

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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MILWAUKEE ELECTRIC TOOL CORPORATION,  
Petitioner,

v.

KLEIN TOOLS, INC.,  
Patent Owner.

U.S. Patent No. 12,268,265  
Case No. PGR2025-00080

**Declaration of Per Reinhall, Ph.D.**

**U.S. Patent No. 12,268,265**

Petitioner Ex. 1002

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**EXHIBIT LIST**

| <b>Exhibit</b> | <b>Description</b>                                                                                                        |
|----------------|---------------------------------------------------------------------------------------------------------------------------|
| Ex-1001        | U.S. Patent No. 11,452,327 (“’327 Patent”)                                                                                |
| Ex-1002        | Declaration of Expert Dr. Per Reinhall                                                                                    |
| Ex-1003        | <i>Curriculum Vitae</i> of Expert Dr. Per Reinhall                                                                        |
| Ex-1004        | Prosecution History of the application that led to the ‘327 Patent                                                        |
| Ex-1005        | U.S. Provisional Application No. 62/622,472 (“’472 Provisional”)                                                          |
| Ex-1006        | U.S. Provisional Application No. 62/645,491 (“’491 Provisional”)                                                          |
| Ex-1007        | U.S. Patent Application No. 16/246,935 as filed January 14, 2019 (“’935 Application”)                                     |
| Ex-1008        | Comparison of the ’327 Patent and the ’935 Application                                                                    |
| Ex-1009        | Chinese Utility Model App. No. 201120014896.0 to Yan (“Yan-CN”)                                                           |
| Ex-1010        | Klein Tools “Klein Tools’® New Hard Hats Designed for Pros—Safety, Comfort and Fit,” July 23, 2019 (“Klein News Release”) |
| Ex-1011        | Certified Translation of Chinese Utility Model App. No. 201120014896.0 to Yan (“Yan”)                                     |
| Ex-1012        | U.S. Patent No. 9,993,043 to Daley (“Daley”)                                                                              |
| Ex-1013        | U.S. Patent No. 4,304,009 to Nesbitt et al. (“Nesbitt”)                                                                   |
| Ex-1014        | German Utility Model App. No. 2020-06007009 to Kiessler (“Kiessler-DE”)                                                   |
| Ex-1015        | Certified Translation of German Utility Model App. No. 2020-06007009 to Kiessler (“Kiessler”)                             |

|         |                                                                                                                                                                                                                                                                                 |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ex-1016 | Complaint in International Trade Commission (ITC) investigation No. 337-TA-1442, titled <i>Certain Glow Fish Tape Systems, Safety Helmet Systems, and Components Thereof</i> (“ITC Complaint”)                                                                                  |
| Ex-1017 | Webpage printout at <a href="https://www.osha.gov/Publications/osh3151.pdf">https://www.osha.gov/Publications/osh3151.pdf</a> (Personal Protective Equipment) OSHA 3151-12R 2004.                                                                                               |
| Ex-1018 | Internet Archive Declaration with exhibit                                                                                                                                                                                                                                       |
| Ex-1019 | U.S. Patent No. 12,268,265 (“’265 Patent”)                                                                                                                                                                                                                                      |
| Ex-1020 | Prosecution History of U.S. Patent Application 17/856,628 (“’628 Application”) that led to the ‘265 Patent                                                                                                                                                                      |
| Ex-1021 | ’628 Application as filed July 1, 2022                                                                                                                                                                                                                                          |
| Ex-1022 | First Amended Complaint under Section 337 of the Tariff Act of 1930, as Amended, In the Matter of Certain Glow Fish Tape Systems, Safety Helmet Systems, and Components Thereof, Investigation No. 337-TA-1442, May 5, 2025                                                     |
| Ex-1023 | Exhibit 64 (Patent Owner’s “Exemplary Domestic Industry Claim Chart for U.S. Patent No. 12,268,265”) to the First Amended complaint, In the Matter of Certain Glow Fish Tape Systems, Safety Helmet Systems, and Components Thereof, Investigation No. 337-TA-1442, May 5, 2025 |

I, Per Reinhall, Ph.D., declare as follows:

**I. ENGAGEMENT**

1. I reside at 11318 Riviera PL NE, Seattle, Washington.
2. I have been retained by Milwaukee Electric Tool Corporation (“Petitioner”) in connection with the above-captioned petition for Post-Grant Review (“PGR”) of U.S. Patent No. 12,268,265 to Shantanu Deshpande and Kingston Wong (“’265 Patent,” Ex. 1019). I understand the ’265 Patent is currently assigned to Klein Tools, Inc. (“Patent Owner”).
3. I have been asked by Petitioner to offer opinions regarding the ’265 Patent, including the unpatentability of claims 1-4, which I refer to using the term “Challenged Claims,” in view of certain prior art. This declaration sets forth the opinions I have reached to date regarding these matters.
4. I am being compensated by Petitioner at my standard hourly consulting rate for my time spent on this matter. My compensation is not contingent on the outcome of the PGR or on the substance of my opinions.
5. I have no financial interest in Petitioner or Patent Owner.

**II. PROFESSIONAL BACKGROUND**

6. My qualifications are set forth in my curriculum vitae, a copy of which is attached as Exhibit 1003. As set forth in my curriculum vitae:

7. I received a Bachelor of Science in Mechanical Engineering from the University of Washington, a Master of Science in Applied Mechanics from Caltech, and a Doctor of Philosophy in Applied Mechanics from Caltech.

8. I am currently a professor of Mechanical Engineering and an adjunct professor of Industrial and Systems Engineering at the University of Washington. My research includes topics such as design and manufacturing, materials, dynamics and vibrations, structural mechanics and design, biomedical devices, computation, impact dynamics, acoustics & noise control controls & robotics, and biomechanics. I have various awards in recognition of my research, including UW Presidential Entrepreneurial Faculty Fellow, member of the Washington State Academy of Science, University of Washington School of Medicine Inventor of the Year Award (for inventing a safer football helmet), and ASME Best Journal Paper of the Year Award in 2004 and 2017.

9. In addition, I am the cofounder of VICIS, a company where I lead the development and production of the safest commercially available football helmets (as tested conducted by NFL). I am also currently the chief technology officer at Marine Construction Company, PBC and a member of the board at RoseBiopsy Inc. I co-founded these companies in 2011 and 2020, respectively.

10. As part of my various roles at University of Washington, I am actively involved in industry. For example, I founded the Boeing Advanced Research

Center (BARC) at UW and the PACCAR Advanced Research Center. Both centers are directly supported by industry and address the need of industry.

11. In addition, I founded and directed the Engineering Innovation in Health Program at the University of Washington. More details can be found at the program's website (<https://eih.uw.edu/about>).

12. My work has been published numerous times in scientific journals, including ASME Journal of Applied Mechanics, Journal of Neurosurgery, Journal of Applied Composite Materials, Journal of Dynamic Systems, Measurement, and Controls, and Journal of Cellular Polymers.

13. I am an inventor, and I have been awarded more than 28 patents in various fields including seven on helmet design.

14. Additional information regarding my background, qualifications, publications, and presentations is provided in my CV, which I understand has been submitted as Exhibit 1003.

### **III. MATERIALS REVIEWED**

15. In forming my opinions, I have reviewed the '265 Patent and considered each of the documents listed in the Exhibit List above and all other materials discussed herein. In reaching my opinions, I have relied upon my experience in the field and also considered the viewpoint of a person of ordinary skill in the art as of the time of the relevant priority date of the '265 Patent, *i.e.*,

January 26, 2018 or October 21, 2021. As explained below, I am familiar with the level of a person of ordinary skill in the art regarding the technology at issue as of that time and all of the opinions I have formed have been assessed from the perspective of the person of ordinary skill in the art.

**IV. DESCRIPTION OF THE RELEVANT TIMEFRAME, THE RELEVANT FIELD, AND A PERSON OF ORDINARY SKILL IN THE ART**

16. I understand that the '265 Patent was filed on July 1, 2022, and claims priority to the '327 Patent (Ex-1001), filed on January 14, 2019, the Provisional Application No. 62/622,472 (Ex-1005), filed on January 26, 2018, and Provisional Application No. 62/645,491 (Ex-1006), filed on March 20, 2018.

17. For purposes of my analysis, I have treated the effective filing date for the Challenged Claims as January 26, 2018 for my opinions concerning combinations including Yan and as October 21, 2021 my opinion concerning the Klein News Release. I reserve the right to update my analysis should Patent Owner assert a different priority date.

18. I have received and understand the specification, claims, and file history of the '265 Patent.

19. I considered several factors to determine the skill level of a person of ordinary skill in the art, including the types of problems encountered in the art, the

solutions to those problems, the pace of innovation in the field, the sophistication of the technology, and the education level of active workers in the field.

