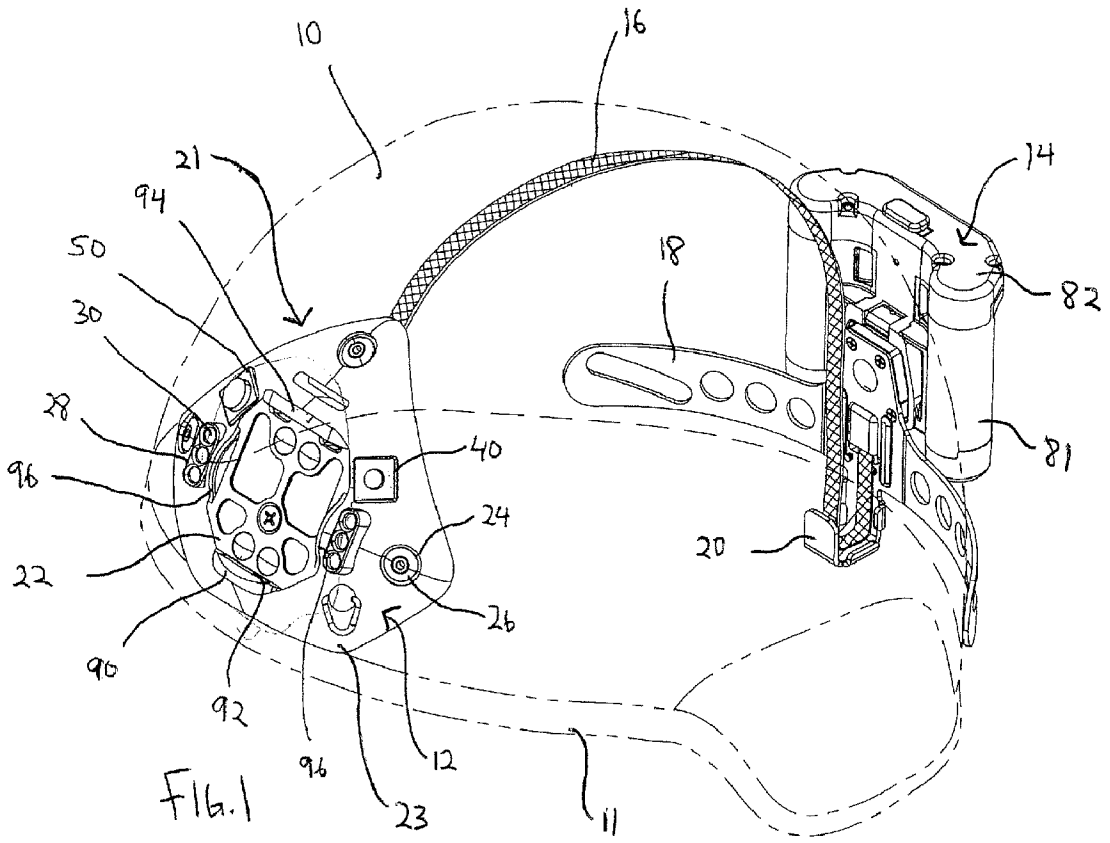


Fig.1

(57) Abrégé/Abstract:
A light for headgear includes a shroud plate having a shell configured to receive a goggle mount, the shell having a periphery generally conforming to a contour of the headgear; and a lighting system on the shell having at least one light. The light further includes a power unit electrically coupled to the lighting system.

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(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **SOTO, Ronald, R.** [US/US]; 25435 Gallup Circle, Laguna Hills, CA 92653-6319 (US). **PRENDERGAST, Jonathon, R.** [GB/US]; 280 Cagney Lane, Unit 315, Newport Beach, CA 92663 (US). **PATTON, Charles, Royston, III** [US/US]; 21490 Camino Arriba, Murrieta, CA 92562 (US).

(74) Agent: **BAJRACHARYA, Oliver, S.**; Christie, Parker & Hale, LLP., P.O. Box 7068, Pasadena, CA 91109-7068 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Published:

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(54) **Title**: SHROUD PLATE WITH LIGHTING SYSTEM

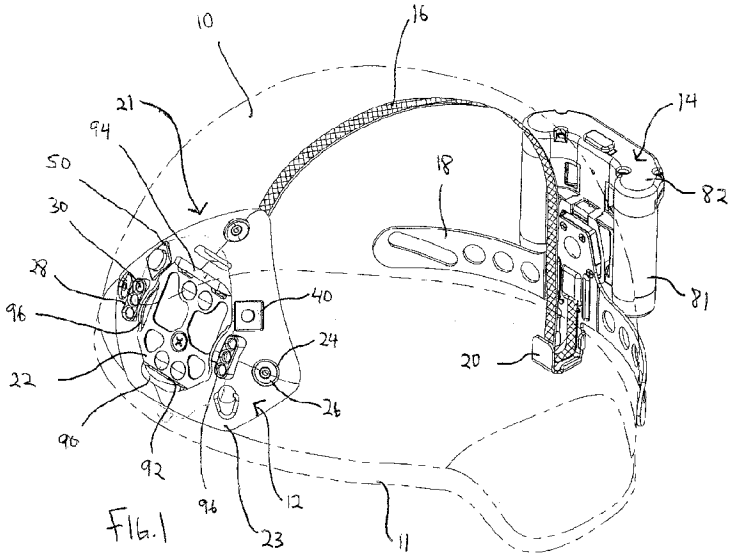


Fig. 1

(57) **Abstract**: A light for headgear includes a shroud plate having a shell configured to receive a goggle mount, the shell having a periphery generally conforming to a contour of the headgear; and a lighting system on the shell having at least one light. The light further includes a power unit electrically coupled to the lighting system.

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SHROUD PLATE WITH LIGHTING SYSTEM

BACKGROUND

[0001] Night vision goggles are commonly used by military personnel for conducting operations in low light or night conditions. Assemblies for mounting night vision goggles to a helmet or other headgear are well known in the art. These mounting assemblies allow a user's hands to remain free while viewing a scene through the night vision goggles.

[0002] Although previous mounts exist that allow for a hands-free configuration, such mounts may have edges, corners or other configurations that may snag on certain objects, such as a shroud line of a parachute or a tree branch, and thereby cause a wearer's head to jerk in an undesired direction and with a large force, or in the case of a shroud line, cut the line entirely and thereby endanger a wearer descending with a parachute.

[0003] Further, under certain circumstances, it may be desirable for military personnel to have access to a light source when use of the night vision goggles is unnecessary or not practical, or to have access to a light source in addition to the use of night vision goggles. Particularly, because depth perception is often difficult to calculate when using night vision goggles, a readily-available and hands-free light source that allows a person to perform tasks without the use of night vision goggles under low light conditions is useful.

SUMMARY

[0004] According to one embodiment, a light for headgear includes a shroud plate having a shell configured to receive a goggle mount, the shell having a periphery generally conforming to a contour of the headgear; and a lighting system on the shell comprising at least one light; and a power unit electrically coupled to the lighting system.

[0005] In one embodiment, the shroud plate has a smooth external surface. Further, the shell may be a single unit and the lighting system may be a single unit, and the lighting system may be removably coupled to the shell. Additionally, the power unit may be removably coupled to the shroud plate.

[0006] The lighting system may include a support plate comprising a control system for controlling the lighting system and at least one light housing accommodating the at least one light and coupled to the support plate. Additionally, the lighting system may also include a power switch mounted on the support plate and electrically coupled to the control system for turning the lighting system on and off and a dimming switch mounted on the support plate and electrically coupled to the control system for controlling an intensity of light emitted from the lighting system.

[0007] The shell may have a plurality of openings, each of the openings configured to receive a portion of the lighting system and the lighting system may be coupled to the shell by an interference fit.

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[0008] In one embodiment, the shell has a goggle mount receiving area defined by a first wall having a recess and a second wall having a recess. Further, the shell has a back surface generally facing the headgear and wherein the back surface may have an elastic lining configured to contact the headgear. Additionally, the lighting system may include a plurality of lights, a first light adjacent to a first side of the goggle mount receiving area and an additional light adjacent to a second side of the goggle mount receiving area. Further, the lighting system may include at least one light housing accommodating the at least one light, the light housing configured to direct light emitted from the at least one light in a direction substantially away from the headgear.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is a perspective view of a shroud plate having a lighting system according to an of the present invention.

[0010] FIG. 2 is an exploded perspective front view of the shroud plate of FIG. 1.

[0011] FIG. 3 is an exploded perspective rear view of the shroud plate of FIG. 1.

[0012] FIG. 4 is a perspective view of a shroud plate having a lighting system according to an alternate embodiment of the present invention.

[0013] FIG. 5 is an exploded view of a lighting system according to an alternate embodiment of the present invention.

[0014] FIG. 6 is a partially exploded view of a modular lighting system according to yet another embodiment of the present invention.

[0015] FIGs. 7 and 8 are cross-sectional views of a battery pack according to an embodiment of the present invention.

[0016] FIG. 9 is a perspective view of a fastening system for a battery pack according to an embodiment of the present invention.

[0017] FIG. 10 is a perspective view of a fastening system for a battery pack according to another embodiment of the present invention.

[0018] FIG. 11 is a perspective view of a fastening system for a battery pack according to yet another embodiment of the present invention.

DETAILED DESCRIPTION

[0019] Embodiments of the present invention are directed to a shroud plate for attaching night vision goggles to headgear, such as a helmet, the shroud plate having a lighting system to provide a user with a hands-free, adjustable light to be used instead of or simultaneously with night vision goggles. As described in more detail below, the shroud plate with the lighting system has a relatively low profile that generally matches a contour of a user's headgear so that the shroud plate does not have any edges on which another object, such as a shroud line of a parachute or a tree branch, can easily snag and force the headgear in a

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direction that may injure the wearer.

[0020] With reference to FIG. 1, in one embodiment, a shroud plate 12 is attached to headgear 10 in the form of a helmet. The shroud plate may be similar to the shroud plates described in U.S. Patent No. 6,751,810, filed March 13, 2003, the entire disclosure of which is incorporated herein by reference. However, it will be appreciated that various different shroud plates may be used and that the shroud plate may be attached to any one of a number of different types of headgear as necessary for a specific application.

[0021] A power unit 14 is attached to the headgear 10 and is electrically connected to the lighting system to provide power to the system. In one embodiment, the power unit 14 is a battery pack attached to a back of the headgear 10 generally opposite to the shroud plate 12 attached to a front of the headgear, the power unit being connected to the lighting system by a cable 16 that extends along an interior of the headgear. The power unit 14 is attached generally opposite to the shroud plate 12 and can act as a balancing counterweight to the shroud plate 12, and to the night vision goggle when one is attached thereto, to provide a center of gravity more towards a center of a wearer's head.

[0022] As shown in FIG. 1, the power unit 14 includes a case 81 having a top opening and adapted to contain a power source, such as batteries, and a cover 82 covering the top opening. In one embodiment, the case 81 is adapted to contain four AA alkaline batteries, but as will be appreciated, the case 81 and the cover 82 are not limited to the size and configuration shown in FIG. 1.

[0023] In one embodiment as shown in FIG. 1, the power unit 14 is mounted to the headgear 12 by a hot shoe bracket or power unit bracket 18, as described in more detail in U.S. Application No. 11/859,689, filed September 21, 2007, the entire disclosure of which is incorporated herein by reference. The bracket 18 is attached to the headgear 10 by fasteners and includes a cable support 20 that protects the cable 16 and guides the cable around a rim of the headgear. Although the power unit 14 is shown to be attached to the headgear 10 by the bracket 18, it will be appreciated that the power unit 14 can be attached to the headgear by any sufficient fastener. For instance, the power unit 14 and/or the shroud plate 12 may be attached to a bracket having arms adapted to wrap around the brim of the headgear 10 and the cable may extend along an exterior of the headgear, thereby allowing for simple removal of the system from one headgear and simple attachment to a second headgear.

[0024] The shroud plate 12 allows night vision goggles attached to a night vision goggle mount to be attached to the headgear 10. Exemplary embodiments of night vision goggle mounts that may be used are described in U.S. Application No. 11/473,495, filed on June 23, 2006, the entire disclosure of which is incorporated herein by reference, although any appropriate night vision goggle mount may be used.

[0025] The shroud plate 12 is contoured to generally conform to a contour of the headgear 10 and to provide a dock for night vision goggles. The shroud plate 12 has a

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minimal profile and a smooth surface for avoiding interference with equipment, such as a parachute line, or objects, such as foliage, that may be encountered by the headgear wearer. As defined herein, the term smooth means that the entire external surface has no projections on which an object, such as a shroud line or foliage, can catch and interfere with the headgear 10. Due to the low profile and the smooth surface of a shell 21 of the shroud plate 12 with or without the lighting system coupled thereto, objects can slide over the shroud plate without snagging and forcing or jerking the shroud plate and the attached headgear in an undesirable direction that may injure the user.

[0026] In one embodiment, with reference to FIGs. 1-3, the shroud plate 12 includes the shell 21 generally encompassing at least a portion of a night vision goggle mount receiving area 22. Additionally, the shell 21 has an external surface 23 that faces away from the headgear when the shroud plate 12 is attached to the headgear, a back surface 25 (FIG. 3) that faces toward the headgear when the shroud plate is attached to the headgear and a periphery. The external surface 23 is generally smooth with rounded edges and corners at the periphery. However, the "smooth" surface may be roughened to have a sandpaper feel and may include projections or protrusions, including those provided by a lighting system coupled to the shell 21, but not ones that could snag a shroud line or foliage and thereby injure a wearer of headgear on which the shroud plate 12 is mounted. Further, in one embodiment, the back surface 25 is shaped to match the contour of the headgear such that at least the periphery of the shell fits to the headgear and prevents an object from being snagged between the headgear and the shroud plate. In other words, in one embodiment there is substantially no space between a periphery of the shell 21 and the headgear 10.

[0027] With reference now also to FIGs. 2 and 3, the shell 21 includes a plurality of recessed openings 24 into which fasteners 26 for attaching the shroud plate to the headgear 10 are inserted, the openings being recessed sufficiently to prevent the fasteners 26 from protruding past the external surface of the shell. However, it will be appreciated that the shell 21 may also be attached by other configurations and fasteners, such as a single screw inserted through a center of the shroud plate.

[0028] The shell 21 also includes a night vision goggle mount receiving area 22 adapted to receive a night vision goggle mount for attaching night vision goggles to the shroud plate. The night vision goggle mount receiving area includes a bottom wall 90 having a recess 92, a top wall 94 having a recess and side walls 96 for securing the night vision goggle mount within the receiving area. As such, when the shroud plate 12 is attached to the headgear 10 and night vision goggles are attached to the shroud plate, a user is provided with a hands-free mount for night vision goggles. As noted above, in one embodiment the weight of the night vision goggles can be counter-balanced by a power unit 14 located on the back of the headgear generally opposite to the night vision goggles.

[0029] In one embodiment as shown in FIG. 1, the walls 90, 94, 96 are integral with and

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protrude from the external surface 23. As shown, the walls 90, 94, 96 have a curved exterior surface without any right angles that allows an object to slide over the walls 90, 94, 96 rather than be snagged by the walls. Additionally, although an interior surface of the walls 90, 94, 96 are substantially perpendicular to the night vision goggle mount receiving surface 22, the curved nature of the exterior surfaces and the relatively low profile of the walls substantially prevents an object from being snagged on the interior wall. In one embodiment, a height of the walls 90, 94, 96 measured from the night vision goggle mount receiving surface 22 to a top of each wall is about 0.2 inch.

[0030] The shroud plate 12 further includes a lighting system to provide a wearer with a light source for use with or without the night vision goggles. The lighting system generally includes one or more light housings 28 with one or more lights 30, a power and color select switch (referred to as a power switch) 40, a dimmer switch 50, and a control system 60, as described in more detail below. The shroud plate 12 provides a platform to which the lighting system can be mounted and also protects the lighting system.