20. In my opinion, a person having ordinary skill in the art (“POSA”) would have had a bachelor’s degree in mechanical engineering, civil engineering, industrial engineering, industrial design, or plastics engineering, with at least 2 years of industry experience and/or research, concerning protective gear, such as safety helmets. A POSA would also have known those aspects that the patent admits as part of the prior art, including at least: forward-facing headlamps on safety helmets; and safety helmets often being worn in a reverse orientation. Ex-1005 at ¶¶10, 11.

21. The opinions I present here are as viewed through the eyes of a POSA prior to January 26, 2018, except for with respect to Ground 4, which are as viewed through the eyes of a POSA prior to October 21, 2021.

## **V. TECHNOLOGY BACKGROUND**

22. Commonly known as “hard hats,” safety helmets are a type of personal protective equipment designed to safeguard the wearer’s head. Ex-1017 at 16. These helmets are widely used in many industries. Ex-1017 at 17.

23. Safety helmets can protect wearers from impact and penetration hazards, as well as electrical shock and burn hazards. Ex-1017 at 16. Additionally, safety helmets often feature brims for further protection from

sunlight and debris, enhancing the wearer's overall safety and comfort. Ex-1017 at 18. For further utility, some safety helmets are designed to work with accessories, such as face shields, earmuffs, and mounted lights. Ex-1017 at 18.

24. These helmets are typically constructed from high-density plastic materials (and have been constructed from plastic for decades), which provide the helmets with a robust and lightweight structure. Integral molding is a common method used in safety helmet production, with the process involving molding plastic into a single, cohesive unit—thereby enhancing the helmet's structural integrity and impact resistance.

## **VI. THE '265 PATENT**

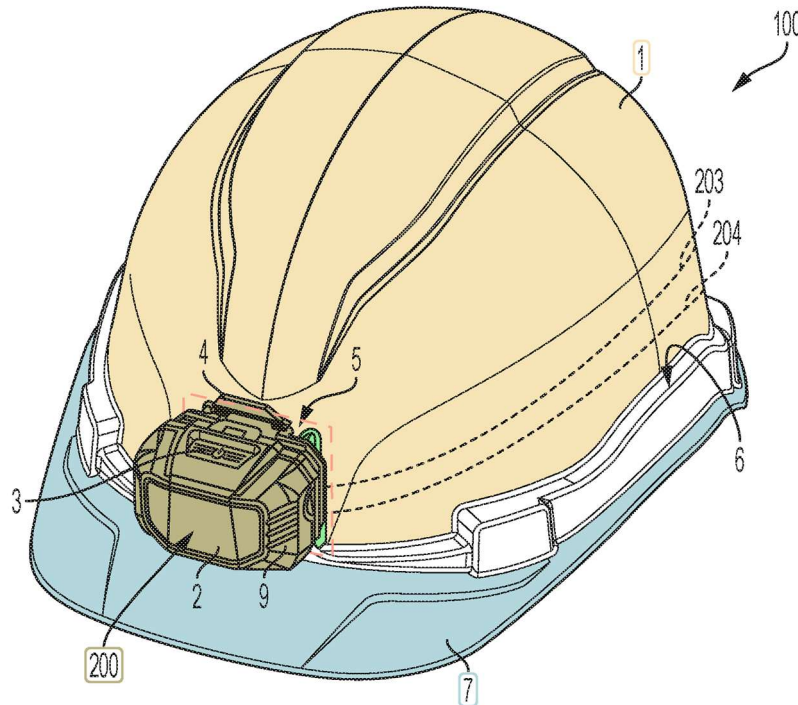
25. I have reviewed the '265 Patent and understand that Shantanu Deshpande and Kingston Wong are named as the inventors on this patent. The '265 Patent relates to personal protection devices such as safety helmets. Ex-1019 at 1:14-15.

26. The '265 Patent issued from the '628 Application, which was filed on July 1, 2022. The '265 Patent claims priority to the '327 Patent, filed on January 14, 2019 as the '935 Application, which claimed priority to the '472 Provisional, filed on January 26, 2018, and to the '491 Provisional, filed on March 20, 2018. I refer to the '935 Application, the '472 Provisional and '491 Provisional collectively as "Priority Applications."

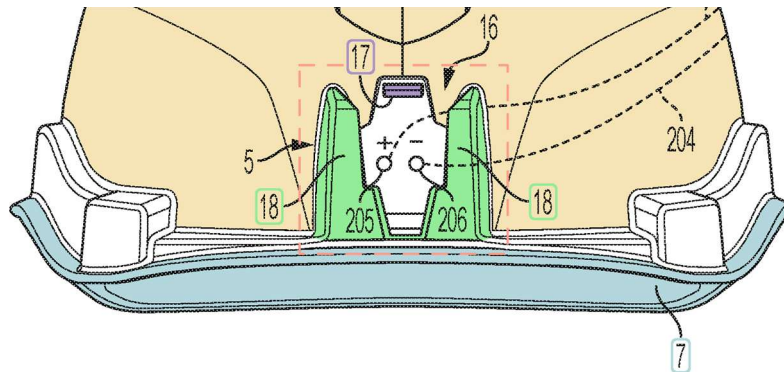
**A. Overview**

27. The '265 Patent is concerned with mounting accessory devices (*e.g.*, headlamps) to safety helmets in a manner that prevents slipping and constant readjustment from the user. Ex-1019 at 1:59-2:3. To achieve this, the '265 Patent describes safety helmets having front and rear receptacles for detachably mounting accessory devices. Ex-1019 at 1:27-38.

28. The '265 Patent describes safety helmets having an **outer shell**, a **brim**, and a **receptacle** for mounting an **accessory device**. The receptacle has not been labeled in the drawings of the '265 Patent but seems to be synonymous with a receiver slot (*e.g.*, front receiver slot 5 or rear receiver slot 11) that is described as including a channel formed between a pair of raised **sidewalls 18** and a **stop**. Ex-1019 at Fig. 3 and 4:1-4.



Ex-1001, Fig. 1



Ex-1001, Fig. 3 (Excerpt)

29. I note that except where I state otherwise, the coloring has been added to the figures in this declaration. Bolded text has also been added throughout my declaration for emphasis unless otherwise indicated.

**B. Prosecution History**

30. As filed, Priority Applications did not include any mention of the receptacles, stops, or protruding members being “unitary” or “integrally molded.” *See* Ex-1005, Ex-1006, and Ex-1007.

31. During prosecution of the '935 Application, to which the '265 Patent claims priority, Patent Owner added new matter in attempt to integrate these features. First, on April 7, 2021, Patent Owner introduced language that “the front receptacle and the rear receptacle are of a unitary part of the outer shell.” Ex-1004 at 309.

32. This addition of new matter was rejected by the Examiner with a written description rejection, (Ex-1004 at 287-288), which I have been instructed about, as I describe in Section XIII below.

33. On July 16, 2021, Patent Owner added language that a slot, which is part of the front/rear receptacle, “is a unitary part of the outer shell.” Ex-1004 at 260-263. This was also rejected by the Examiner. Ex-1004 at 216-217.

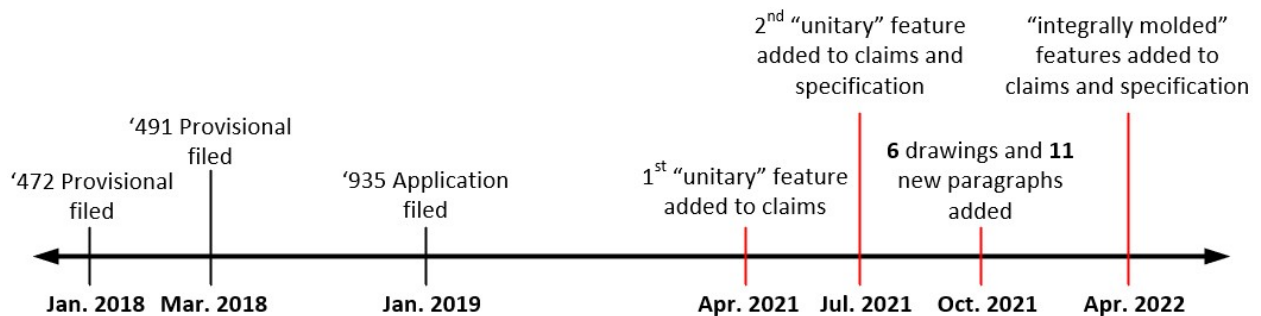
34. In the following response on September 27, 2021, Patent Owner appears to have relented and removed the “unitary” language from the claims. Ex-1004 at 204.

35. However, on October 6, 2021, Patent Owner added 6 new drawings and amendments to existing paragraphs as well as 11 new paragraphs. Ex-1004 at

149-152, 159-163. At this time, Patent Owner reintroduced the “unitary” language, such as reciting that the “protruding nub is a unitary feature of the outer shell,” “the outer shell forms the protruding nub,” “the outer shell forms the protruding nub,” and “the brim, the front receptacle, and the rear receptacle are a unitary feature of the outer shell.” Ex-1004 at 153-156. The Examiner again rejected the additions. Ex-1004 at 121-126.