[0031] As shown in the figures, an embodiment of the lighting system is generally incorporated within the shroud plate 12. The shroud plate 12, therefore, contains various cavities and recesses for accommodating the lighting system. Specifically, the shroud plate 12 includes two light housing cavities 32, a power switch cavity 42, a dimmer switch cavity 52, and a control system recess 62 (FIG. 3). As will be appreciated, the shroud plate 12 can be attached to the headgear 10 with or without the lighting system coupled thereto.

[0032] Each light housing 28 is adapted to house at least one light and also to direct light emitted from each light in a direction generally away from the headgear. In one embodiment, the lighting system includes two light housings, each light housing being adjacent to the night vision goggle mount receiving area 22 on the shell 21. Accordingly, the lighting system can be used simultaneously with night vision goggles attached to the shroud plate 12.

[0033] As shown in FIGs. 1-3, the light housing 28 is adapted to house three LEDs 30. More specifically, the light housing 28 includes three light passages 34 defined within the light housing, each light passage adapted to accommodate one LED 30. In one embodiment, the LEDs 30 are friction-fitted into each light passage 34 such that a light end of the LED is slightly recessed within the light passage 34 allowing the light passage to direct the light like a flashlight generally in a direction in which the light housing 28 faces. The LEDs within the housing may be configured to each emit a different color light or the same color light. To provide for a focused light pattern for maximum efficiency, 10 degree beam-width LEDs may be used. As will be appreciated, smaller LEDs or differently angled beam-width LEDs may also be used. In addition to the LEDs 30, a resistor 38 for each LED is housed in the light housing 28 to protect the LEDs in case of a power surge. In one embodiment, one light housing 28 may be located on either side of and generally adjacent to the night vision goggle mount receiving area 22 (FIG. 1). Further, the LEDs 30 can be angled together in unity to

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provide for a focused ball of light as opposed to four individual beams.

[0034] An outer surface of the light housing 28 is configured to be friction-fitted within the light housing cavity 32 on the shroud plate 12. More specifically, the light housing 28 is stepped to provide a flange 36 that is configured to engage a flange 70 on an inner wall of the light housing cavity 32 so that the light housing can be inserted into and protrude from the light housing cavity without sliding entirely through the light housing cavity. Although the light housings 28 may protrude from the external surface 23 of the shroud plate 12, they only protrude by about 0.18 inch and do not pose a snag hazard for the wearer. Additionally, a back or headgear-facing surface 25 (FIG. 3) of the light housing 28 is configured to generally conform to and be flush with a curvature of the headgear. More specifically, in one embodiment a periphery of the back surface 25 contacts the headgear 10 while a central region of the back surface may be spaced from the headgear to accommodate components, such as the lighting system, between the shroud plate 12 and the headgear.

[0035] Additionally, in another embodiment, an elastic lining 27, such as a rubber layer, may extend around or near the periphery of the back surface 25 to provide a cushion and to allow for a more secure fit of the shroud plate 12 to the headgear 10 and thereby reduce the likelihood of rotation of the shroud plate if, for example, only a single fastener is used to couple the shroud plate to the headgear.

[0036] As shown in FIG. 1, the shroud plate 12 includes two light housings 28 within two light housing cavities 32, each light housing containing three lights. However, it will be appreciated that the shroud plate 12 can include more or fewer light housings, each light housing containing more or fewer lights. Additionally, while the lights described herein are LEDs, other suitable lights may be used as well, such as visible infrared lights or non-visible infrared lights that are used to support the night vision goggle system in extreme low-light conditions.

[0037] The power switch 40 and the dimmer switch 50 will now be described in more detail. Generally, both of the switches 40, 50 protrude from the external surface 23 of the shroud plate 12 to allow easy access to a user. In one embodiment, the buttons protrude by about 0.15 inch and do not pose a snag hazard.

[0038] The power switch 40 is located in a power switch housing 44 adapted to fit within the power switch cavity 42. The power switch housing 44 is a generally square box having an open end into which the power switch 40 is insertable and a power button opening 48 through which a power button 46 protrudes when the power switch is in the power switch housing. In one embodiment, the power switch 40 is friction-fitted within the power switch housing 44.

[0039] An outer surface of the power switch housing 44 is configured to be friction-fitted within the power switch cavity 42 on the shroud plate 12. More specifically, the power switch housing 44 includes a plurality of protrusions 72 adapted to engage respective recesses

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in the power switch cavity 42. As such, the power switch housing 44 can be inserted into the power switch cavity 42 without sliding entirely through the power switch cavity. When the power switch 40 is in the power switch cavity 42 and electrically connected to the control system 60, the power button 46 protrudes from the power switch housing 44 and a user can turn the lighting system on and off. Additionally, the power switch 40 can be electrically configured to serve as a color select switch so that a user can turn on certain color lights 30 of the lighting system as desired. In one embodiment, the user can step through various color arrangement in series after the lighting system is turned on with the ultimate step in the series turning off the lighting system. It will be appreciated that rather than or in addition to a push button, a toggle switch, a dial or another activation mechanism may be used as the power switch.

[0040] The dimmer switch 50 is in a dimmer switch cavity 52 adapted to be located in a dimmer switch cavity 52 in the shroud plate 12. The dimmer switch housing 54 is a generally square box having an open end into which the dimmer switch 50 is insertable and a dimmer button opening 58 through which a dimmer button 56 protrudes when the dimmer switch is in the dimmer switch housing. In one embodiment, the dimmer switch 40 is friction-fitted within the dimmer switch housing 44.

[0041] An outer surface of the dimmer switch housing 54 is configured to be friction-fitted within the dimmer switch cavity 52 on the shroud plate 12. More specifically, the dimmer switch housing 54 includes a plurality of protrusions 76 adapted to engage respective recesses 78 in the dimmer switch cavity 52. As such, the dimmer switch housing 54 can be inserted into the dimmer switch cavity 52 without sliding entirely through the dimmer switch cavity. When the dimmer switch 50 is in the dimmer switch cavity 52 and electrically connected to the control system 60, the dimmer button 56 protrudes from the dimmer switch housing 54 and allows a user to gradually dim the lighting system over several stages. In one embodiment, the dimmer switch 50 can be programmed to default the lights 30 to the dimmest setting when the lighting system is turned on, and a user can step through various brightness settings by repeatedly pushing the dimmer button 56. Alternatively, the control system 60 can be programmed such that the lights can be dimmed by an infinite interval rather than being "stepped." It will be appreciated that rather than or in addition to a push button, a toggle switch, a dial, or another activation mechanism may be used as the power switch.

[0042] Although certain components of the lighting system described above include housings that are separate and detachable from the shroud plate 12, the housings may also be integral as a single component with the shroud plate. Additionally, the housings may also be attached to the shroud plate by an adhesive or other fasteners in addition to being friction fitted to the shroud plate.

[0043] As shown in FIG. 3, the control system 60, which in one embodiment may be a

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printed circuit board, is located in a control system recess 62 in the shroud plate and generally faces the headgear 10. The lights 30, power switch 40 and dimmer switch 50 are each electrically connected to the control system 60 which provides electrical power to the lighting system via the power unit 14.

[0044] The control system 60 may be programmed to allow various lighting configurations. For example, the control system may allow a user to set the lights to flash in a specific pattern and to allow a user to change the flash pattern when desired. As such, the lighting system may be used as an Identify Friend or Foe (IFF) device that allows identification of a headgear wearer as an ally or an enemy. Additionally, as described above, the control system 60 may be programmed to allow dimming of the lights, use of only some of the lights, and the ability to switch between use of different kinds of lights, such as infrared lights and LEDs.

[0045] In one embodiment, the control system 60 may be programmed such that the power switch 40 must be depressed for a set period of time, for example, three seconds, in order to actuate the lights either on or off. Additionally, the control system 60 may be programmed such that the power switch 40 can cycle through different modes by a tap of a set period of time, such as quarter second.

[0046] With reference now to FIG. 4, an alternative embodiment of the lighting system is shown wherein a power unit 114 is attached on a side of the headgear 10. The power unit 114, which in one embodiment is a battery pack, may be attached by a bracket to the portion of the headgear 10 that protects a wearer's ear. Similarly to the previously described embodiments, a cable 116 may be attached to the power unit 114 and extend along an interior of the headgear 10 from the power unit to the shroud plate 12 to electrically connect the power unit and the lighting system. As will be appreciated, the power unit 114 may be located anywhere on the headgear or remote from the headgear, such as attached to a user's body, to provide power to the lighting system. Further, the power unit may be wirelessly connected to the lighting system to provide power thereto.

[0047] With reference now to FIGs. 5 and 6, another embodiment of the present invention is a modular system including the shell 21, a lighting system 120 and a battery pack 140 as single modular units (i.e., separable components) that can be assembled together for use and disassembled easily to be stored separately, as necessary. Additionally, the lighting system 120 and the battery pack 140, in one embodiment, are waterproof up to about 70 feet. Further, in one embodiment, the lighting system 120 coupled to the shell 21 by an interference fit or by a snap fit to allow the lighting system to be easily detached from the shell 21. However, the method of coupling the components is not limited thereto and the components couple also be coupled by a fastener, such as a screw, bolt or a rivet, or other similar fasteners. The shell 21 is described above and therefore the description of the shell will not be repeated with respect to the present embodiment.

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[0048] The lighting system 120 includes some components, such at the power switch 40, the dimmer switch 50 and the lights 30 and their housings 28 that are substantially similar to those previously described and as such the present description will focus primarily on the differences.

[0049] The lighting system 120 is assembled together to be a stand-alone component adapted to be coupled to the shroud plate 12 to provide lighting capability. The lighting system includes a support plate 122 that generally serves to accommodate the lighting system components that include lights 30 and light housings 28 as described above. The support plate 122 includes a control system 160 for the lighting system 120, which may be a circuit board as well as cavities or openings 124 adapted to allow various components to be coupled thereto, and side panels 123 configured to accommodate light housings 28, lights 30 and switches 40, 50. The support plate 122 is shaped and dimensioned so that the components coupled to it fit through respective openings in the shroud plate 12 as shown in FIG. 6.

[0050] A backing plate 126 is located between the support plate 122 and each of the power switch 40 and the dimmer switch 50 to provide additional area and support structure to the support plate 122. Each backing plate 126 includes fastener openings 128 configured to receive a fastener such as a bolt, screw or rivet to attach the backing plate to the headgear 10. In one embodiment, the mount plates 126 have a generally triangular shape, but the shape of the backing plate is not limited thereto.

[0051] Power is provided to the lighting system 120 by the battery pack 140 electrically coupled to the lighting system by a cord 132. The cord 132 is coupled to the control system 160 at one end and is removably coupled to a cord 142 of the battery pack at another end. A portion of the cord 132 is maintained in place proximate an interior surface of the head gear 10 by a mount plate 130 attached to the headgear 10 by fasteners 134, such as screws, bolts or rivets and having a configuration adapted to cover a portion of the cord. One end of the cord 132 is a male plug 136 adapted to be inserted into a female plug 144 of the battery pack 140. Further, the battery case may be dimensioned to accommodate a plurality of batteries.

[0052] With reference now also to FIGs. 7-9, the battery pack 140 includes a case 146 having an open top and configured to house a battery. The battery pack 140 also includes a cap 148 configured to seal the case 146 and a seal 150, such as a rubber O-ring, between the case 146 and the cap 148 that reduces the likelihood that moisture will enter the case up to a depth of about 70 feet. A conical coil spring 152 is located between a lower wall of the case 146 and a battery 150 to provide an electrical connection for batteries of different lengths. More specifically, the coil spring 152 allows an electrical connection to be maintained whether a battery 150, such as a AA alkaline battery, having a length substantially equal to a length of an interior portion the case 146 (FIG. 7) or a battery 151, such as an SF123A battery, having a length less than the length of the interior portion of the case (FIG. 8) is inserted into the case.

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[0053] With reference now to FIG. 9, the battery pack 140 includes the cord 142 extending therefrom and having the female plug 144 configured to be coupled to the male plug 136 to electrically couple the battery pack to the lighting system 120 and to provide power thereto.

[0054] In embodiments, the battery pack 140 may be removably attached to the headgear 10 in a variety of ways and in a variety of locations on the headgear. With continued reference to FIG. 9, a hook and loop system, such as VELCRO®, may be used. More specifically, a first strip may be bonded or otherwise coupled to the headgear 10 and a second strip may be bonded or otherwise coupled to the battery pack 140, thereby allowing the battery pack to be coupled and uncoupled to the headgear. The hook and loop fasteners may be coupled at any suitable location on the headgear 10 and the length of the cords 132, 142 can be customized to correspond to the location of the battery pack 140.

[0055] In another embodiment, with reference to FIG. 10, the battery pack 140 includes a mount 154 coupled thereto and a pair of clips 156 coupled to the mount 154 by fasteners 158, such as screws, bolts or rivets. The clips 156 are dimensioned to fit around a brim 11 of the headgear 10 (FIG. 1) to couple the battery pack 140 to the headgear. The mount 154 includes recesses 155 that allow the clips 156 to be adjusted with respect to the battery pack 140 to be clipped to differently sized brims.

[0056] In yet another embodiment, with reference to FIG. 11, the battery pack 140 includes a pair of spring clips 159 that can be clipped around the brim 11 of the headgear 10 to couple the battery pack to the headgear.

[0057] Although embodiments of the present invention have been described, it will be appreciated by those of skill in the art that various modifications may be made to the described embodiments that fall within the scope and spirit of the invention.

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WHAT IS CLAIMED IS:

1. A light for headgear comprising:

a shroud plate comprising:

a shell configured to receive a goggle mount, the shell having a periphery generally conforming to a contour of the headgear; and

a lighting system on the shell comprising at least one light; and

a power unit electrically coupled to the lighting system.

2. The light of claim 1, wherein the shroud plate has a smooth external surface.

3. The light of claim 1, wherein the shell is a single unit and the lighting system is a single unit, and wherein the lighting system is removably coupled to the shell.

4. The light of claim 3, wherein the power unit is removably coupled to the shroud plate.

5. The light of claim 1, wherein the lighting system further comprises:

a support plate comprising a control system for controlling the lighting system; and

at least one light housing accommodating the at least one light and coupled to the support plate.

6. The light of claim 5, wherein the lighting system further comprises a power switch mounted on the support plate and electrically coupled to the control system for turning the lighting system on and off.

7. The light of claim 5, wherein the lighting system further comprises a dimming switch mounted on the support plate and electrically coupled to the control system for controlling an intensity of light emitted from the lighting system.

8. The light of claim 1, wherein the shell has a plurality of openings, each of the openings configured to receive a portion of the lighting system.

9. The light of claim 1, wherein the lighting system is coupled to the shell by an interference fit.

10. The light of claim 1, wherein the shell has a goggle mount receiving area defined by a first wall having a recess and a second wall having a recess.

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11. The light of claim 1, wherein the shell has a back surface generally facing the headgear and wherein the back surface has an elastic lining configured to contact the headgear.

12. The light of claim 1, wherein the power unit comprises a battery pack.

13. The light of claim 12, wherein the battery pack comprises a case, a cover for the case, and a conical coil spring within the case.

14. The light of claim 12, wherein the power unit further comprises a mount configured to couple the power unit to the headgear.

15. The light of claim 14, wherein the mount comprises a clip configured to fit around a brim of the headgear.

16. A light for headgear comprising:

a shroud plate comprising:

a shell configured to receive a goggle mount, the shell having a periphery generally conforming to a contour of the headgear; and

a lighting system on the shell comprising at least one light, wherein the shell is a single unit and the lighting system is a single unit, and wherein the lighting system is removably coupled to the shell; and

a power unit electrically coupled to the lighting system.