36. On April 25, 2022, Patent Owner added new language about features being “integrally molded” from a common/same material. Ex-1004 at 58, 62-65, 72-78.

37. In summary, an extensive amount of new matter was added after the Priority Documents were filed. This is illustrated in the Timeline below as well as Ex-1008, which is a redline showing differences between the ‘935 Application as-filed and the ’327 Patent.



Timeline of Added Subject Matter

38. The new matter added during prosecution of the '935 Application has been included in the '628 Application and is incorporated into the Challenged Claims. Ex-1021 and Ex-1019.

39. The most notable prosecution aspect in the '628 Application was Patent Owner's failure to include any of the drawings in the initial filing. Ex-1021 and Ex-1020 at 41. It was only after a "Notice of Omitted Items in a Nonprovisional Application" was issued by the USPTO that the Applicant, seven days later, submitted the Figures, noting that the "drawings were inadvertently omitted upon filing of this application." Ex-1020 at 41-43, 49-61, 64.

40. On January 2, 2025, Patent Owner filed a terminal disclaimer with respect to the '327 Patent because the Challenged Claims are not "patentably distinct" from the claims of the '327 Patent. Ex-1020 at 139, 159. Patent Owner also amended dependent claim 23 to be in independent form. Claim 23 contained the limitation that "the front receptacle is a receiver slot flanked by raised walls, and the stop comprises a protruding member, 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 member engages the clip to releasably mount the accessory device in the front receptacle." Ex-1020 at 150-153. Claims 21, 22, 27-30, and 32-35 were cancelled.

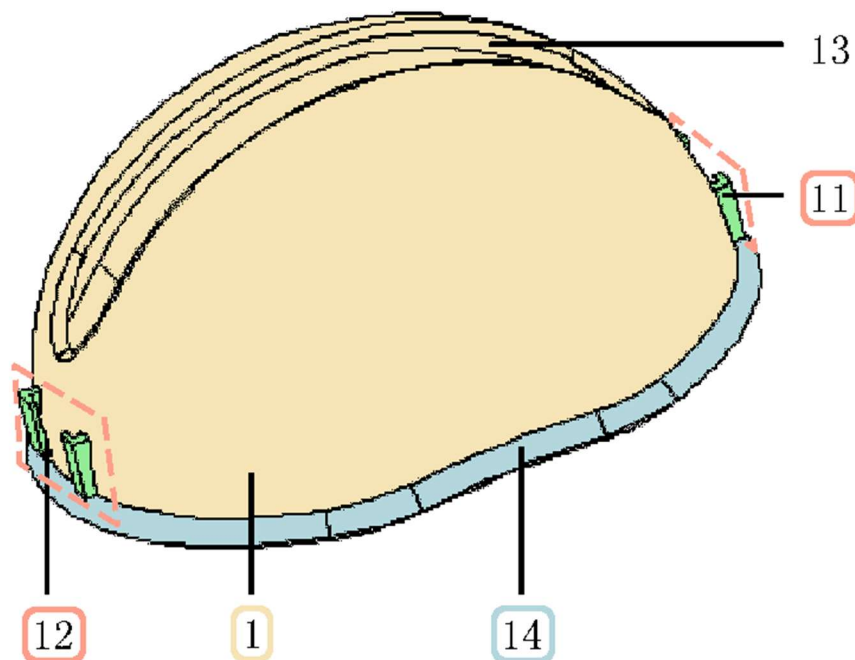
Ex-1020 at 150-153. The '265 Patent then issued on April 8, 2025. Ex-1020 at 189.

## VII. OVERVIEW OF THE PRIOR ART

### A. Yan (Ex-1009 and Ex-1011)

41. The Yan reference published on November 9, 2011. I understand Yan as being as prior art with respect to the '265 Patent. Also, I understand Ex-1009 as being an authentic copy of Yan, and I understand Ex-1011 as being an accurate translation of the reference.

42. Yan discloses a safety helmet with a **helmet body 1**, a **brim 14**, and **snap-fit slots 11 and 12**, each of which includes a respective pair of symmetrically arranged **L-shaped slots**. Ex-1011 at ¶¶5, 9.

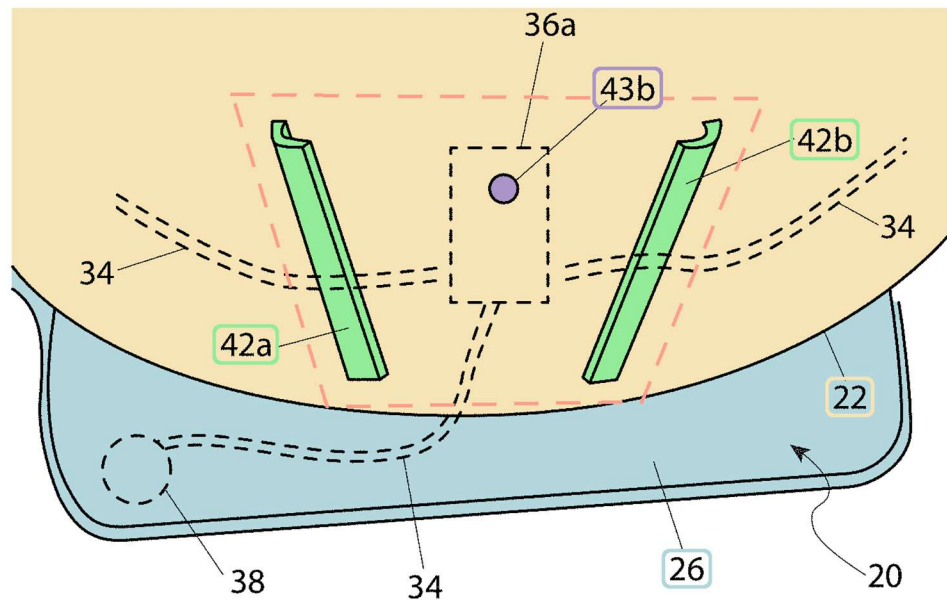


Ex-1011, Fig. 2

**B. Daley (Ex-1012)**

43. The Daley reference was filed on March 25, 2015 and issued on June 12, 2018. I understand Daley as being as prior art with respect to the '265 Patent. Also, I understand Ex-1012 as being an authentic copy of Daley.

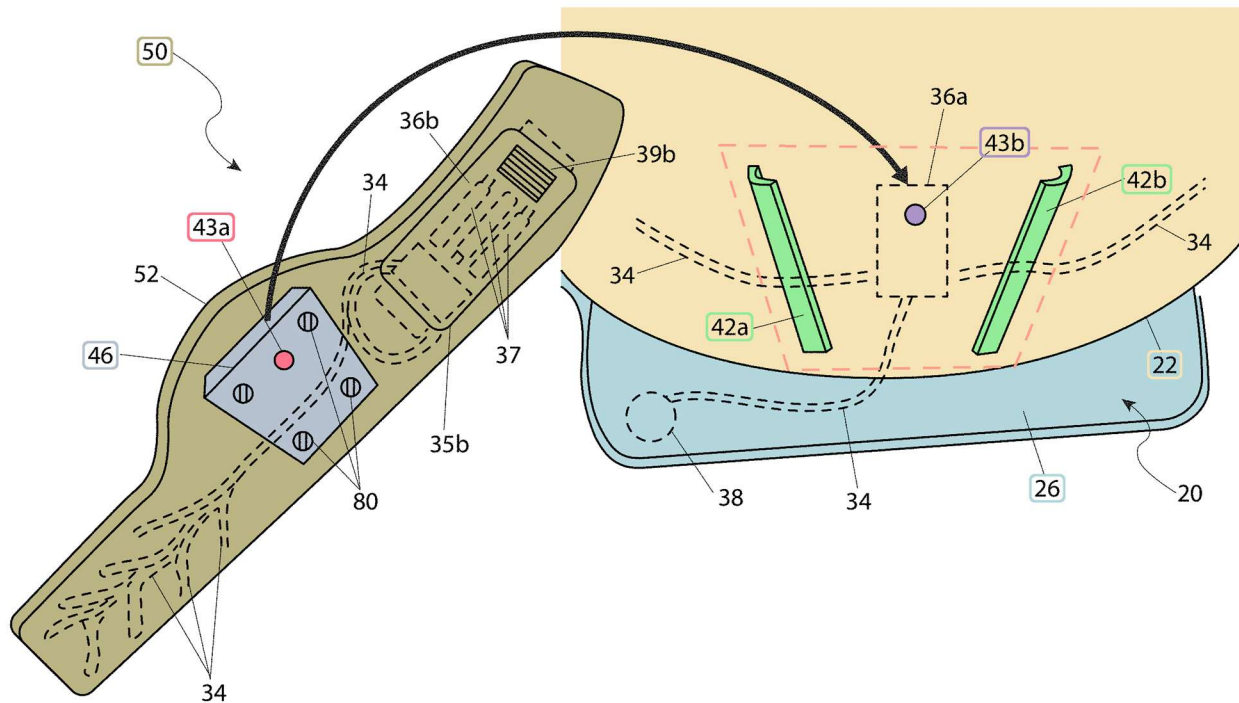
44. Daley discloses a safety helmet with a **shell 22**, a **brim 26**, and a **receptacle** that includes a pair of **locking ears 42a and 42b** with a **protrusion 43b** positioned between the **locking ears**. Ex-1012 at 1:57-66.