17. A light for headgear comprising:

a shroud plate comprising:

a shell configured to receive a goggle mount in a goggle mount receiving area, the goggle mount receiving area comprising a first wall having a recess and a second wall generally opposite the first wall and having a recess; and

a lighting system on the shell comprising a light; and

a power unit electrically coupled to the lighting system.

18. The light of claim 17, wherein the light is adjacent the goggle mount receiving area.

19. The light of claim 18, comprising an additional light, wherein the light is adjacent to a first side of the goggle mount receiving area and the additional light is adjacent to a second side of the goggle mount receiving area.

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20. The light of claim 17, further comprising at least one light housing accommodating the at least one light, the light housing configured to direct light emitted from the at least one light in a direction substantially away from the headgear.

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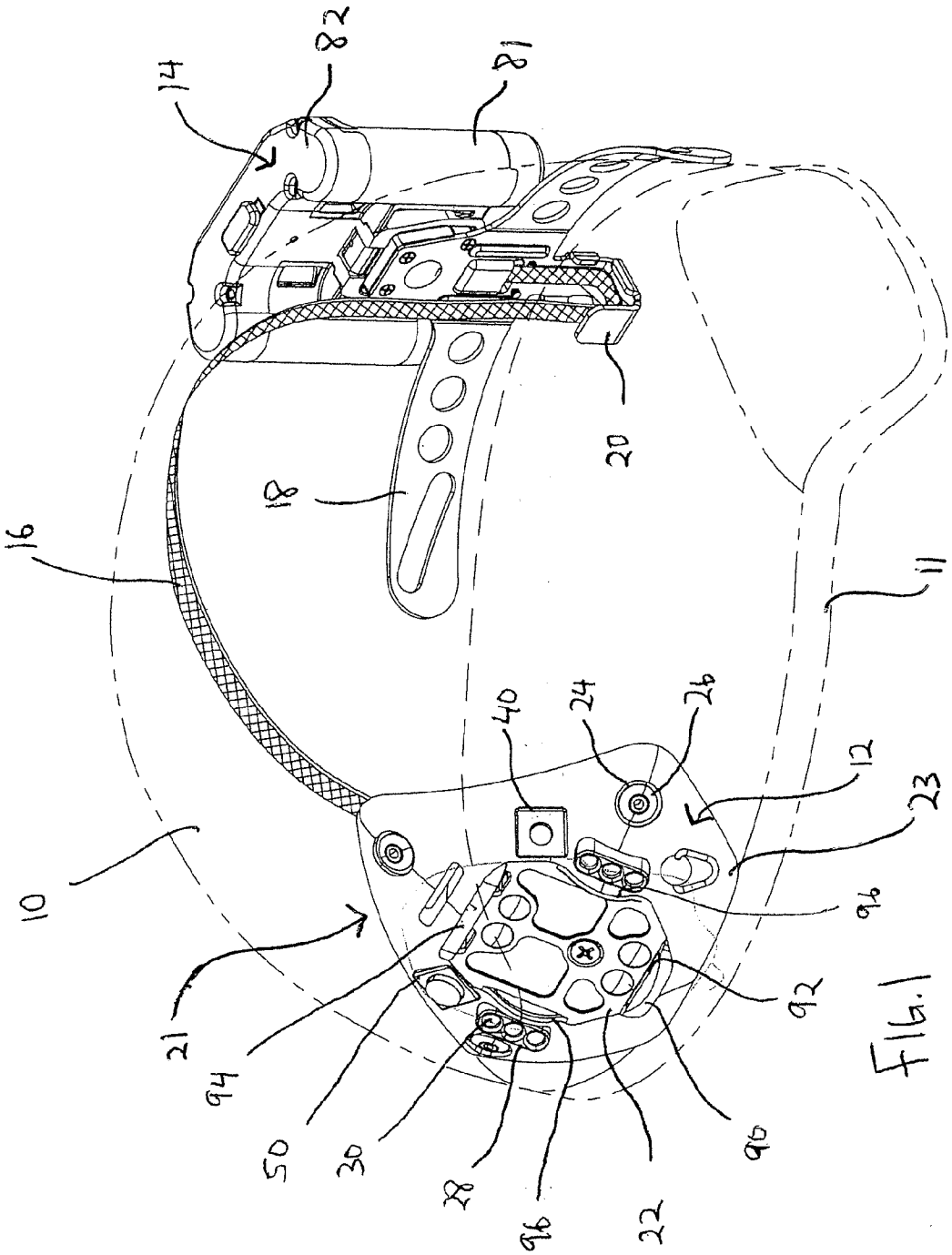


Fig. 1

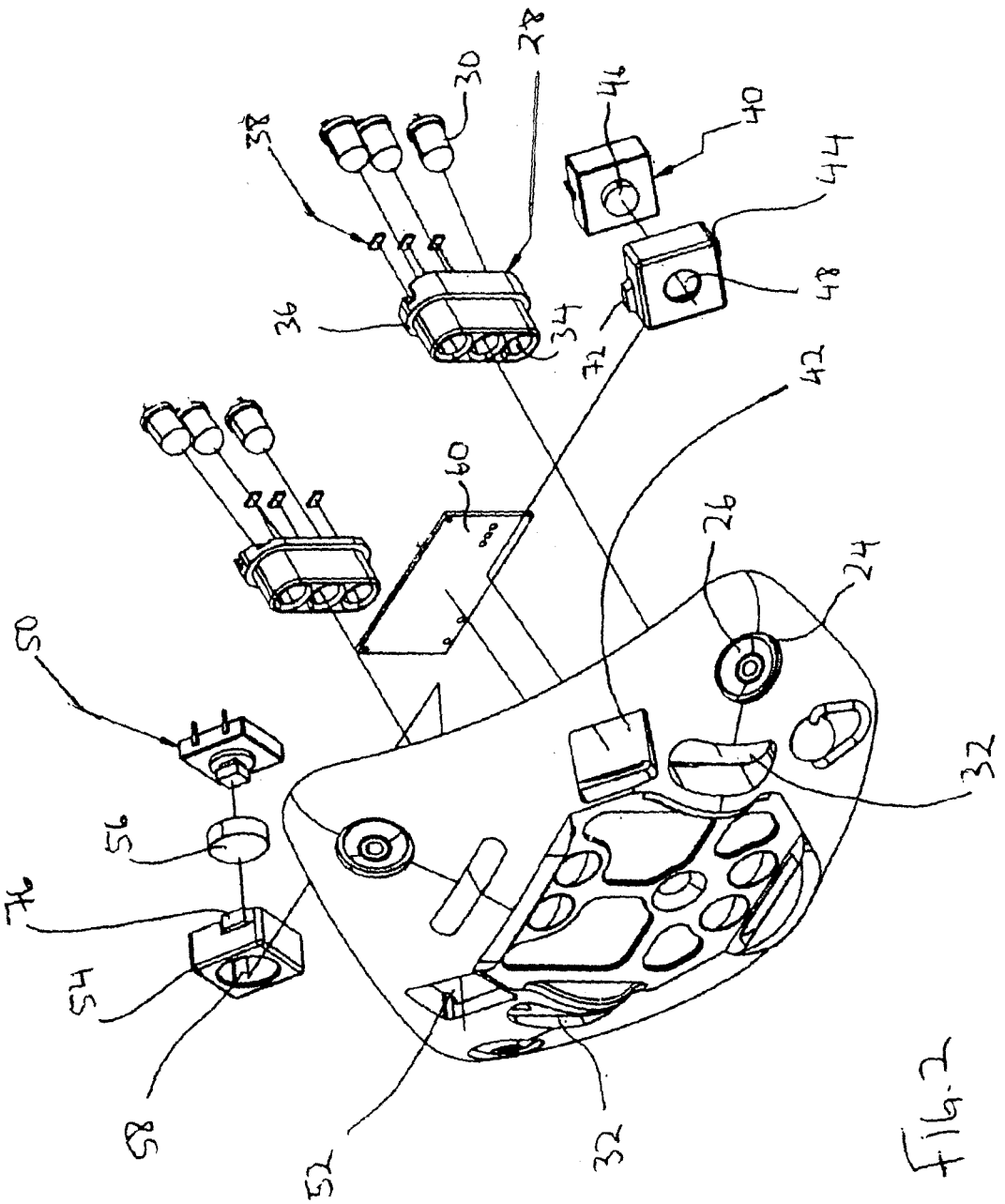


Fig. 2

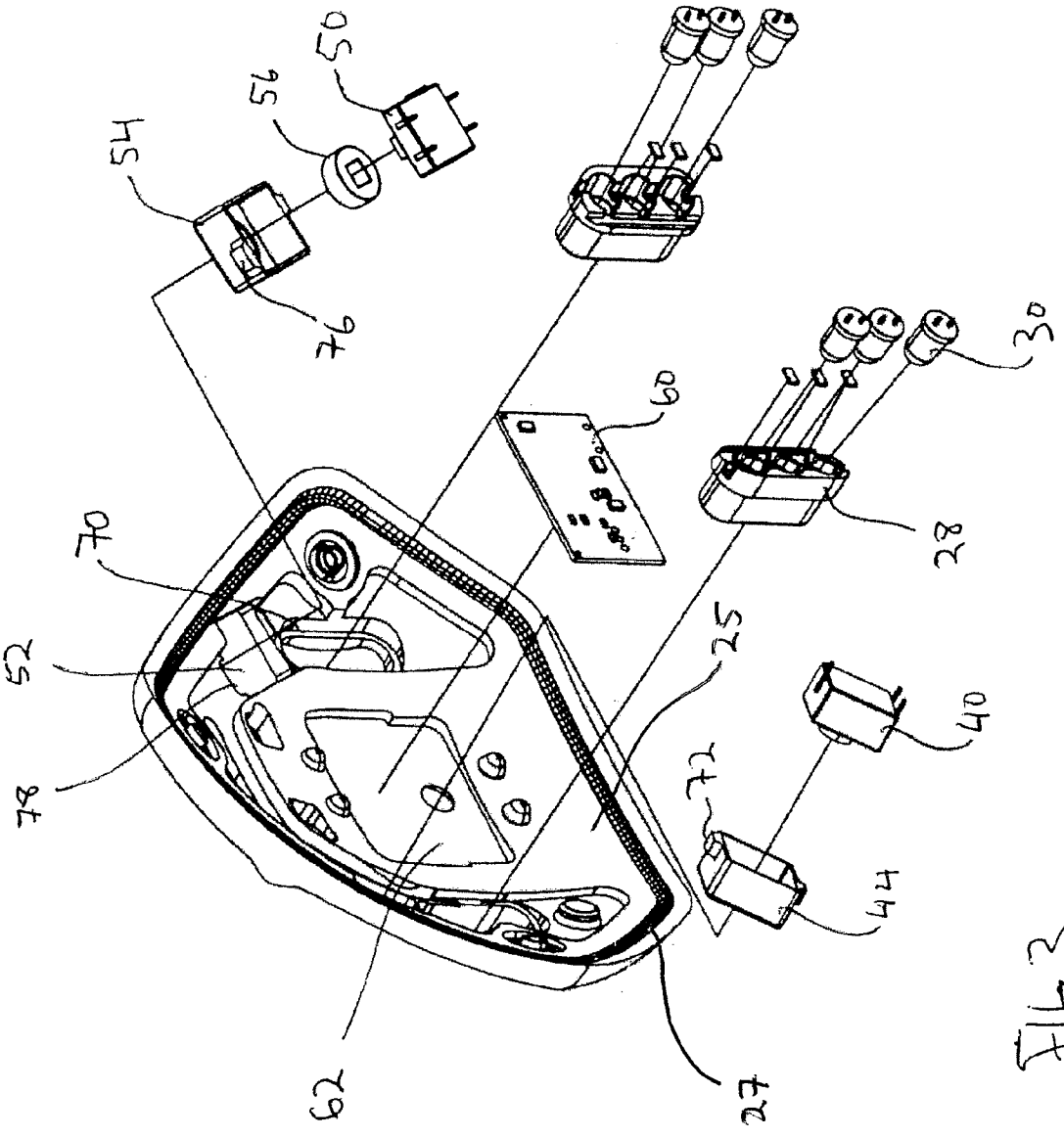


Fig. 3

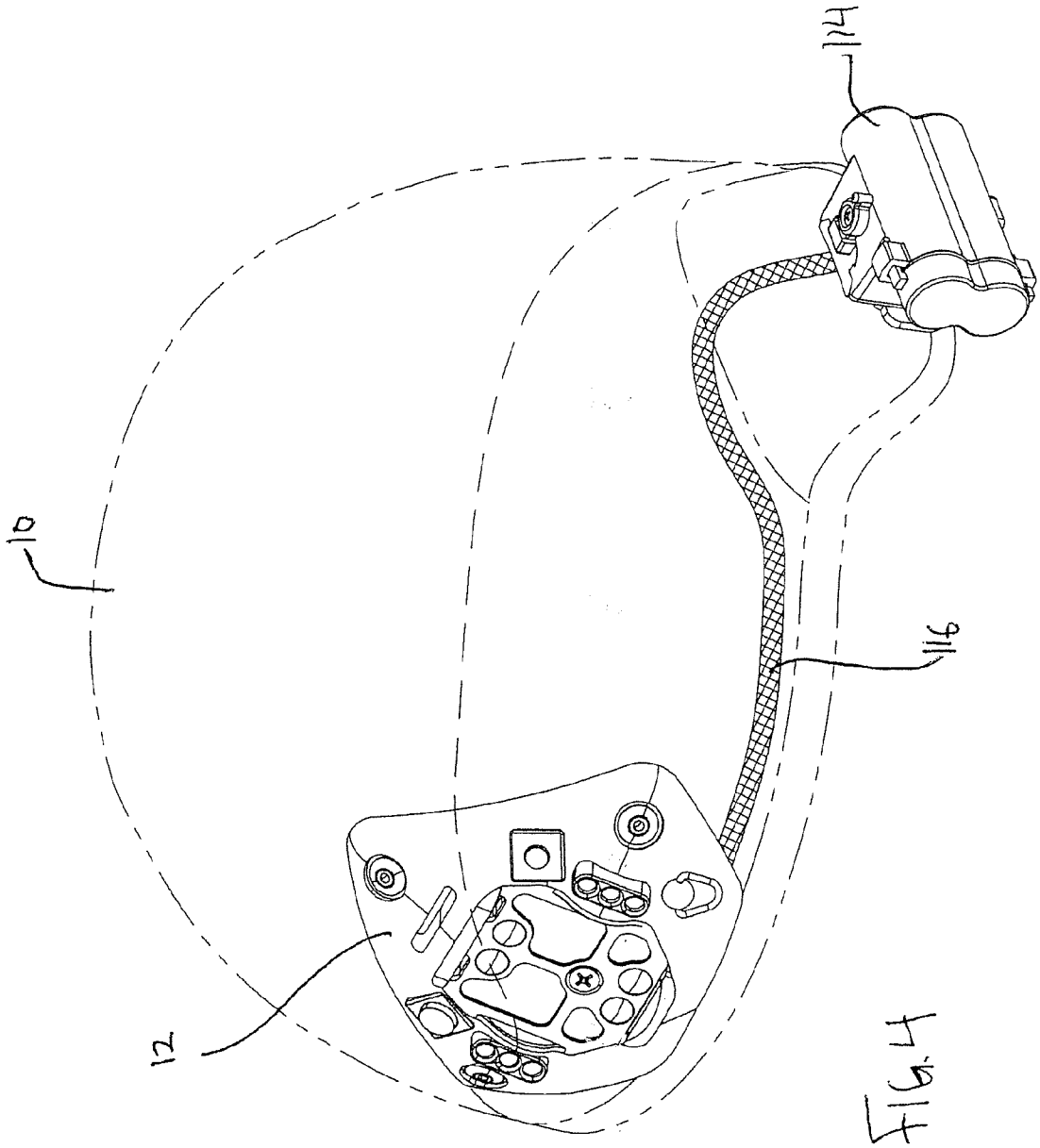


FIG. 4

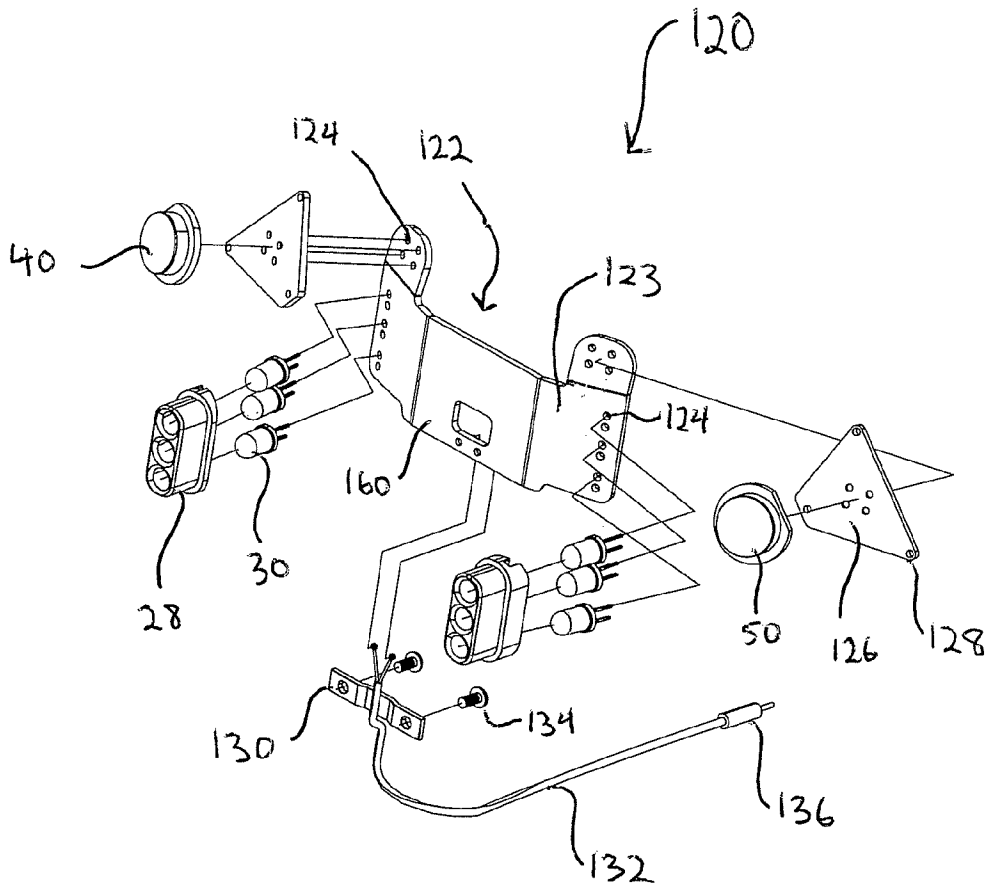


FIG. 5

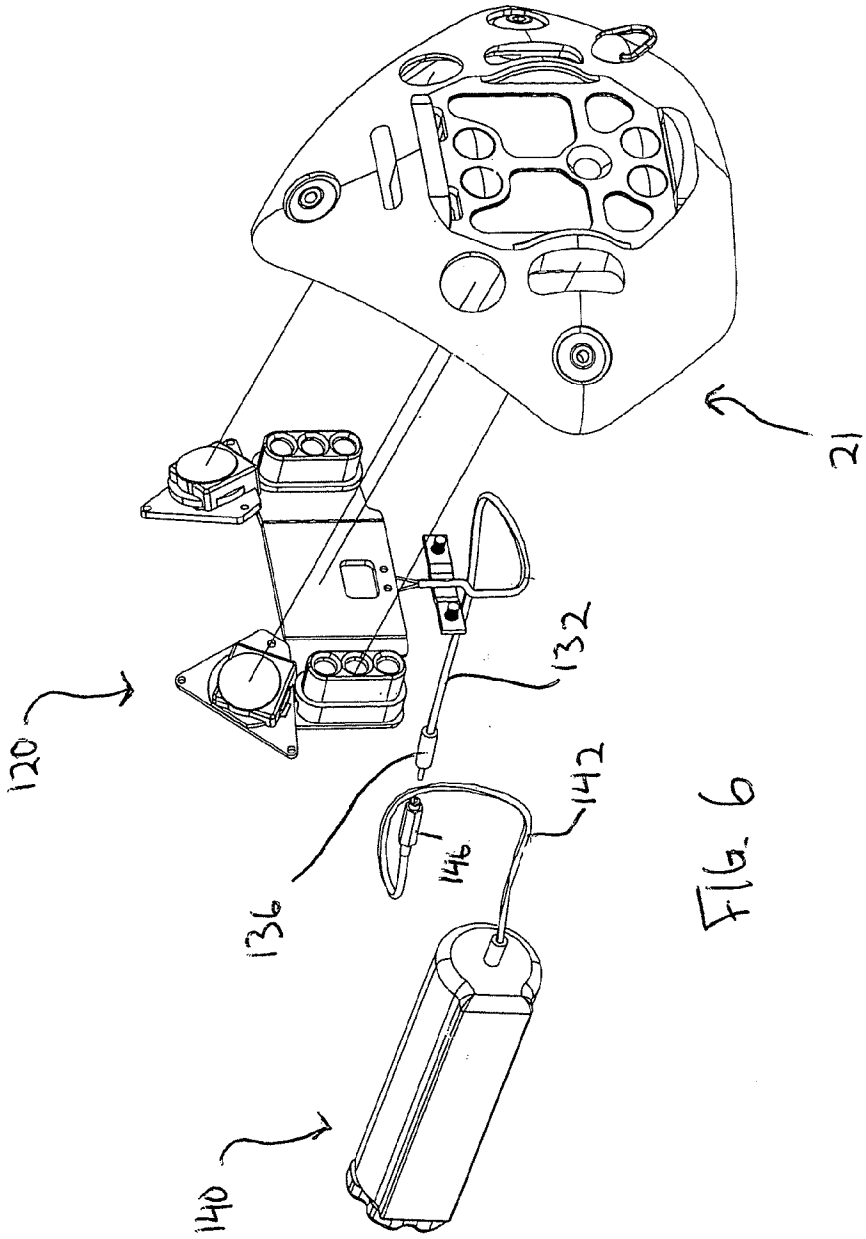


Fig. 6

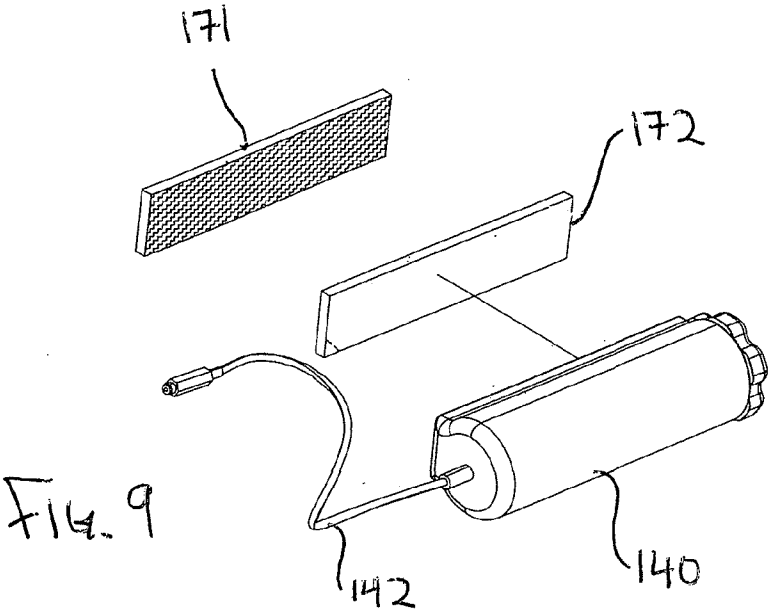


Fig. 9

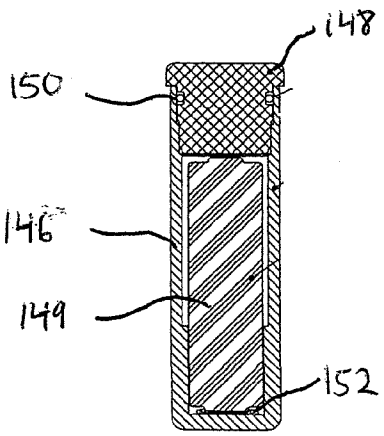


Fig. 7

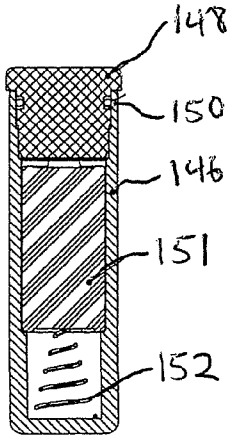


Fig. 8

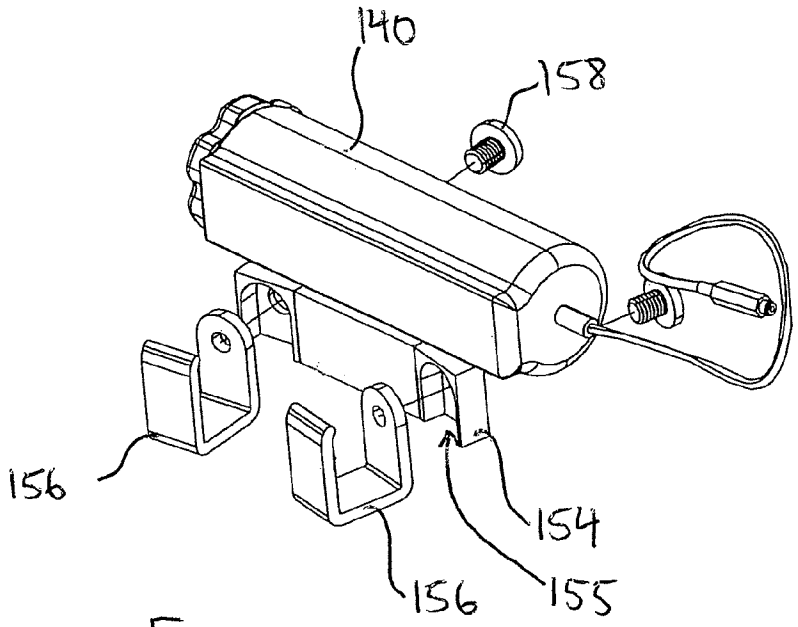


FIG. 10

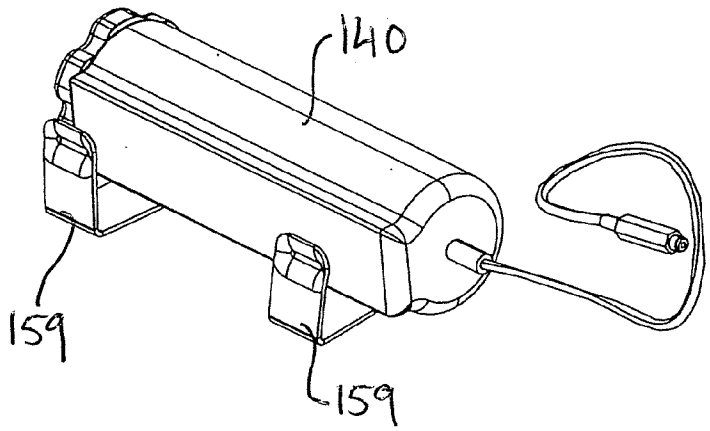


Fig. 11

EAST Search History

EAST Search History (Prior Art)

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L2	4	(reversible adj helmet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/22 11:56
L3	287	(reversible same helmet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/22 12:03
L4	7	("1947786").URPN.	USPAT	OR	OFF	2021/01/22 12:08
L5	880	(safety and helmet and reversible)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/22 12:13
L6	9	(safety and helmet and reversible).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/22 12:13
L7	0	(constrution and helmet and reversible)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2021/01/22 12:15

			DERWENT; IBM_TDB			
L8	926	(construction and helmet and reversible)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/22 12:15
L9	2	(construction and helmet and reversible).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/22 12:15
L10	30	(construction and (hat or cap) and reversible).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/22 12:16
L11	46	(safety and (hat or cap) and reversible).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/22 12:16
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S2	1,719	(A42B3/044).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 13:14
S3	1,725	(A42B3/042).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2021/01/21 14:31

			DERWENT; IBM_TDB			
S4	405	(A42B3/0426).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 14:42
S5	2,437	(A42B3/30).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 14:53
S6	1,354	(A42B3/0406).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 15:15
S7	1,110	(2/422).CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 15:23
S8	0	(helmet and receptacle and accessorya and molded)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:00
S9	169	(helmet and receptacle and accessory and molded)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:00
S10	2	("2019/0231016").URPN.	USPAT	OR	OFF	2021/01/21 16:00
S11	296	(helmet and accessory and attachment and molded)	USPAT	OR	OFF	2021/01/21 16:03

S12	681	(helmet and accessory and attachment and molded)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:03
S13	564	(helmet and accessory and attachment and molded and plastic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:03
S14	20	(receptacle and front and back and helmet).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:17
S15	563	(receptacle and front and back and helmet and slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:18
S16	0	(prawl and srop and sring and slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:21
S17	0	(prawl and stop and sring and slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:21
S18	16	(prawl and stop and spring and slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:21

S19	13,228	(deshpande).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:23
S20	27,977	(deshpande)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:23
S21	20	S19 and (wong).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:23
S22	403	(pawl and helmet)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:27
S23	57	(pawl and helmet).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 16:28
S24	20	("2012/0224356").URPN.	USPAT	OR	OFF	2021/01/21 16:33
S25	1	("2019/0101359").URPN.	USPAT	OR	OFF	2021/01/21 16:36
S26	0	("2020/0329806").URPN.	USPAT	OR	OFF	2021/01/21 16:36
S27	27	("2014/0020159").URPN.	USPAT	OR	OFF	2021/01/21 19:15
S28	43	("2012/0317706").URPN.	USPAT	OR	OFF	2021/01/21 19:19
S29	21	("2010/0083413").URPN.	USPAT	OR	OFF	2021/01/21 19:25

S30	0	("2019/0104797").URPN.	USPAT	OR	OFF	2021/01/21 19:26
S31	16	("2013/0086722").URPN.	USPAT	OR	OFF	2021/01/21 19:26
S32	30	("2008/0263752").URPN.	USPAT	OR	OFF	2021/01/21 19:26
S33	73	("20020118532" | "20020120979" | "20020145865" | "20020159250" | "20030058544" | "20030122958" | "20040264176" | "20050174753" | "20060291849" | "20070035707" | "20070064413" | "20070083967" | "20070084985" | "20070214551" | "20080080171" | "20080136960" | "20090109286" | "20090109292" | "20100001927" | "20110210685" | "20120224356" | "20130033852" | "20150062886" | "20150320133" | "20150327615" | "3302018" | "4231079" | "4891736" | "4901210" | "5034747" | "5408393" | "5469342" | "5559680" | "5564128" | "5570946" | "5688039" | "5810467" | "5836673" | "5871271" | "6007213" | "6244721" | "6325521" | "6456261" | "6619831" | "6659618" | "6849849" | "7219370" | "7234831" | "7311413" | "7452106" | "7570301" | "7621000" | "8063934" | "8070307" | "8117676" | "8157402" | "8388164" | "8529082" | "8757831" | "8813268").PN. OR ("9622529").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/01/21 19:28
S34	29	("20060202629" | "20090126059" | "20110145978" | "20110170280" | "20120224356" | "20120317706" | "20130033610" | "20130086722" | "20130192961" | "20140020159" | "3845389" | "5416922" | "5871271" | "6560029" | "6701535" | "6931668" | "7107624" | "7845816" | "7963426" | "8020220" | "8192043" | "8529082").PN. OR ("9101175").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/01/21 19:30
S35	19	("20060202629" | "20110145981" | "20110170280" | "20110239354" | "20120224356" | "20120291184" | "20120317706" | "20140000013" | "5357409" | "5758947" | "7963426" | "8531592").PN. OR ("8908389").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/01/21 19:31
S36	12	("20060128226" | "20120148195" | "20130086722" | "20140213074" | "20150201723" | "20170122706" |	US-PGPUB; USPAT; USOCR	OR	OFF	2021/01/21 19:32

		"20180019552" | "4666276" | "7726994" | "7783188" | "9031400" | "9203063").PN. OR ("10886646").URPN.				
S37	638	(helmet and mount).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 19:33
S38	6	(helmet and mount and reversible).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 19:33
S39	75	(helmet and mount and accessory).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2021/01/21 19:33

EAST Search History (Interference)

<This search history is empty>

1/22/2021 12:21:54 PM
C:\Users\ahoey\Documents\EAST\Workspaces\16246935.wsp

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Attorney Docket No. 741300

REPLY TO OFFICE ACTION

In reply to the Office Action dated November 16, 2020, which contained a requirement for restriction under 35 U.S.C. § 121, please enter the following amendments and election, and consider the following remarks.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

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Patent No. 11,452,327 - IPR2025-00724

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Original) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user;

a front receptacle disposed on the front side of the outer shell;

a rear receptacle disposed on the rear side of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction;

an accessory device having a mating receptacle formed thereon, the accessory device being releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.