Ex-1012, Fig. 3 (Excerpt)

45. Additionally, Daley teaches a **headlight assembly 50** that includes “an interlocking trapezoidal-shaped male **bracket 46**.” Ex-1012 at 5:27-31. Daley’s male **bracket 46** includes a recessed **detent 43a**, and “[u]pon complete insertion of male **bracket 46** into the **locking ears [42a and 42b]**, the **protrusion**

**43b** ‘snaps’ into the **detent 43a**, thereby temporarily securing the **headlight assembly 50** to the **shell 22**.” Ex-1012 at 5:39-43.

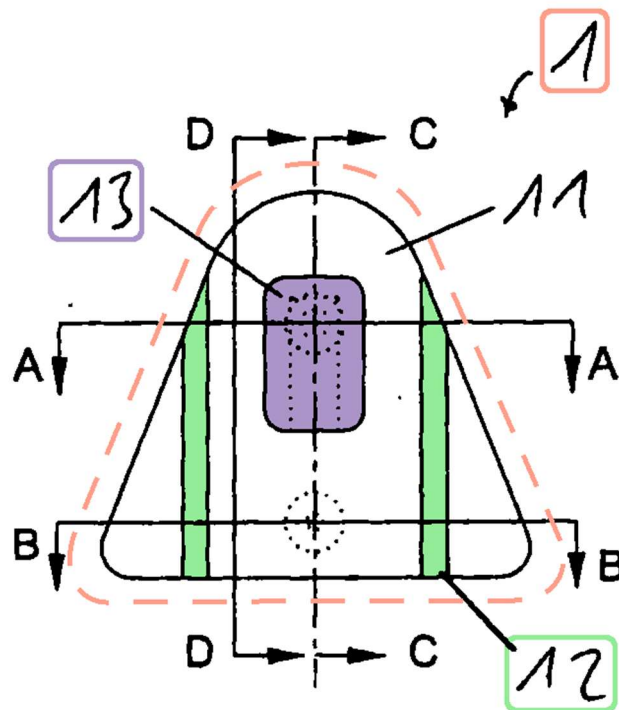


Ex-1012, Fig. 3

### C. Kiessler (Ex-1014 and Ex-1015)

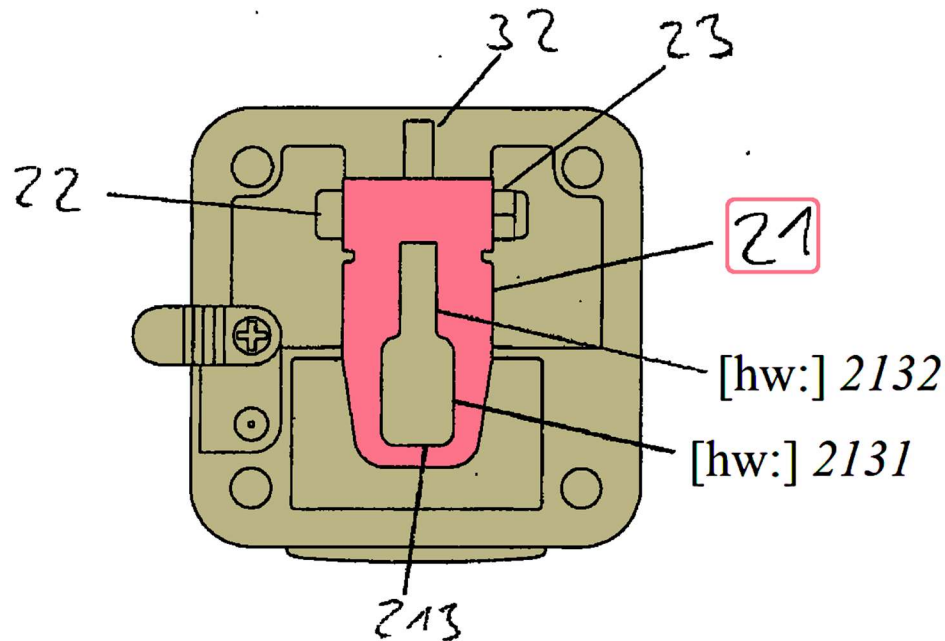
46. The Kiessler reference was published on August 31, 2006. I understand Kiessler as being as prior art with respect to the '265 Patent. Also, I understand Ex-1014 as being an authentic copy of Kiessler, and I understand Ex-1015 as being an accurate translation of the reference.

47. Kiessler describes a plastic, injection-molded **receiver 1** for mounting a lamp accessory, such as a miner's lamp, to a helmet. Ex-1015 at ¶¶40, 46. Kiessler further teaches that a “**groove head 13** is arranged centrally between the **stop edges 12** on the base plate 11.” Ex-1015 at ¶36.



Ex-1015, Fig. 1

48. Kiessler teaches a lamp accessory (**lamp 3**), such as an LED miner's lamp, and "a fixture 2 that corresponds to [the receiver 1] and can be attached to a lamp 3." Ex-1015 at ¶34. Kiessler further teaches that the "fixture 2 comprises a **clamping lever 21**" and a "recess 213 is provided in the clamping lever 21. Ex-1015 at ¶38. The recess 213 is formed by a cutout 2131 whose inner contour essentially corresponds to the outer contour of the **groove head 13** of the receiver 1." Ex-1015 at ¶39.

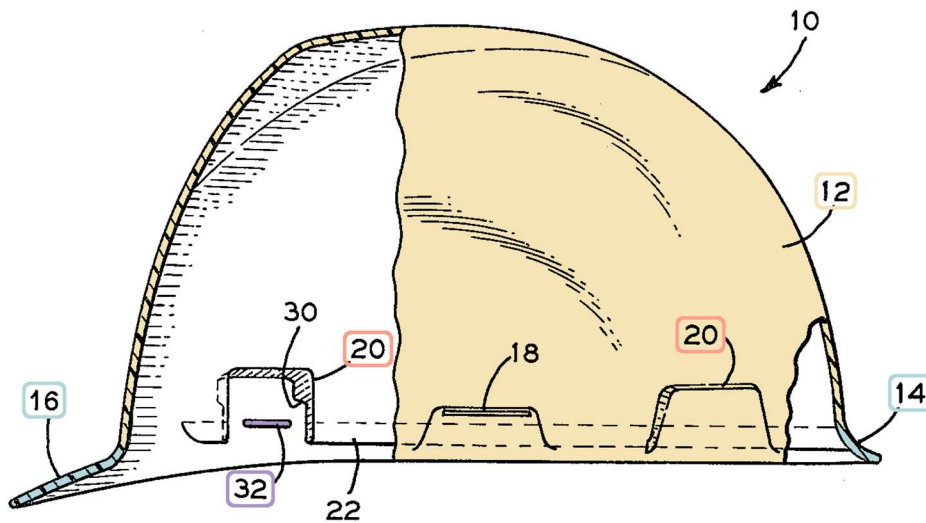


Ex-1015, Fig. 7

**D. Nesbitt (Ex-1013)**

49. The Nesbitt reference was published on December 8, 1981. I understand Nesbitt as being as prior art with respect to the '265 Patent. Also, I understand Ex-1013 as being an authentic copy of Nesbitt.

50. Nesbitt teaches a safety helmet having a polyethylene **shell 12** and a **brim 14**. Ex-1013, 2:56-64. Nesbitt further teaches that the safety helmet includes a plurality of **sockets 20** that are integrally molded into the shell (Ex-1013, 2:65-67), each socket including a **nub 32** (Ex-1013, 3:1-6).



Ex-1013, Fig. 8

**E. Klein News Release (Ex-1010)**

51. The Klein News Release was published on July 23, 2019. I understand the Klein News Release as being as prior art with respect to the '265 Patent. Also, I understand Ex-1010 as being an authentic copy of the Klein News Release.