2. (Original) The safety helmet of claim 1, wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the accessory device includes a spring tab with a pawl, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the pawl engages the stop to releasably mount the accessory device in the front receptacle.

3. (Original) The safety helmet of claim 1, wherein the outer shell is made from a molded plastic material.

4. (Original) A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user;

a front receptacle disposed on the front side of the outer shell;

a rear receptacle disposed on the rear side of the outer shell;

a first accessory device having a first mating receptacle formed thereon, the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell; and

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a second accessory device having a second mating receptacle formed thereon, the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

5 (Original) The safety helmet of claim 4, wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the first accessory device includes a spring tab with a pawl, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the pawl engages the stop to releasably mount the first accessory device in the front receptacle.

6. (Original) The safety helmet of claim 4, wherein the outer shell is made from a molded plastic material.

7. (Currently amended) The safety helmet of claim 1, ~~A safety helmet, comprising:~~

~~an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user;~~

~~a front receptacle disposed on the front side of the outer shell;~~

~~a rear receptacle disposed on the rear side of the outer shell;~~

wherein the front receptacle includes a front set of terminals associated therewith, and the rear receptacle includes a rear set of terminals associated therewith; and

wherein a set of conductors is connected between the front set of terminals and the rear set of terminals.

8. (Original) The safety helmet of claim 7, wherein the set of conductors are integrated into the outer shell.

9. (Original) The safety helmet of claim 7, wherein the outer shell is made from a molded plastic material, and wherein the front set of terminals and the rear set of terminals are molded into the outer shell.

10. (Original) The safety helmet of claim 7, wherein a first accessory device is connected to the front receptacle and is a consumer of power, wherein a second accessory device is connected to the rear receptacle and is a power storage device, and wherein a circuit

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providing power from the second accessory device to the first accessory device is created while the first accessory device and the second accessory device are mounted onto the front receptacle and rear receptacles.

11. (Original) The safety helmet of claim 10, wherein each of the first accessory device and the second accessory device is a consumer of power a having power source integrated therewith.

12. (Original) The safety helmet of claim 11, wherein the power source of the first accessory device and the power source of the second accessory device are in electrical contact with one another to share power through the circuit.

13. (Currently amended) The safety helmet of claim [[10]] 4, where in the front receptacle and the rear receptacle are of identical construction.

14. (Currently amended) A method for using a protective device according to claim 1, comprising:

providing [[an]] the outer shell adapted to be worn by [[a]] the user~~, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that the front side or the rear side is oriented above a face of the user when the user wears the outer shell~~;

~~providing a front receptacle disposed on the front side of the outer shell;~~

~~providing a rear receptacle disposed on the rear side of the outer shell;~~

releasably attaching [[an]] the accessory device ~~having a mating receptacle formed thereon~~ into one of the front receptacle or the rear receptacle; and

detaching the accessory device and reattaching the accessory device into another one of the front receptacle or the rear receptacle.

15. (Original) The method of claim 14, further comprising electrically interconnecting terminals associated with the front and rear receptacles using a set of conductors.

16. (Original) The method of claim 15, wherein the outer shell is made from a molded plastic material, and wherein the terminals are molded into the outer shell.

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17. (Original) The method of claim 15, further comprising:

connecting an additional accessory device into the front or rear receptacles; and

transferring electrical power between the accessory device and the additional accessory device through the set of conductors.

18. (Original) The method of claim 17, wherein the accessory device is a lantern and wherein the additional accessory device includes one or more batteries.

19. (Original) The method of claim 15, wherein the set of conductors is molded into the outer shell.

20. (Original) The method of claim 14, where in the front receptacle and the rear receptacle are of identical construction.

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REMARKS/ARGUMENTS

Status of Claims

The instant application was filed with 20 claims, all of which are currently pending and are subject to a requirement for restriction.

In the present response, the following amendments are made to the claims:

- Claim 7 is amended to depend from claim 1;
- Claim 13 is amended to depend from claim 4; and
- Claim 14 is amended to depend from claim 1.

The amendments to claims 7 and 14 are supported in the original disclosure and thus no new matter has been introduced into the present application by way of the above amendments to the claims.

Requirement for Restriction, and Election

The Office Action mailed on November 16, 2020, contained the following requirement for restriction as between two inventions:

> I. Claims 1–13, drawn to a safety helmet apparatus, classified in A42B 3/0046; and
>
> II. Claims 14–20, drawn to a method of detaching/attaching accessories to a helmet, classified in A42B 3/30.

In response to the requirement for restriction, Applicant provisionally elects **Invention I** for prosecution, encompassing claims 1–13, with traverse.

The Office Action further states that the application contains claims directed to the following patentably distinct species:

> A. Receptacle helmet and accessory device or devices, encompassing original claims 1–6; and

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B. Receptacle helmet with conductors connected through helmet attaching terminals, encompassing original claims 7–13.

In response, Applicant provisionally elects **Species A,** encompassing claims 1–6 and 13, with traverse.

Applicant further comments that, in view of the above amendments to the claims, amended claims 7 and 14 are linking claims to non-elected Invention II and Invention I, Species B.

Traversal of the Restriction Requirement

Applicant traverses the invention and species restriction requirements on the basis that examination of all originally presented claims presents no undue burden on the Examiner. Applicant further assets that, as between the species restriction, Species B appears to be a subset of Species A, and thus a search of one should necessarily include a search of the other.

More specifically, MPEP 803 states that when "the search and examination of all the claims in an application can be made without serious burden, the examiner **must** examine them on the merits, even though they include claims to independent or distinct inventions" (MPEP 803, with emphasis added).

In the present application, Inventions I and II relate to the apparatus and method of attaching accessories to a helmet. While the inventions are different, they belong to the same general class and should reasonably entail a search of similar areas of prior art. Thus, no undue burden appears to exist.

With respect to the species election, it stands to reason that helmets having integrated conductors are a subset of helmets in general, and thus a search of Species A would also include a search of Species B, relative to the technology involved.

In view of the foregoing, Applicant respectfully submits that a full search conducted for the elected invention and species should also cover the non-elected invention and species, and for this reason no undue burden is posed on the Examiner. Accordingly, reconsideration, withdrawal of the restriction requirement, and examination of all pending claims is respectfully requested.

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Conclusion

Applicant respectfully submits that the present application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the present application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

/Elias P. Soupos/

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Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: January 15, 2021

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Patent No. 11,452,327 - IPR2025-00724

Electronic Acknowledgement Receipt

EFS ID:	41665778
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	161268
Filer:	Elias Panos Soupos/Robert Holland
Filer Authorized By:	Elias Panos Soupos
Attorney Docket Number:	741300
Receipt Date:	15-JAN-2021
Filing Date:	14-JAN-2019
Time Stamp:	17:53:31
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		ROA-1st.pdf	227834 1ad8fcebf134bdeb0147e81b877a0335122dbbc8	yes	9

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	1
	Response to Election / Restriction Filed	2	2
	Claims	3	6
	Applicant Arguments/Remarks Made in an Amendment	7	9
Warnings:			
Information:			
	Total Files Size (in bytes):	227834	

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

USPTO TRANSMITTAL

PATENT
Attorney Docket No. 741300

Application No. 16/246,935
Confirmation No. 7407

Transmitted herewith is a reply to office action in the subject application.

☒ Petition for an extension of time for the period noted below, as well as for any additional period necessary to render the present submission timely. Please charge Deposit Account No. 12-1216 for the appropriate petition fee.

☐ Other:

☒ Please charge Deposit Account No. 12-1216 in the total amount indicated below.

TIME EXTENSION PETITION FEE			none			$0
subtract time extension fee previously paid			none			($0)
CLAIM FEE	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	EXTRA CLAIMS PRESENT	RATE	ADDITIONAL CLAIM FEE
TOTAL	20	MINUS	20	= 0	x $100 =	$0
INDEPENDENT	2	MINUS	3	= 0	x $480 =	$0
☐	FIRST PRESENTATION OF MULTIPLY DEPENDENT CLAIM				+ $860 =	$0
SUBTOTAL (of all items above)						$0
☐	Small entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ½.					($0)
☐	Micro entity status is claimed for this application under 37 CFR 1.27. Fees above are reduced by ¾.					($0)
OTHER FEES AS DESCRIBED:						$0
TOTAL AMOUNT TO BE CHARGED TO DEPOSIT ACCOUNT						**$0**

☒ The Commissioner is hereby authorized to charge any deficiencies in the following fees associated with this communication or credit any overpayment to Deposit Account No. 12-1216.
- ☒ Any filing fees under 37 CFR 1.16 and/or 1.492 for the presentation of extra claims.
- ☒ Any patent application processing fees under 37 CFR 1.17.

Leydig

/Elias P. Soupos/
Elias P. Soupos, Reg. No. 57,375
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: January 15, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/246,935	01/14/2019	Shantanu Deshpande	741300	7407

161268 7590 11/16/2020

LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER
HOEY, ALISSA L

ART UNIT	PAPER NUMBER
3732	

NOTIFICATION DATE	DELIVERY MODE
11/16/2020	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):

Chgpatent@leydig.com

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Patent No. 11,452,327 - IPR2025-00724

Office Action Summary	Application No. 16/246,935	Applicant(s) Deshpande et al.	
	Examiner ALISSA L HOEY	Art Unit 3732	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 2 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 01/14/19.

☐ 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) 1-20 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) _____ is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☑ Claim(s) 1-20 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.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-13, drawn to a safety helmet apparatus, classified in A42B 3/0046.

II. Claims 14-20, drawn to a method of detaching/attaching accessories to a helmet, classified in A42B3/30.

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the apparatus of invention I does not need to perform in the method as required by invention II.

Restriction for examination purposes as indicated is proper because all the inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and/or examination burden if restriction were not required because one or more of the following reasons apply:

- *the species or groupings of patentably indistinct species have acquired a separate status in the art in view of their different classification*
- *the species or groupings of patentably indistinct species require a different field of search (e.g., searching different classes /subclasses or electronic resources, or employing different search strategies or search queries).*

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention**.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 or pre-AIA 35 U.S.C. 103(a) of the other invention.

Election of Species

This application contains claims directed to the following patentably distinct species:

A) Receptacle helmet and accessory device or devices

B) Receptacle helmet with conductors connected through helmet attaching terminals

The species are independent or distinct because the different species claim different helmet structures, species A does not require any connectors and terminal and species B does not require any accessories. In addition, these species are not obvious variants of each other based on the current record. It is noted that, as best understood, claims 1-6 read on species A and claims 7-13 read on species B.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, or a single grouping of patentably indistinct species, for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

There is a search and/or examination burden for the patentably distinct species as set forth above because at least the following reason(s) apply:

- *the species or groupings of patentably indistinct species have acquired a separate status in the art in view of their different classification*
- *the species or groupings of patentably indistinct species require a different field of search (e.g., searching different classes /subclasses or electronic resources, or employing different search strategies or search queries).*

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species or grouping of patentably indistinct species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate

which of these claims are readable on the elected species or grouping of patentably indistinct species.

Should applicant traverse on the ground that the species, or groupings of patentably indistinct species from which election is required, are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing them to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 or pre-AIA 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

A telephone call was not made to Applicant to request an oral election to the above restriction requirement, due to the complex nature of the requirement as detailed above.

The examiner has required restriction between product or apparatus claims and process claims. Where applicant elects claims directed to the product/apparatus, and all product/apparatus claims are subsequently found allowable, withdrawn process claims that include all the limitations of the allowable product/apparatus claims should be considered for rejoinder. All claims directed to a nonelected process invention must include all the limitations of an allowable product/apparatus claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product/apparatus claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product/apparatus are found allowable, an otherwise proper restriction requirement between product/apparatus claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an

allowable product/apparatus claim will not be rejoined. See MPEP § 821.04. Additionally, in order for rejoinder to occur, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product/apparatus claims. **Failure to do so may result in no rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALISSA L HOEY whose telephone number is (571)272-4985. The examiner can normally be reached on M-F 9:00-5:30 ET.

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, Clinton T Ostrup can be reached on (571)272-5559. 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.

ALISSA L. HOEY
Primary Examiner
Art Unit 3732

/ALISSA L HOEY/
Primary Examiner, Art Unit 3732

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	REQUEST ID
16/246,935		3732	94084

PAIR Correspondence Address/Fee Address Change

The following fields have been changed to Customer Number 161268 on 08/20/2019 via Private PAIR in view of the certification copied below that authorized the change.

- Correspondence Address

The address for Customer Number 161268 is:
161268
LEYDIG VOIT & MAYER, LTD (Klein Tools)
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

An attorney or Agent of Record registered to practice before the Patent and Trademark Office who has been given power of attorney in this application

Signature:	/Elias P. Soupos/
Name:	Elias P. Soupos
Registration Number:	57375

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/246,935	01/14/2019	Shantanu Deshpande	741300

CONFIRMATION NO. 7407

23460
LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

PUBLICATION NOTICE

OC000000110084476

Title: Safety Helmet

Publication No.US-2019-0231016-A1
Publication Date:08/01/2019

NOTICE OF PUBLICATION OF APPLICATION

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

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

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

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 386
Patent No. 11,452,327 - IPR2025-00724

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 16/246,935

Confirmation No. 7407

Attorney Docket No. 741300

SUBMISSION OF INVENTOR DECLARATIONS

Applicant responds to the "Informational Notice to Applicant" dated February 7, 2019, by submitting Inventor Declarations executed by the inventors. Applicant confirms that the Surcharge for Late Filing of Inventor Declaration has already been paid. Any additional fees owed with respect to this communication are authorized to be charged to Deposit Account No. 12-1216.

Respectfully submitted,

/J. Karl Gross/

LEYDIG

J. Karl Gross, Reg. No. 57,108
Telephone: 312-616-5600
Facsimile: 312-616-5700

Date: July 16, 2019

MAILING/TRANSMISSION CERTIFICATE UNDER 37 CFR 1.8			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO, EFS-Web transmitted to the USPTO, or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on the date indicated below.			
Name (Print/Type)	Robert Holland		
Signature	/Robert Holland/	*Date*	July 16, 2019

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 387
Patent No. 11,452,327 - IPR2025-00724

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

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

Title of Invention	Safety Helmet

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 16/246,935

filed on January 14, 2019.

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.

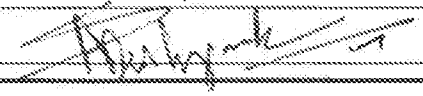
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Shantanu Deshpande Date (Optional): 7/15/19

Signature: 

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

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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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	Safety Helmet

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 16/246,935

filed on January 14, 2019.

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: Kingston Wong Date (Optional): 07/16/2019

Signature: [signature]

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

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.

Electronic Acknowledgement Receipt

EFS ID:	36596105
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	23460
Filer:	John Karl Gross/Robert Holland
Filer Authorized By:	John Karl Gross
Attorney Docket Number:	741300
Receipt Date:	16-JUL-2019
Filing Date:	14-JAN-2019
Time Stamp:	13:39:55
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	Applicant Response to Pre-Exam Formalities Notice	Inventor_Declaration_Transmittal.pdf	110459 d6f8658d8a5f74f1def7a94b37e41b9aa673630c	no	1

Warnings:

Information:					
2	Oath or Declaration filed	Executed_Declarations.pdf	2231712 267935ce83f491552eed9141d10eb20f144014d2	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2342171		

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/246,935	01/14/2019	3732	2340	741300	20	4

CONFIRMATION NO. 7407

23460
LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

FILING RECEIPT

OC000000105842060

Date Mailed: 02/07/2019

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Shantanu Deshpande, Glenview, IL;
Kingston Wong, Beach Park, IL;

Applicant(s)

Klein Tools, Inc., Lincolnshire, IL

Assignment For Published Patent Application

Klein Tools, Inc., Lincolnshire, IL

Power of Attorney: The patent practitioners associated with Customer Number 23460

Domestic Priority data as claimed by applicant

This appln claims benefit of 62/622,472 01/26/2018
and claims benefit of 62/645,491 03/20/2018

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.

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 392
Patent No. 11,452,327 - IPR2025-00724

If Required, Foreign Filing License Granted: 02/05/2019

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/246,935**

Projected Publication Date: 08/01/2019

Non-Publication Request: No

Early Publication Request: No

Title

Safety Helmet

Preliminary Class

002

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).

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 393
Patent No. 11,452,327 - IPR2025-00724

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

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).

SelectUSA

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 U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop 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: 16/246,935

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	660
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*			OR	x 100 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	* 1				x 460 =	460
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
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	2180

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	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))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT B	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))									
	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.

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/246,935	01/14/2019	Shantanu Deshpande	741300

CONFIRMATION NO. 7407

23460
LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

INFORMAL NOTICE

OC000000105642061

Date Mailed: 02/07/2019

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  Shantanu Deshpande
  Kingston Wong

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ederido/

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 396
Patent No. 11,452,327 - IPR2025-00724

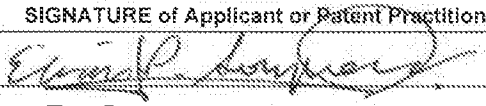
PTO/AIA/82A (07-12)
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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B or equivalent) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5. If the Power of Attorney by Applicant form is not accompanied by this transmittal form or an equivalent, the Power of Attorney will not be recognized in the application.

Application Number	
Filing Date	January 14, 2019
First Named Inventor	Shantanu Deshpande
Title	Safety Helmet
Art Unit	
Examiner Name	
Attorney Docket Number	741300

SIGNATURE of Applicant or Patent Practitioner

Signature		Date	January 14, 2019
Name	Elias P. Soupos	Telephone	(312) 616-5600
Registration Number	57,375		

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

■ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 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.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
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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: 23460

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):

Klein Tools, Inc.

☐ 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	Matthew Thouren		
Title	VP Finance		

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 1 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.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	741300
	Application Number	
Title of Invention	Safety Helmet	

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.

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
	Shantanu		Deshpande	

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

City	State/Province	Country of Residence
Glenview	IL	US

Mailing Address of Inventor:

Address 1	4311 Crescent Lane
Address 2	
City	Glenview
State/Province	IL
Postal Code	60026
Country	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Kingston		Wong	

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

City	State/Province	Country of Residence
Beach Park	IL	US

Mailing Address of Inventor:

Address 1	12970 W. Wakefield Dr.
Address 2	
City	Beach Park
State/Province	IL
Postal Code	60083
Country	US

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

Correspondence Information:

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

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	741300
	Application Number	
Title of Invention	Safety Helmet	

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

Customer Number	23460		
Email Address	docketingpatent@leydig.com	Add Email	Remove Email

Application Information:

Title of the Invention	Safety Helmet		
Attorney Docket Number	741300	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	5	**Suggested Figure for Publication (if any)**	1

Filing By Reference:

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

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

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

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

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

Please Select One:	● Customer Number	US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	23460		

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	741300
	Application Number	
Title of Invention	Safety Helmet	

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)
	Claims benefit of provisional	62/622472	2018-01-26
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Claims benefit of provisional	62/645491	2018-03-20

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)[i] 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).

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. 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.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	741300
	Application Number	
Title of Invention	Safety Helmet	

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	741300
	Application Number	
Title of Invention	Safety Helmet	

Applicant Information:

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

Applicant 1 — Remove

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.

Clear

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:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	Klein Tools, Inc.		
Mailing Address Information For Applicant:			
Address 1	450 Bond Street		
Address 2			
City	Lincolnshire	**State/Province**	IL
Country	US	Postal Code	60069
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	741300
	Application Number	
Title of Invention	Safety Helmet	

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	Klein Tools, Inc.

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	450 Bond Street		
Address 2			
City	Lincolnshire	**State/Province**	IL
Country i	US	Postal Code	60069
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	/Elias P. Soupos/			Date (YYYY-MM-DD)	2019-01-14
First Name	Elias P.	Last Name	Soupos	Registration Number	57,375

Additional Signature may be generated within this form by selecting the Add button. Add

PTO/AIA/14 (11-15)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	741300
	Application Number	
Title of Invention	Safety Helmet	

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

Privacy Act Statement

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

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

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SAFETY HELMET

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This patent application claims the benefit of U.S. Provisional Patent Application No. 62/622,472, filed January 26, 2018, and U.S. Provisional Patent Application No. 62/645,491, filed March 20, 2018, each of which disclosure is incorporated herein by reference.

BACKGROUND OF THE DISCLOSURE

[0002] The present disclosure relates to personal protection devices and, more particularly, safety helmets for use to protect the wearer from falling objects. Such helmets are commonly also referred to as "hard hats." Various types of safety helmets are commonly used in in several industries, many of which include mounted personal illumination devices commonly called headlamps, typically powered by a direct current power source (either replaceable or rechargeable chemical cells). In the simplest of such devices, the headlamp is permanently mounted to the safety helmet in a fixed orientation at the front of the safety helmet. In other such devices, a mounting bracket is included at the front of the helmet to allow for a headlamp to be inserted.

[0003] One common method of mounting headlamps onto a safety helmet is by using an elastic band to conform and adhere to the exterior of the safety helmet, and then mounting the portable device onto the elastic band. While use of elastic bands can permit mounting of the headlamp at any orientation relative to the safety helmet, and also mounting of additional devices onto a single band, switching between orientations is difficult. Moreover, band-type mounting systems are prone to slipping off from the safety helmet, especially when lubricating fluids may fall on the helmet and enter the interface between the helmet's exterior and the band, thus requiring constant readjustment by the user.

[0004] Another common issue with known safety helmet headlamp arrangements is the connection of a power source to the headlamp. Portable power sources such as batteries are known to be heavy and bulky. When integrated with the headlamp, which is worn on the front facing side of the helmet, headlamps with integrated power sources tend to pull the helmet down, especially when the wearer is looking

down. To reduce the weight of headlamps, manufacturers decrease the size of the batteries that are integrated therewith, which also decreases their useful life and will also decrease the lumen output of the headlamp. In certain applications where long life and higher light intensity is desired such as in underground mines, headlamps are typically connected to a power source via a wire, which leads to heavier and bulkier batteries worn around the user's waist. The wire leading to the batteries, however, can present a nuisance to the user and also increases the chances of unsafe conditions as it may become snagged as the user is moving around.

BRIEF SUMMARY OF THE DISCLOSURE

[0005] In one aspect, the present disclosure describes a safety helmet. The safety helmet includes an outer shell adapted to be worn by a user. The outer shell has a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user. A front receptacle is disposed on the front side of the outer shell, and a rear receptacle is disposed on the rear side of the outer shell. The front receptacle and the rear receptacle are of identical construction. An accessory device has a mating receptacle formed thereon, and is releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.

[0006] In another aspect, the disclosure describes a safety helmet, which includes an outer shell adapted to be worn by a user. The outer shell has a front side and a rear side. The outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user. A front receptacle is disposed on the front side of the outer shell, and a rear receptacle is disposed on the rear side of the outer shell. A first accessory device has a first mating receptacle formed thereon and is releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell, and a second accessory device has a second mating receptacle formed thereon and is releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

[0007] In yet another aspect, the disclosure describes a safety helmet that includes an outer shell adapted to be worn by a user and having a front side and a rear side. The outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user. The

safety helmet further includes a front receptacle disposed on the front side of the outer shell, and a rear receptacle disposed on the rear side of the outer shell. The front receptacle includes a front set of terminals associated therewith, the rear receptacle includes a rear set of terminals associated therewith, and a set of conductors is connected between the front set of terminals and the rear set of terminals.

[0008] In yet another aspect, the disclosure describes a method for using a protective device. The method includes providing an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that the front side or the rear side is oriented above a face of the user when the user wears the outer shell. The method further includes providing a front receptacle disposed on the front side of the outer shell, and providing a rear receptacle disposed on the rear side of the outer shell. The method also includes releasably attaching an accessory device having a mating receptacle formed thereon into one of the front or rear receptacle, detaching the accessory device, and reattaching the accessory device into another one of the front or rear receptacle.

BRIEF SUMMARY OF THE SEVERAL VIEWS OF THE DRAWINGS

[0009] FIGS. 1 and 2 are front and rear perspective views of a safety helmet in accordance with the disclosure.

[0010] FIG. 3 is a front view of the safety helmet of FIG. 1.

[0011] FIG. 4 is a rear view of a device that is connectable to the safety helmet of FIG. 1 in accordance with the disclosure.

[0012] FIG. 5 is a cross section of the safety helmet of FIG. 1.

[0013] FIG. 6 is an enlarged detail cross section of the helmet of FIG. 1.

[0014] FIG. 7 is a side view of an alternative embodiment.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

[0015] The present invention relates to the field of personal protection devices and, more particularly, safety helmets. The safety helmets in accordance with the disclosure include two mounts, one on either the front or back facing sides of the helmet, which permit connection of removable modules onto the helmet such as headlamps, cameras, speakers, larger capacity batteries, cellphones, and the like. In

one embodiment, the helmet includes an integrated, non-removable power source and integrated electrical leads or conductors to a port for a removable device. In this way, the removable device such as a headlamp can be made lighter without sacrificing battery power output or electrical potential. The headlamp, which may include its own power source that is chargeable by the helmet, may be removed and used as a flashlight before being replaced onto the helmet for charging.

[0016] A safety helmet 100 in accordance with one embodiment of the present disclosure is shown in FIG. 1. The safety helmet 100 includes a detachably mounted, headlamp device 200. The safety helmet 100 includes a hard outer shell 1 designed to protect the head of the wearer from injury and a brim 7 designed to shield the user's eyes from sunlight or falling debris. Accessory slots 6 may be present to accept various accessories. The headlamp device 200 features a headlamp body 9, a light source 2, a power switch 3 to activate the light source 2, and a mounting bracket 4 to removeably attach the headlamp device 200 to the safety helmet 100.

[0017] Connection of the headlamp device 200, which is shown as one exemplary embodiment of a device that can be connected to the safety helmet 100, is accomplished by releasable engagement of the mounting bracket 4 to a front tapered receiver slot 5 of the safety helmet 100. The front tapered receiver slot 5 is disposed on the front of hard outer shell 1 of the safety helmet 100. In this configuration, the light emanating from the light source 2 projects forward from the safety helmet 100, illuminating the area in front of a user when the safety helmet is in its standard orientation in which the brim 7 is disposed over the wearer's face.

[0018] The mounting bracket 4 and front tapered receiver slot 5 are one exemplary embodiment for releasably connecting the device 200 to the safety helmet 100. As also shown in FIGS. 3 and 4, the front tapered receiver slot 5 includes a tapered channel 16 formed between a pair of raised sidewalls 18 and a protruding nub 17 extending from the surface of the hard outer shell 1 of the safety helmet 100. The mounting bracket 4 is in the form of a tapered clip 19 conforming to the tapered channel 16 such that it is retained by the raised sidewalls 18 when it is inserted into the tapered channel. A slot 20 in the tapered clip 19 receives the protruding nub 17 on the hard outer shell 1 of the safety helmet 100 locking it into place. The mounting bracket 4 can be detached from the front tapered receiver slot 5 by pulling on the release lever 21 of the tapered clip 19, which disengages the protruding nub 17 from

the slot 20 to allow the headlamp device 200 to be lifted out of the tapered channel 16.

[0019] The safety helmet 100 is shown from a rear perspective in FIG. 2. As shown, the safety helmet 100 includes a second device 201 mounted on the rear side of the hard outer shell 1. While in certain embodiments the second device 201 may be releasably mounted to the safety helmet 100 using a second tapered receiver slot, similar to the front tapered receiver slot 5 on the front of the helmet (FIG. 1), in the illustrated embodiment, the second device 201 is non-releasably or, generally permanently, mounted onto the safety helmet 100. The second device shown in FIG. 2 is a battery pack or power storage device that houses disposable or rechargeable battery power cells. The battery cells in the second device 201 are configured to provide electrical potential in the form of a direct current (DC) electrical power output into two conductors, 203 and 204 (shown in FIG. 1), which are integrated into the hard outer shell 1.

[0020] The conductors 203 and 204, which are shown in dashed lines in FIGS. 1 and 2, are metal conductors that can be made from copper, aluminum, steel, zinc or the like, and are molded into the thermoplastic material of the hard outer shell 1 of the safety helmet 100. In one embodiment, the conductors can be placed into a mold used for injection molding of the hard outer shell 1 such that the plastic used to construct the hard outer shell 1 can be over-molded around the conductors to conceal and protect the conductors as shown, for example, in FIG. 6. Placement of the conductors can be selected depending on the particular safety requirements of the helmet. As shown, the conductors are placed along an outer region of the helmet, away from the wearer's head.

[0021] At one end, the conductors 203 and 204 are permanently and electrically connected to two poles of the battery cells in the second device 201 such that an electrical potential created by the battery cells is available through the conductors. At another end the conductors 203 and 204 terminate at terminals 205 and 206, as shown in FIG. 3, which present bare surfaces for achieving a releasable electrical connection with corresponding terminals 207 and 208 formed on the back side of the device 200 that is connectable to the front tapered receiver slot 5, as shown in FIG. 4. In this way, when the device 200 is mechanically connected to the receiver slot, an electrical connection between the first device, for example, the headlamp device

200 and the second device 201 is also established and maintained while the device 200 is mounted onto the safety helmet 100.