52. The Klein News Release describes Klein Tools' "Safety Helmet System," (Ex-1010 at 1) which Patent Owner has asserted practices the '265 Patent, stating "On July 23, 2019, Klein Tools published a press release about its new generation of hard hat systems, designed, engineered, and built with safety, comfort, and fit for the tradespeople who wear them every day. These new hard hat systems incorporated the receptacle features discussed above and other innovative features such as reversible donning, a flexible open-frame suspension,

one-handed adjustment with a large knob ratchet, and more. Klein Tools' press release identified the product as then 'patent-pending.'" Ex-1022 at ¶27



Ex-1010, Image 1

### **VIII. CLAIM CONSTRUCTION**

53. I understand that claim construction is the process of determining the meaning of a term or phrase in a patent claim. I understand that the proper construction of a term is how a POSA would have understood the term based on its use in the claims, specification, and file history of the patent. I further understand that the claims are construed before the Board according to the same claim construction standard that applies in district courts. I have followed these principles in my analysis throughout this declaration. For the purpose of this

declaration, I do not believe that any express constructions are needed and have applied the plain and ordinary meaning of all terms.

**IX. ANTICIPATION**

54. I have been instructed as to the definition of “anticipation” in the context of the patent laws.

55. I understand that anticipation of a claim requires that every element of a claim be disclosed expressly or inherently in a single prior art reference, in combination, as claimed. I understand that a single prior art reference may anticipate claims without expressly disclosing a feature of the claimed invention if that feature is necessarily present, or inherent, in that reference. I understand that a reference is read from the perspective of one of ordinary skill in the art at the time of the invention.

**X. OBVIOUSNESS**

56. I have been instructed as to the definition of “obviousness” in the context of the patent laws.

57. It is my understanding that obviousness is a question of law based on underlying factual issues including the content of the prior art and the level of skill in the art. I understand that for a single reference or a combination of references to render the claimed invention obvious, a person of ordinary skill in the art must

have been able to arrive at the claims by altering or combining the applied references.

58. I also understand that when considering the obviousness of a patent claim, one should consider whether a teaching, suggestion, or motivation to combine the references exists to avoid impermissibly applying hindsight when considering the prior art. I understand this test should not be applied rigidly, but that the test can be important to avoid such hindsight.

#### **XI. DUPLICATION OF PARTS**

59. I have been instructed as to the definition of “duplication of parts” in the context of the patent laws.

60. It is my understanding that mere duplication of parts is a question of law based on underlying factual issues. From what I understand, the duplication is not patentably significant unless it produces a new and unexpected result.

#### **XII. SELECTION OF KNOWN MATERIAL BASED ON ITS SUITABILITY FOR ITS INTENDED USE**

61. I have been instructed as to the definition of “selection of a known material based on its suitability for its intended use” in the context of the patent laws.

62. It is my understanding that “selection of a known material based on its suitability for its intended use” is a question of law based on underlying factual

issues. From what I understand, the selection of a known material based on its suitability for its intended use is assumed to be obvious (and does not impart any patentable significance).

### **XIII. WRITTEN DESCRIPTION**

63. I have been instructed as to the definition of “written description support” in the context of the patent laws.

64. I have been informed that a priority document (*e.g.*, a provisional application to which priority is claimed by a later utility application) provides written description support for a claim in the later utility application only if the priority document includes sufficient description in its text and figures such that a POSA would have understood that the inventors were in possession of the subject matter in the claim as of the date that the priority document was filed.

65. I have also been informed that literal, word-for-word textual support is not required to meet this standard.

66. Additionally, I am informed that Section 112(a) contains a written description requirement separate from the enablement requirement. In particular, I am informed that the Federal Circuit has held that “claims may be no broader than the supporting disclosure,” and are invalid if they attempt to expand beyond what is described as the invention.

#### **XIV. OPINIONS REGARDING PATENTABILITY**

67. In my opinion, claims 1 to 4 are obvious in view of a combination of Yan and Daley.

68. Additionally, in my opinion, claims 1 to 4 are obvious in view of a combination of Yan, Daley, and Kiessler.

69. Moreover, it is my opinion that claims 1 to 4 are obvious in view of a combination of Yan and Nesbitt.

70. It is also my opinion that claims 1 to 4 are anticipated by Klein News Release.

71. Further, it is my opinion that certain claim terms in claims 1 to 4 are not adequately described in the Priority Applications.

72. Also, it is my opinion that certain claim terms in claims 1 to 4 are not adequately described in the specification and figures.

#### **XV. MY OPINIONS ON THE CHALLENGED CLAIMS**

**A. The claim terms “a stop...wherein the stop is integrally molded,” and “the outer shell, the front receptacle [which includes the stop], and the rear receptacle [also includes the stop] are formed from a common material,” in the Challenged Claims are Not Supported by the Disclosure of the Priority Applications**

73. I have been informed that if a child patent is a continuation of a parent application (as opposed to a continuation-in-part), then the parent application must

disclose the invention of the child in the manner provided by 35 U.S.C. Section 112(a).

74. Based on my review of the Priority Applications as they were filed, the Priority Applications do not have sufficient support for the claim terms “a stop...wherein the stop is integrally molded,” and “the outer shell, the front receptacle [which includes the stop], and the rear receptacle [also includes the stop] are formed from a common material,” of the ’265 Patent.

75. In my opinion, and as I explain in VI.B and F.1, the Priority Applications as-filed are silent regarding integral molding or forming the protruding nub or the stop of a common or same material as the outer shell. Thus, the specification of the as-filed Priority Applications do not reasonably convey to a POSA that the inventor had possession of the claimed subject matter as of the filing date, specifically with regard to “a stop...wherein the stop is integrally molded,” and “the outer shell, the front receptacle [which includes the stop], and the rear receptacle [also includes the stop] are formed from a common material.”

76. Therefore, it is my opinion that a POSA reviewing the Priority Applications would not have understood it to disclose the “a stop...wherein the stop is integrally molded,” and “the outer shell, the front receptacle [which includes the stop], and the rear receptacle [also includes the stop] are formed from a common material.” Thus, a POSA, in light of the knowledge of the time, could

not make nor use the invention from the disclosures in the '265 Patent without undue experimentation.

**B. The claim terms “first pair of external slots” and “second pair of external slots” in the Challenged Claims are Not Supported by the Disclosure**

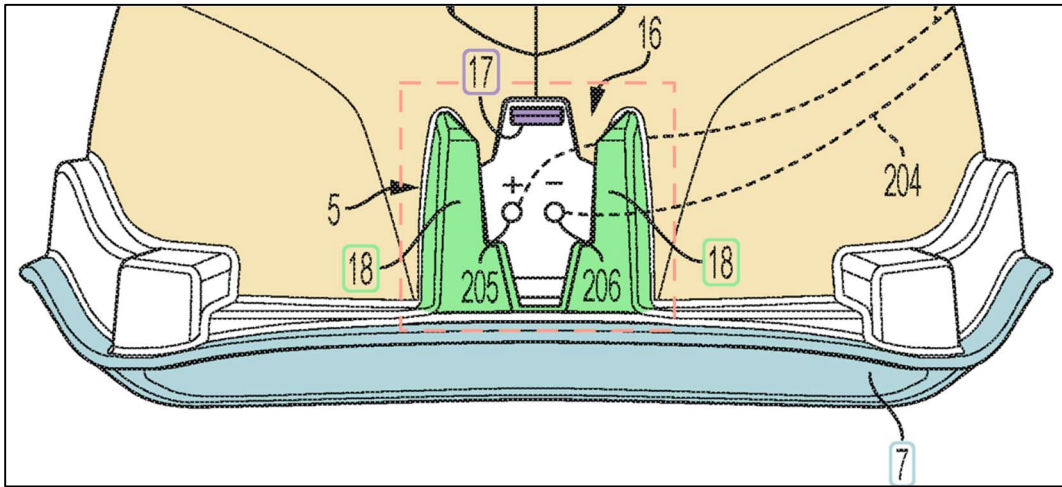
77. Independent claim 1 of the '265 Patent recites: “a front receptacle having a *first pair of external slots* and a stop, wherein each of the *first pair of external slots* extends upwardly along the front side of the outer shell and the stop is disposed between the *first pair of external slots*, and wherein the stop is integrally molded with the exterior surface of the outer shell.” The claim further recites “a rear receptacle disposed on the rear side on the exterior surface of the outer shell, the rear receptacle having a *second pair of external slots*.” The claim also recites “wherein each of the *first pair of external slots* of the front receptacle is a receiver slot flanked by raised walls.”

78. I understand these limitations to require a “pair of external slots” in each of the front and rear receptacles of the claimed helmet, with each external slot being flanked by raised walls. Thus, the Challenged Claims recite a helmet having at least 4 external slots (two in the front and two in the back).

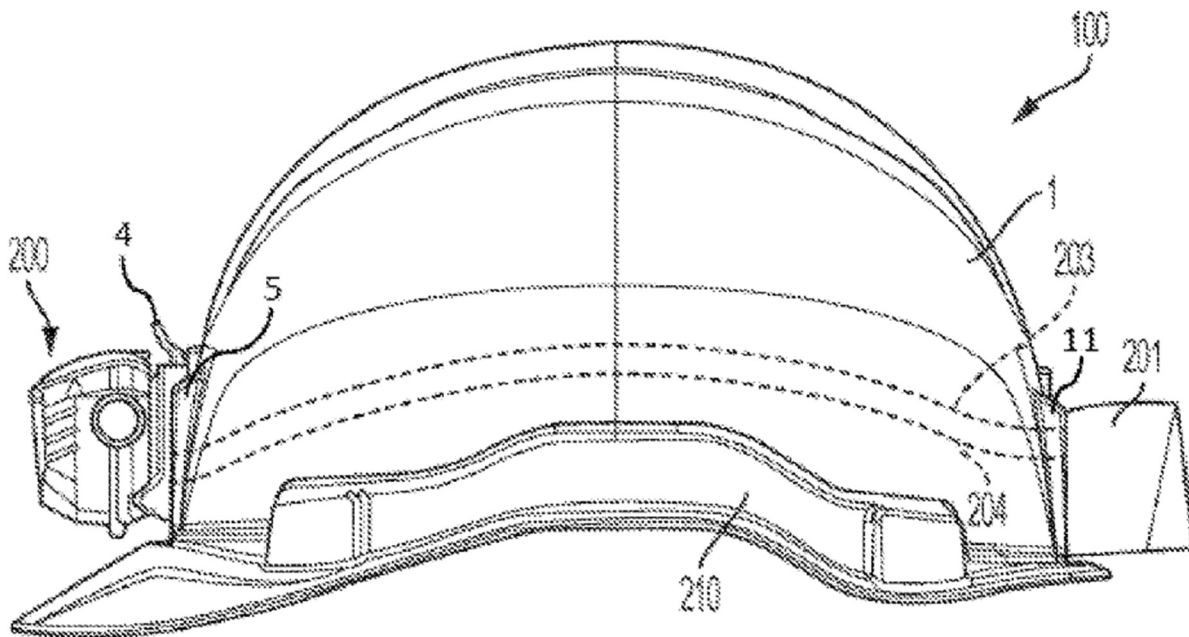
79. I have read through the specification of the '265 Patent and reviewed the figures (original and amended) and, in my opinion, a POSA would not understand each receptacle having more than one external slot based on the

specification of the '265 Patent. The specification recites “As shown in FIG. 3, the protruding nub 17 is centrally disposed relative to the external slot.” Ex-1019 at 6:3-5. I could find no other reference to an external slot. Moreover, I understand this statement to require that the protruding nub (or stop or protruding member) is centrally disposed relative to a single external slot. I could find no teaching of “the stop [being] disposed between the first pair of external slots,” as I understand claim 1 to require.

80. The specification refers to “the front tapered receiver slot 5” and “the rear tapered receiver slot 11.” Ex-1019 at 6:10-15. These receiver slots are shown Fig. 3 and Fig. 7, which are reproduced below. I could find no disclosure of there being more than one slot in the front or in the back. Nor do any of the figures show more than one slot in the front or the back of the helmet. I note that unlike the Klein Press Release, the '265 Patent lacks any perspective view of the front tapered receiver slot 5 or the rear tapered receiver slot 11 that could show any indication of respective slots that may be formed by the raised sidewalls 18.



Ex-1019, Fig. 3 (excerpt)



Ex-1019, Fig. 7

81. In my opinion, the singular nature of the external slot becomes clear when compared to the plural accessory slots 6 disclosed in the '265 patent. The specification describes the “[A]ccessory slots 6” in the plural (see Ex. 1019 at 3:48), teaching that the accessory slots “may be present to accept various

accessories.” Ex. 1019 at 3:48-3:49. This shows that Patent Owner used plural terms to disclose multiples (e.g., the multiples of the accessory slot 6), yet intentionally chose not to do so when disclosing only a singular external slot in the specification.

82. Therefore, it is my opinion that a POSA reviewing the ’265 Patent would not have understood it to disclose the “first pair of external slots” and “second pair of external slots” required by the Challenged Claims.

83. Finally, I have reviewed Patent Owner’s domestic industry claim chart (Ex-1023) in the parallel ITC proceeding and understand from that what Patent Owner has said pairs of external slots could look like, and my opinions on whether the Challenged Claims are obvious and/or anticipated by the prior art references are based on that, in the event the Patent Owner argues and the Board agrees that there is support for the features related to pairs of external slots.

**C. Claims 1 to 4 in View of Yan and Daley**

**1. Combining Yan and Daley**

84. As a threshold matter, in my opinion, Yan and Daley qualify as analogous art at least because they are in the same field of endeavor as the ’265 Patent, *i.e.*, safety helmets. Ex-1019 at 3:26-27; Ex-1011 at ¶1; and Ex-1012 at 1:10-14. At minimum, both references are at least reasonably pertinent to at least one problem allegedly solved by the claimed invention—mounted accessories

slipping off from safety helmets. Ex-1019 at 1:27-38; Ex-1011 at ¶5; and Ex-1012 at 5:32-43 In my opinion, ample motivation-to-combine also existed.

85. First, in my opinion, Yan invites a POSA to seek out “equivalent structural modifications.” Ex-1011 at ¶29. Based on this, a POSA would have been expressly motivated to look to analogous references (including Daley), e.g., to help understand certain aspects related to structural modifications of the snap-fit slot structures (particularly when seeking to construct Yan’s safety helmet). In my opinion, upon reviewing the analogous Daley reference, a POSA would have seen its teachings related to using a bracket with L-shaped appendages and a protrusion to snap into a detent (Ex-1012 at 5:35-40) and would have been motivated to modify each of Yan’s snap-fit slot structures to be molded to the helmet body and include such a protrusion. Modifying each of the snap-fit slots in this manner would keep the snap-fit slots identical and allow for accessories to be detachably mounted to either slot in an identical manner as taught by Yan. Ex-1011 at ¶25.

86. In my opinion, when modifying Yan’s snap-fit slot structures to include Daley’s protrusion, a POSA could adopt the teachings of Daley to integrally mold the receptacle (e.g., Yan’s pair of L-shaped slots) with a protrusion to the safety helmet shell for each snap-fit slot using at least one same (*i.e.*, common) material. Ex-1012 at 5:24-40. The POSA could also adopt Daley’s positional teaching for the protrusion to centrally position the protrusion between

the L-shaped slots in Yan. Ex-1012 at 1:60-66. In my opinion, forming such features from a common material would have been cheaper, easier, and allowed for a reduced sales price for the Yan-Daley helmet, which would have further motivated the Yan-Daley combination.

87. In my opinion, when modifying Yan's snap-fit slot structures to include Daley's protrusion, a POSA could adopt the teaching of Daley to form Daley's bracket 46 with detent 43a on the lamp body of Yan's LED lamp 2 and mining lamp 3 by following Daley's teaching of having a bracket with a detent to engage with the protrusion. Ex-1012 at 5:33-37. As taught by Daley, "the headlight assembly 50 may be easily removed from the helmet assembly 20 using the male bracket 46." Ex-1012 at 6:55-57.

88. In my opinion, including the protrusion feature with the snap-fit slot structures and the bracket with detent in the accessories would create a more robust securing of the accessories in the snap-fit slot structures and thus would have been a desirable structural modification. Ex-1012 at 5:40-43. In my opinion, having a more robust securing would have made the Yan-Daley helmet more attractive to potential purchasers, thereby further motivating the combination as a matter of commercial desirability.