[0022] FIG. 5 a side, section view through the safety helmet 100 shown in FIG. 1, and FIG. 6 is an enlarged detail view to illustrate the connections of the electrical conductors through the material of the hard outer shell 1 to the terminals 207 and 208 (only one visible) and also to the additional device 201. Also visible here are secondary, rechargeable batteries 212 used within the device 200, which can be charged through the conductors from the second device 201 and which also allow the device 200 to be used autonomously, if desired. In the embodiment shown, the rechargeable batteries 212 used in the device 200 have a smaller electrical capacity than batteries in the second device 201 to allow the device to be recharged while connected to the safety helmet 100, provided that the electrical potential of the second device 201 is higher than the device 200 and charging of the device 200 can occur. The recharging of the device 200 advantageously permits use of the device to be used autonomously when separated from the safety helmet 100, and then reconnected to the helmet for charging from the second device 201. While charging, the device 200 can also operate, for example, to provide light, by drawing sufficient electrical power from the second device to both operate and charge the device 200 because of the larger electrical capacity of the second device 201. When the second device 201 is connected to a power source for charging, and while the device 201 is connected, both devices can be charged simultaneously to increase to the total charge available on the safety helmet 100. Moreover, the second device 201 can include a shutoff or diode integrated therewith, which only permits flow of electrical power in the form of electrical DC current from the second device 201 to the device 200, but not in the opposite direction.

[0023] The devices 200 and 201 may be embodied as various types of devices or accessories. For example, in addition to headlamps or battery packs, the devices may be embodied as a speaker, which can be connected to an audio player or similar device by known methods, a holder or bracket for another device such as a camera, smartphone or the like, a blinking or otherwise illuminated light that marks the location of the user, a GPS receiver or tag, and the like.

[0024] An alternative embodiment is shown in FIG. 7, in which a plurality of electrical devices, in this case, illumination devices 210, are integrated around the

helmet and connected to be powered by the second device 201. For example, the illumination devices 210 may be low-powered LED lights or strobes that can be illuminated and used as safety devices, in addition to reflective devices, in low light environments. The electrical connections to power the illumination devices 210 can be integrated into the hard outer shell in a fashion similar to the conductors 203 and 204, and be electrically connected therewith.

[0025] All references, including publications, patent applications, and patents, cited herein are hereby incorporated by reference to the same extent as if each reference were individually and specifically indicated to be incorporated by reference and were set forth in its entirety herein.

[0026] The use of the terms "a" and "an" and "the" and "at least one" and similar referents in the context of describing the invention (especially in the context of the following claims) are to be construed to cover both the singular and the plural, unless otherwise indicated herein or clearly contradicted by context. The use of the term "at least one" followed by a list of one or more items (for example, "at least one of A and B") is to be construed to mean one item selected from the listed items (A or B) or any combination of two or more of the listed items (A and B), unless otherwise indicated herein or clearly contradicted by context. The terms "comprising," "having," "including," and "containing" are to be construed as open-ended terms (i.e., meaning "including, but not limited to,") unless otherwise noted. Recitation of ranges of values herein are merely intended to serve as a shorthand method of referring individually to each separate value falling within the range, unless otherwise indicated herein, and each separate value is incorporated into the specification as if it were individually recited herein. All methods described herein can be performed in any suitable order unless otherwise indicated herein or otherwise clearly contradicted by context. The use of any and all examples, or exemplary language (e.g., "such as") provided herein, is intended merely to better illuminate the invention and does not pose a limitation on the scope of the invention unless otherwise claimed. No language in the specification should be construed as indicating any non-claimed element as essential to the practice of the invention.

[0027] Preferred embodiments of this invention are described herein, including the best mode known to the inventors for carrying out the invention. Variations of those preferred embodiments may become apparent to those of ordinary skill in the

art upon reading the foregoing description. The inventors expect skilled artisans to employ such variations as appropriate, and the inventors intend for the invention to be practiced otherwise than as specifically described herein. Accordingly, this invention includes all modifications and equivalents of the subject matter recited in the claims appended hereto as permitted by applicable law. Moreover, any combination of the above-described elements in all possible variations thereof is encompassed by the invention unless otherwise indicated herein or otherwise clearly contradicted by context.

CLAIMS

What is claimed is:

1. A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user;

a front receptacle disposed on the front side of the outer shell;

a rear receptacle disposed on the rear side of the outer shell, wherein the front receptacle and the rear receptacle are of identical construction;

an accessory device having a mating receptacle formed thereon, the accessory device being releasably mountable onto each of the front receptacle and the rear receptacle of the outer shell.

2. The safety helmet of claim 1, wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the accessory device includes a spring tab with a pawl, and wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the pawl engages the stop to releasably mount the accessory device in the front receptacle.

3. The safety helmet of claim 1, wherein the outer shell is made from a molded plastic material.

4. A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user;

a front receptacle disposed on the front side of the outer shell;

a rear receptacle disposed on the rear side of the outer shell;

a first accessory device having a first mating receptacle formed thereon, the first accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell; and

a second accessory device having a second mating receptacle formed thereon, the second accessory device being releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

5. The safety helmet of claim 4, wherein the front receptacle includes a receiver slot flanked by raised walls and including a stop, wherein the first accessory device includes a spring tab with a pawl, and wherein the receiver slot aligns the first accessory device therein, the raised walls retain the first accessory device therebetween, and the pawl engages the stop to releasably mount the first accessory device in the front receptacle.

6. The safety helmet of claim 4, wherein the outer shell is made from a molded plastic material.

7. A safety helmet, comprising:

an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that one of the front side or the rear side is oriented above a face of the user when the outer shell is worn by the user;

a front receptacle disposed on the front side of the outer shell;

a rear receptacle disposed on the rear side of the outer shell;

wherein the front receptacle includes a front set of terminals associated therewith, and the rear receptacle includes a rear set of terminals associated therewith; and

wherein a set of conductors is connected between the front set of terminals and the rear set of terminals.

8. The safety helmet of claim 7, wherein the set of conductors are integrated into the outer shell.

9. The safety helmet of claim 7, wherein the outer shell is made from a molded plastic material, and wherein the front set of terminals and the rear set of terminals are molded into the outer shell.

10. The safety helmet of claim 7, wherein a first accessory device is connected to the front receptacle and is a consumer of power, wherein a second accessory device is connected to the rear receptacle and is a power storage device, and wherein a circuit providing power from the second accessory device to the first accessory device is created while the first accessory device and the second accessory device are mounted onto the front receptacle and rear receptacles.

11. The safety helmet of claim 10, wherein each of the first accessory device and the second accessory device is a consumer of power a having power source integrated therewith.

12. The safety helmet of claim 11, wherein the power source of the first accessory device and the power source of the second accessory device are in electrical contact with one another to share power through the circuit.

13. The safety helmet of claim 10, where in the front receptacle and the rear receptacle are of identical construction.

14. A method for using a protective device, comprising:

providing an outer shell adapted to be worn by a user, the outer shell having a front side and a rear side, wherein the outer shell is reversible such that the front side or the rear side is oriented above a face of the user when the user wears the outer shell;

providing a front receptacle disposed on the front side of the outer shell;

providing a rear receptacle disposed on the rear side of the outer shell;

releasably attaching an accessory device having a mating receptacle formed thereon into one of the front receptacle or the rear receptacle; and

detaching the accessory device and reattaching the accessory device into another one of the front receptacle or the rear receptacle.

15. The method of claim 14, further comprising electrically interconnecting terminals associated with the front and rear receptacles using a set of conductors.

16. The method of claim 15, wherein the outer shell is made from a molded plastic material, and wherein the terminals are molded into the outer shell.

17. The method of claim 15, further comprising:

connecting an additional accessory device into the front or rear receptacles; and

transferring electrical power between the accessory device and the additional accessory device through the set of conductors.

18. The method of claim 17, wherein the accessory device is a lantern and wherein the additional accessory device includes one or more batteries.

19. The method of claim 15, wherein the set of conductors is molded into the outer shell.

20. The method of claim 14, where in the front receptacle and the rear receptacle are of identical construction.

ABSTRACT

A safety helmet includes an outer shell having a front receptacle disposed on a front side of the outer shell and a rear receptacle disposed on a rear side of the outer shell. A first accessory device having a first mating receptacle formed thereon is releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell, and a second accessory device having a second mating receptacle formed thereon is releasably mountable onto each of the front receptacle or the rear receptacle of the outer shell.

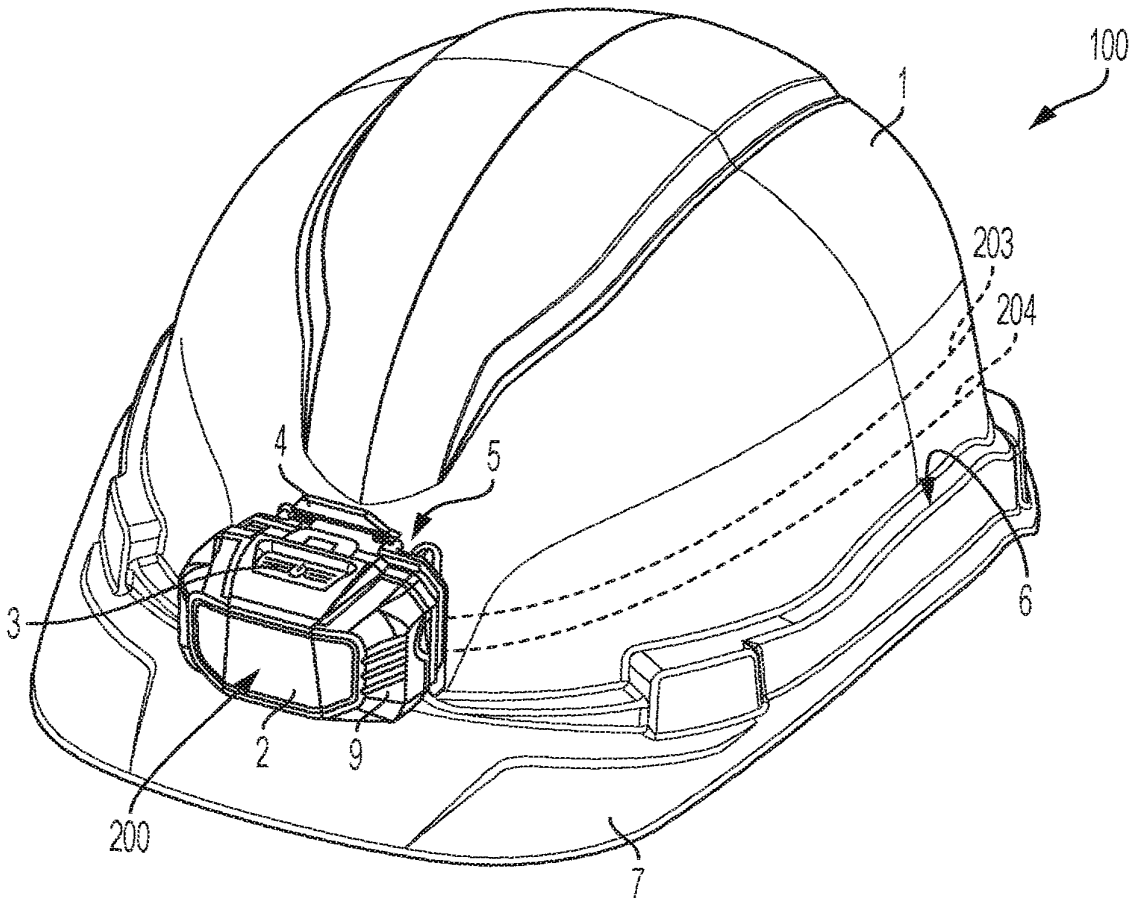


FIG. 1

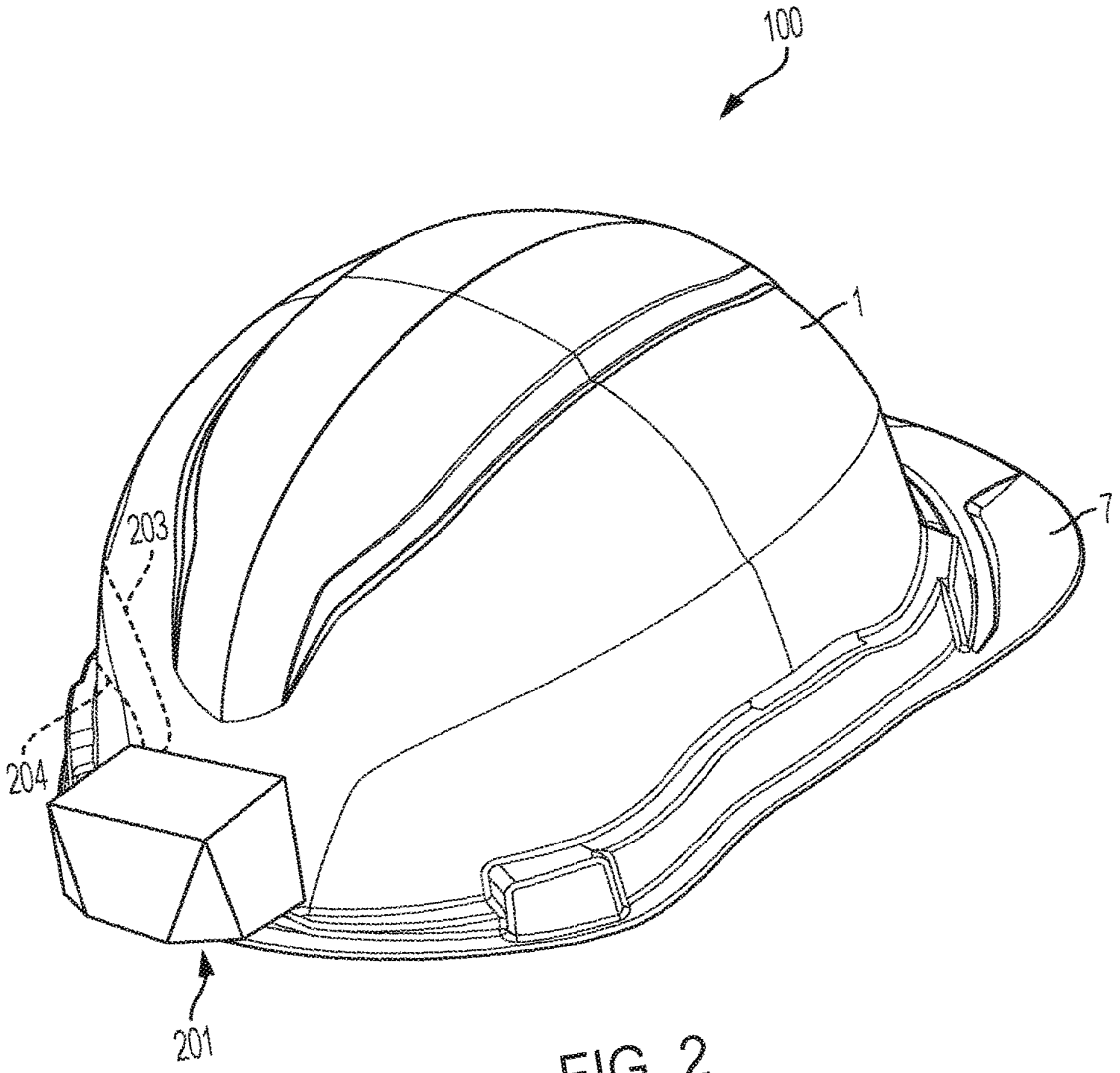


FIG. 2

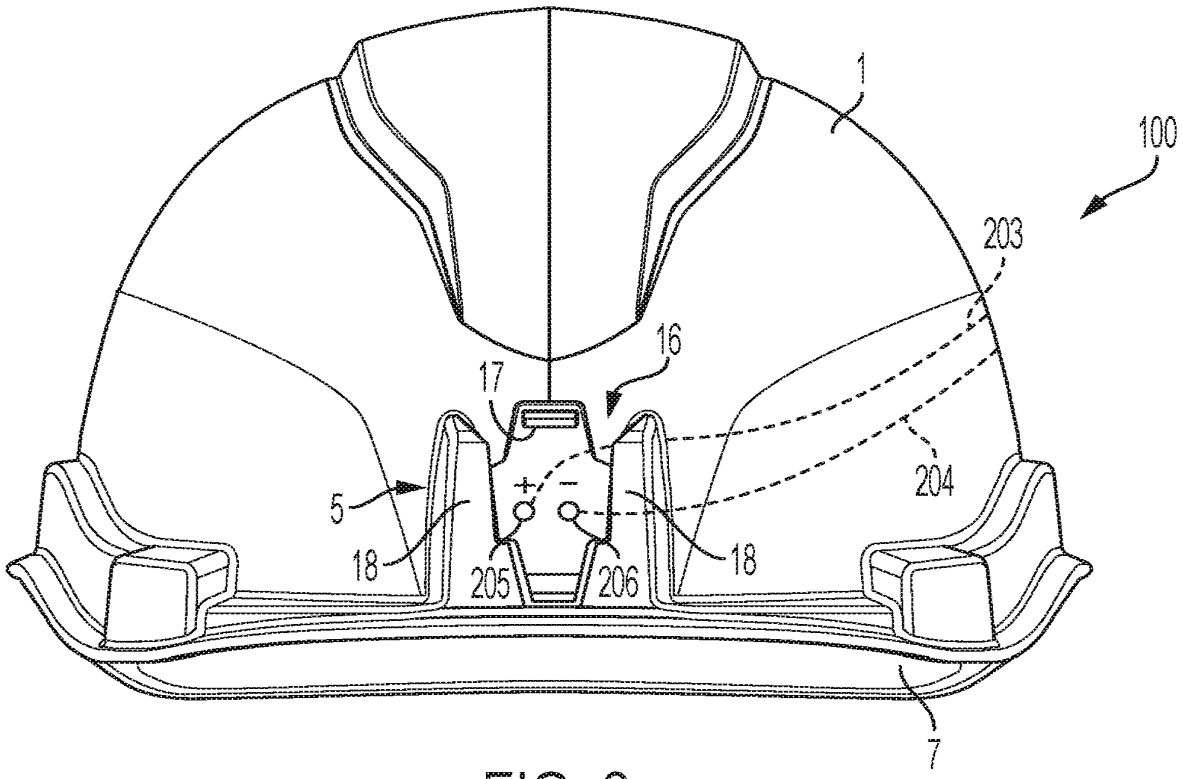


FIG. 3

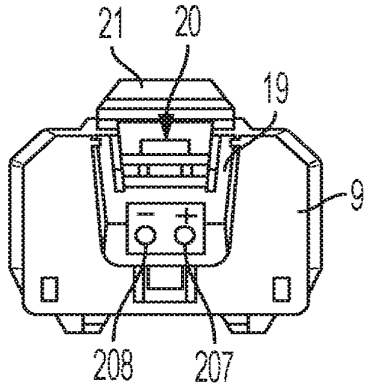


FIG. 4

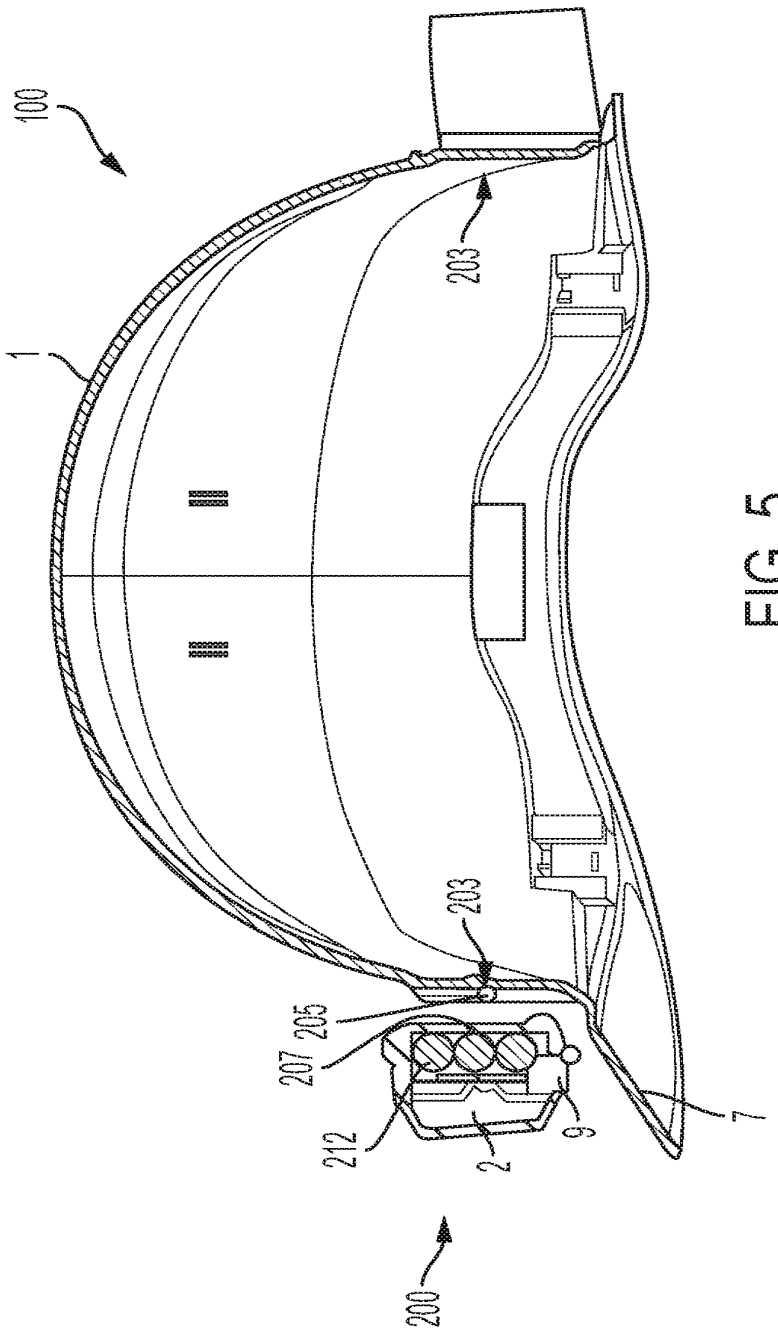


FIG. 5

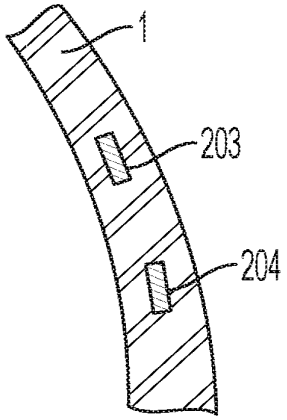


FIG. 6

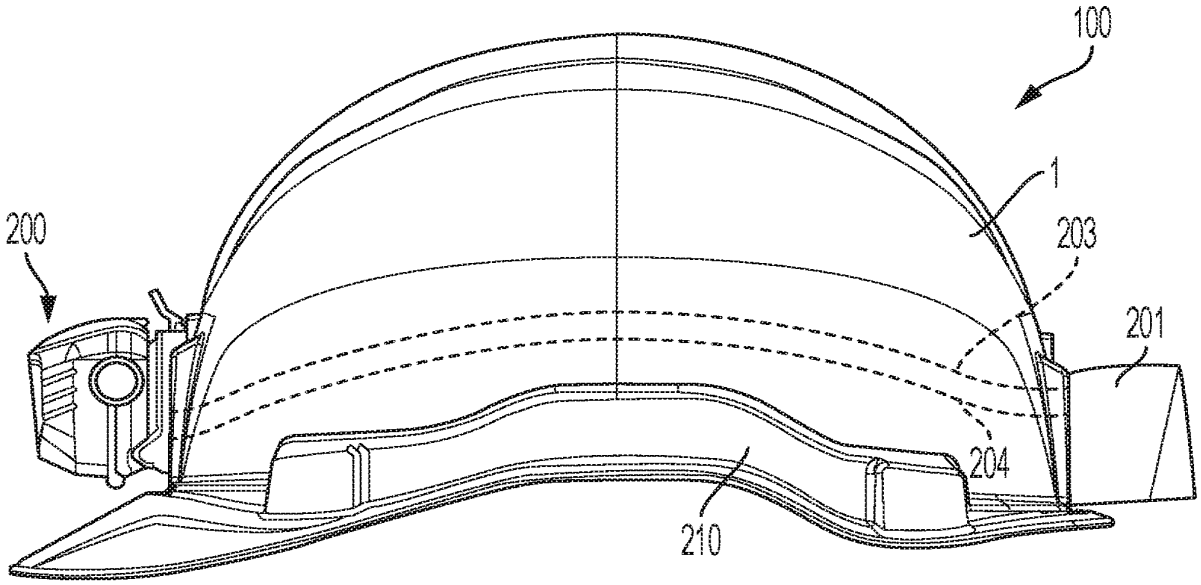


FIG. 7

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Filer:	Elias Panos Soupos/Robert Holland
Attorney Docket Number:	741300

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
Claims:				
INDEPENDENT CLAIMS IN EXCESS OF 3	1201	1	460	460
Miscellaneous-Filing:				
LATE FILING FEE FOR OATH OR DECLARATION	1051	1	160	160

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**2340**

Electronic Acknowledgement Receipt

EFS ID:	34846435
Application Number:	16246935
International Application Number:	
Confirmation Number:	7407
Title of Invention:	Safety Helmet
First Named Inventor/Applicant Name:	Shantanu Deshpande
Customer Number:	23460
Filer:	Elias Panos Soupos/Robert Holland
Filer Authorized By:	Elias Panos Soupos
Attorney Docket Number:	741300
Receipt Date:	14-JAN-2019
Filing Date:	
Time Stamp:	15:17:41
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$2340
RAM confirmation Number	011519INTEFSW00001562121216
Deposit Account	
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	Utility_Transmittal.pdf	172118 8100d237932b6a90ec89de19becc3e92a98a0601	no	2
Warnings:					
Information:					
2	Power of Attorney	POA.pdf	153537 278053b5a1d363c916a94deddb18dfac339587a7	no	2
Warnings:					
Information:					
3	Application Data Sheet	ADS.pdf	1823158 70da0eaca4f2bc72ca4c7584a2c6f2d07346487c	no	8
Warnings:					
Information:					
4		Application.pdf	82746 45a0c4f8f950179f5f75857819634c8c980ae789	yes	13

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	8
Claims	9	12
Abstract	13	13

Warnings:					
Information:					
5	Drawings-only black and white line drawings	Drawings.pdf	236668 665efdb1c134eef26f44e68dead26376078c9d6e	no	5

Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	38004 14cd556c2e786b091afe0899ab65627660ff6e28	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	2506231	

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New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	741300
First Inventor	Shantanu Deshpande
Title	Safety Helmet

APPLICATION ELEMENTS

ADDRESS TO: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

1. ☒ Utility Patent Application Transmittal Form
2. ☐ Applicant asserts small entity status (37 CFR 1.27)
3. ☐ Applicant certifies micro entity status (37 CFR 1.29 – Form PTO/SB/15A or B must be submitted)
4. ☒ Specification (including claims and abstract) [Total Pages 13]
5. ☒ Drawings [Total Sheets 5]
6. ☐ Inventor Declaration(s) [Total Pages]
   a. ☐ Newly executed
   b. ☐ Copy from prior application
7. ☒ Application Data Sheet. See 37 CFR 1.76
8. ☐ CD-ROM or CD-R (Large Table or Computer Program (Appendix))
9. Nucleotide and/or Amino Acid Sequence Submission
   a. ☐ Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. ☐ CD-ROM or CD-R (2 copies); or
      ii. ☐ Paper Copy
   c. ☐ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

10. ☐ Applicant requests early publication (include publication fee under 37 CFR 1.18(d))
11. ☐ 37 CFR 3.73(c) Statement (when there is an Assignee)
12. ☒ Power of Attorney
13. ☐ English Translation Document (if applicable)
14. ☐ Information Disclosure Statement (IDS)
    ☐ Form PTO-1449
    ☐ Copies of References (except for U.S. patents and applications)
15. ☐ Preliminary Amendment
16. ☐ Return Receipt Postcard (should be specifically itemized)
17. ☐ Certified Copy of Priority Document(s)
18. ☐ Nonpublication Request Under 35 USC 122(b)(2)(B)(i) (Form PTO/SB/35 or its equivalent must be submitted with this application)
19. ☐ Other:

APPLICATION FEES

BASIC FILING FEE						$300
UTILITY SEARCH FEE						$660
UTILITY EXAMINATION FEE						$760
CLAIM FEE	NUMBER FILED			NUMBER EXTRA	RATE	
TOTAL	20	MINUS	20	= 0	x $100 =	$0
INDEPENDENT	4	MINUS	3	= 1	x $460 =	$460
☐	FIRST PRESENTATION OF MULTIPLY DEPENDENT CLAIM				+ $820 =	$0
☐	Application Size Fee – If the specification, claims, abstract, drawings, and preliminary amendment exceed 100 sheets of paper, enter number of sheets here: - If application is filed in paper form, enter this number in Total Sheets below. - If application is filed via EFS-Web, multiply this number by 0.75 and enter result in Total Sheets below.					
Total Sheets =	– 100 =		÷ 50 =	(round up to a whole number)	x 400 =	$0
☐	Early Publication Fee					$0
☒	Processing Fee for Late Filing of Inventor Declarations					$160
SUBTOTAL (of all items above)						$2,340
☐	Small Entity Status – Fees Above Are Reduced by ½					($0)
☐	Small Entity Status – BASIC FILING FEE is reduced by an additional $75 if EFS filing					($0)
☐	Micro Entity Status – Fees Above Are Reduced by ¾					($0)
TOTAL AMOUNT TO BE CHARGED TO DEPOSIT ACCOUNT						**$2,340**

Milwaukee Electric Tool Corporation's Exhibit 1004 - Page 430
Patent No. 11,452,327 - IPR2025-00724

UTILITY PATENT APPLICATION TRANSMITTAL	Attorney Docket No. 741300

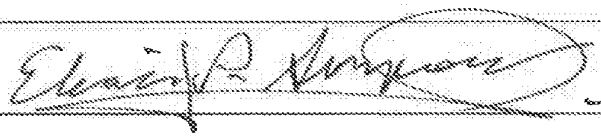
20. ☒ Please charge Deposit Account No. 12-1216 in the amount indicated above.

21. The Commissioner is hereby authorized to credit overpayments or charge any additional fees of the following types to Deposit Account No. 12-1216:
    a. ☒ Fees required under 37 CFR 1.16.
    b. ☒ Fees required under 37 CFR 1.17.

22. ☒ The Commissioner is hereby generally authorized under 37 CFR 1.136(a)(3) to treat any future reply in this or any related application filed pursuant to 37 CFR 1.53 requiring an extension of time as incorporating a request therefor, and the Commissioner is hereby specifically authorized to charge Deposit Account No. 12-1216 for any fee that may be due in connection with such a request for an extension of time.

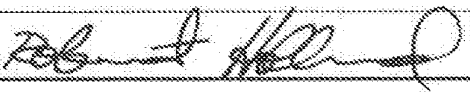
CORRESPONDENCE ADDRESS

☒ Customer No. 23460

Name	Elias P. Soupos, Reg. No. 57,375
Signature	
Contact Information	LEYDIG Telephone: 312-616-5600 Facsimile: 312-616-5700
Date	January 14, 2019

MAILING/TRANSMISSION CERTIFICATE UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the USPTO, EFS-Web transmitted to the USPTO, or deposited with the United States Postal Service with sufficient postage in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on the date indicated below.

Name (Print/Type)	Robert Holland		
Signature		*Date*	January 14, 2019

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Patent No. 11,452,327 - IPR2025-00724