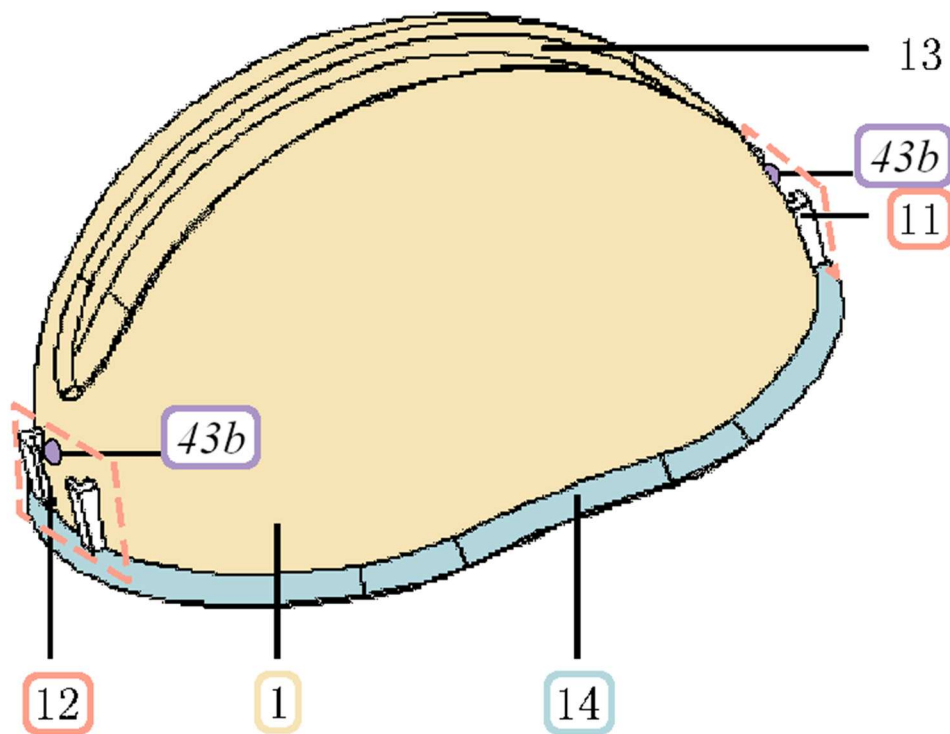
89. In my opinion, a POSA would have been motivated to incorporate Daley's centrally located and integrally molded protrusion into each of Yan's snap-

fit slot structures and the bracket with detent in the accessories to securely mount detachable accessory devices while keeping the snap-fit slots identical. In my opinion, adding Daley's protrusion feature to Yan's snap-fit slot structures and the bracket with detent in the accessories would have been routine for a POSA exercising only ordinary skill, so the modification would have been achieved with a reasonable expectation of success.

90. Additionally, or alternatively, in my opinion, modifying Yan's safety helmet to include Daley's integrally molded mounting features would have been obvious to try. There are only a finite number of predictable solutions for improving the temporary security of the snap-fit slots. In my opinion, modifying Yan's safety helmet to include Daley's integrally molded mounting features would also have been simple substitution of one element (a receptacle having a pair of L-shaped slots and protrusion 43b) for another (a snap-fit slot receptacle having only a pair of L-shaped slots) to obtain predictable results (an integrally molded receptacle having an external slot and protruding nub to more securely fasten Yan's lamp accessories). In my opinion, a POSA seeking to improve Yan's **snap-fit slot** structure for temporarily securing accessory devices, would have recognized that incorporating Daley's integrally molded receptacle and corresponding bracket involved a known method of molding and had a predictable result. The result in this case is a molded receptacle having a **protruding nub** and

a corresponding accessory having a bracket for more securely snapping in detachable accessory devices.

91. An example depiction of the Yan-Daley helmet is shown below. The modified figure represents Yan's helmet depicted in Yan's Figure 2 modified to include Daley's protrusion 43b for each snap-fit slot.



Combined Yan-Daley Helmet

## 2. Claim 1

92. In my opinion, the Yan-Daley helmet teaches all elements of claim 1.

**a. Element 1[pre]**

93. Element 1[pre] recites “a safety helmet system.” In my opinion, the Yan-Daley helmet teaches this element.

94. I have looked at the specification of the '265 Patent, and noted that outside of the claim language, there is no mention of a “safety helmet system.” The '265 Patent does identify safety helmets as “commonly also being referred to as ‘hard hats’” and being “for use to protect the wearer from falling objects.” Ex-1019 at 1:15-17. The '265 Patent acknowledges that such helmets are commonly used in several industries such as underground mines. Ex-1019 at 1:15-17 and 1:50-52. Based on this, and given there is no further details in the specification, the system of 1[pre] refers to a safety helmet along with an accessory device, which the prior art teaches.

95. Yan teaches “a safety helmet,” (Ex-1011 at ¶1) and several accessories (mining lamp 3 and LED lamp 2, Ex-1011 at ¶15). Yan’s safety helmet is modified to include Daley’s protrusion 43b and, thus, in my opinion, the Yan-Daley helmet teaches a safety helmet system that includes a safety helmet with an accessory device, which I explain in further detail below.

**b. Element 1[a]**

96. Element 1[a] recites “a safety helmet.”

97. Yan teaches “a safety helmet, and more specifically, ... a mining safety helmet with an emergency lighting function.” Ex-1011 at ¶1. Yan’s safety helmet is modified to include Daley’s protrusion 43b and, thus the Yan-Daley helmet teaches a safety helmet system and a safety helmet.

**c. Element 1[b]**

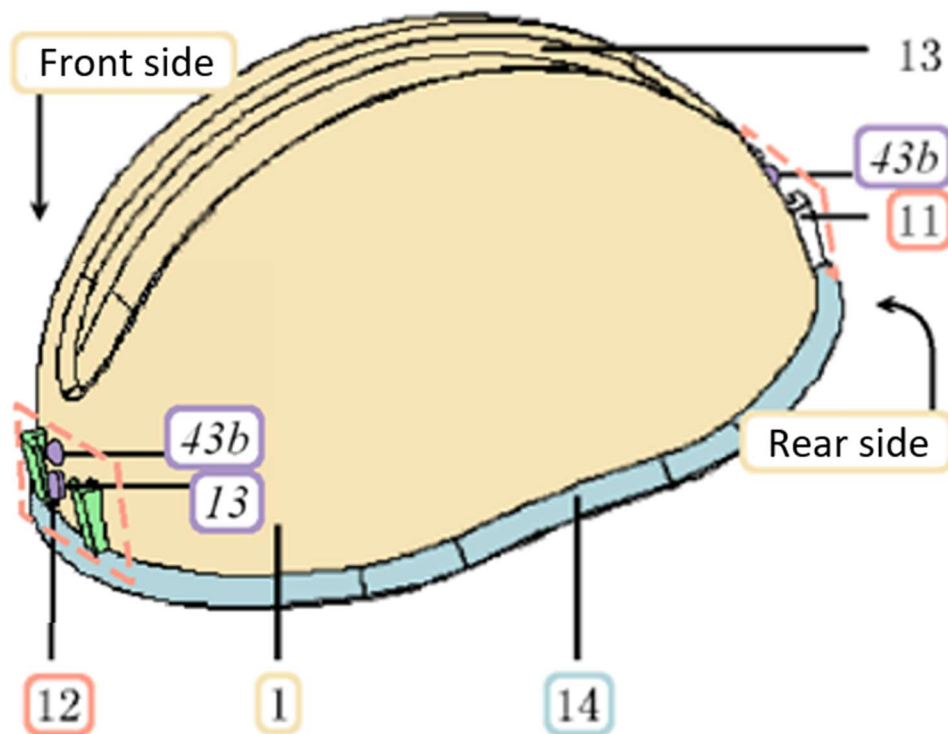
98. Element 1[b] recites “a molded outer shell adapted to be worn by a user, the outer shell having an exterior surface defining a front side, a rear side, and a brim extending forward from the front side.”

99. In my opinion, the Yan-Daley helmet teaches this element.

100. First, the Yan-Daley helmet teaches an outer shell adapted to be worn by a user. Yan teaches that “[t]he mining safety helmet is an essential tool for miners working underground” and that “[i]t not only provides lighting but also effectively protects the miner’s head from falling objects.” Ex-1011 at ¶2. Yan also teaches that the safety helmet includes a “helmet body 1.” Ex-1011 at ¶16. Yan’s helmet body is an outer shell adapted to be worn by a user. Therefore, in my opinion, the Yan-Daley helmet teaches such an outer shell adapted to be worn by a user.

101. Second, the Yan-Daley helmet teaches the outer shell having an exterior surface defining a front side, a rear side, and a brim extending forward from the front side, as illustrated in modified Figure 2 below. Yan teaches that

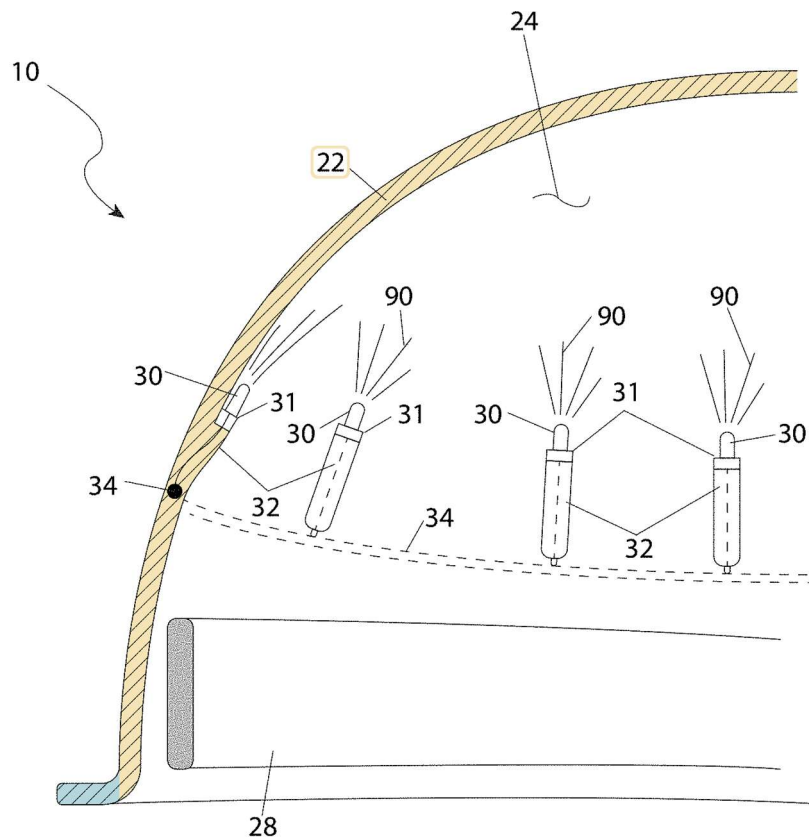
“**brim 14** is located at the bottom of the **helmet body 1** and encircles the bottom edge of the **helmet body 1**.” Ex-1011 at ¶19. A **brim** encircling the bottom edge of the **helmet body** extends forward from the front side, as illustrated in modified Figure 2 below. In my opinion, Yan’s Figure 2 illustrates a **helmet body 1** with a **brim 14** that extends forward from the front side. Therefore, in my opinion, the Yan-Daley helmet teaches such an outer shell having an exterior surface defining a front side, a rear side, and a brim.



Combined Yan-Daley Helmet

102. Moreover, in my opinion, the Yan-Daley helmet teaches or suggests the outer shell being molded. Figure 4 of Daley illustrates a cross-sectional view of

shell 22 showing consistent lines and cross-hatching pattern throughout the shell and brim of the helmet. Daley further teaches that a safety helmet includes a shell body of one material. Ex-1012 at 1:58-61. The helmet shell includes “integrally-molded portions” such as protrusion 43b and locking ears 42a and 42b. Ex-1012 at 5:25-27 and 5:37-40.



Ex-1012, Fig. 4

103. Therefore, it is my opinion that the Yan-Daley helmet teaches a molded outer shell (helmet body 1) adapted to be worn by a user, the outer shell having an exterior surface defining a front side, a rear side, and a brim (brim 14) extending forward from the front side.

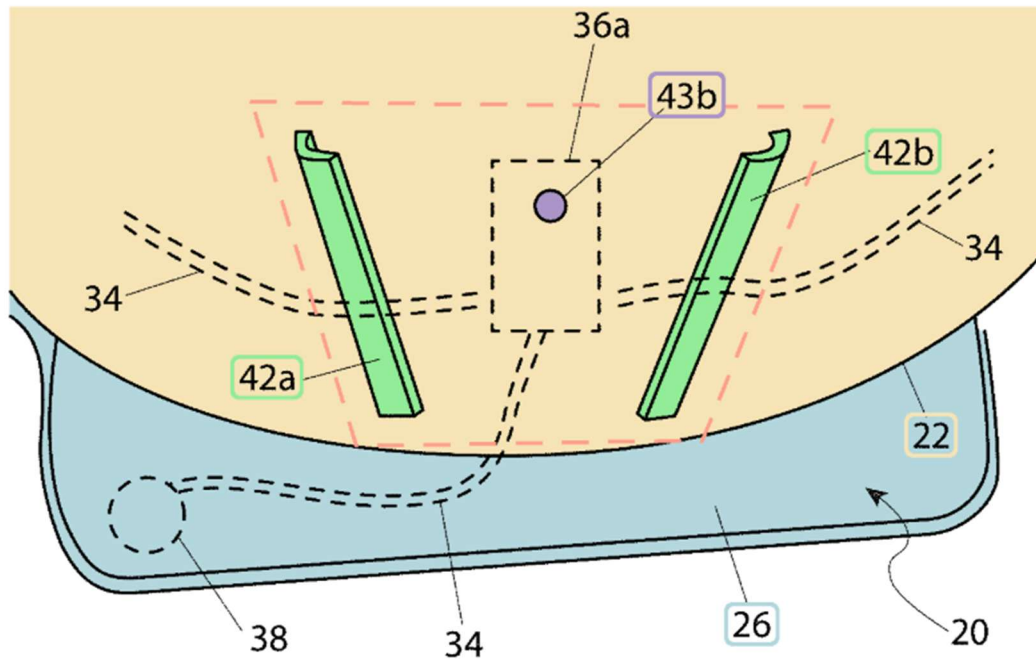
**d. Element 1[c]**

104. Element 1[c] recites “a front receptacle having a first pair of external slots and a stop, wherein each of the first pair of external slots extends upwardly along the front side of the outer shell and the stop is disposed between the first pair of external slots, and wherein the stop is integrally molded with the exterior surface of the outer shell.”

105. First, I have reviewed the specification of the '265 Patent and have not found any explanation or support for the front receptacle including “a first pair of external slots” as opposed to a single slot. Nor have I found any explanation or support for the stop being disposed between the first pair of external slots. Refer back to Section XV.B where I have discussed these issues in detail.

106. However, in contrast to the '265 Patent's lack of support or explanation, Yan details how each snap-fit slot includes two L-shaped slots, which teach the claimed “first pair of external slots.” Ex-1011 at ¶17. Yan describes a snap-fit slot 11, which teaches the '265 Patent's front receptacle. Yan's snap-fit slot 11 is located on an exterior surface of the helmet body 1 (an outer shell) and above the brim 14 of the safety helmet, as is shown in Yan's Figure 2. Ex-1011 at ¶19. In my opinion, the two L-shaped slots of the snap-fit slot 11 form a first pair of external slots extending upwardly along the front side of the outer shell.

107. Additionally, as I describe in limitation 1[b], Daley teaches a safety helmet with a shell 22 that includes “integrally-molded portions including ... protrusion 43b.” Ex-1012 at 5:37-40. In Figure 3, Daley illustrates the integrally molded locking ears 42a and 42b and protrusion 43b. Thus, in my opinion, as shown in Figure 3, the protrusion 43b is disposed between the locking ears 42a and 42b (the first pair of external slots).



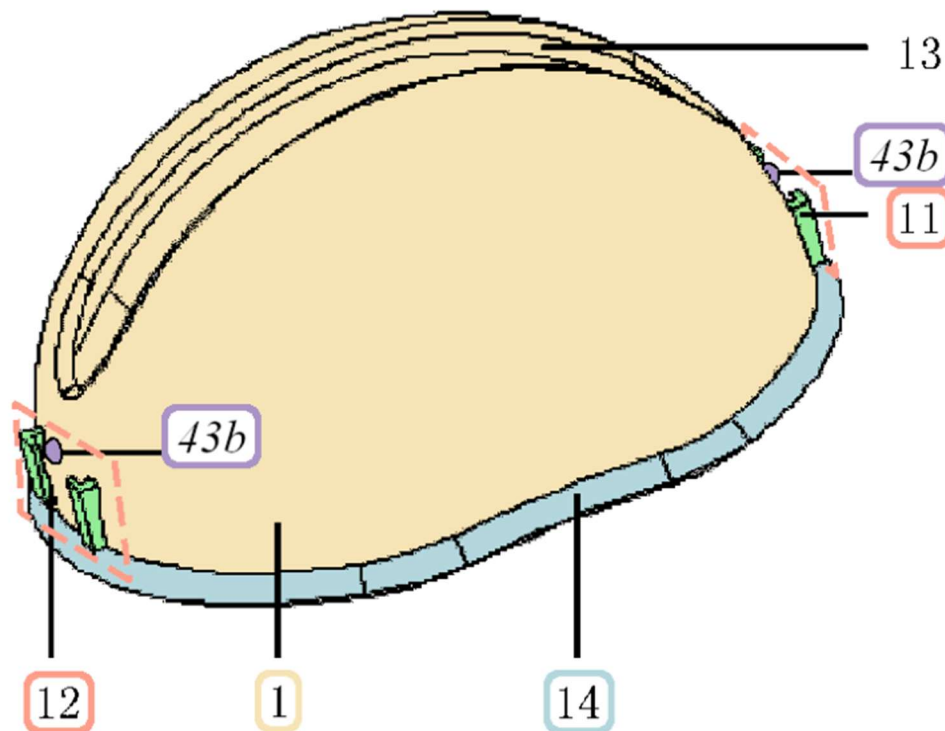
Ex-1012, Fig. 3 (Excerpt)

108. Therefore, in my opinion, the protrusion 43b is a stop that is integrally molded with the exterior surface of the outer shell and is disposed between the first pair of external slots.

109. I pause here to note that Daley also teaches that feature 43b can be a detent (with the accessory device having a corresponding protrusion 43a), for

instance, at 6:27-36 of Ex-1012. Daley contemplates both possibilities; however, for purposes of my declaration, Daley's explicit teaching regarding element 43b being a protrusion is sufficient for understanding the obviousness of the '265 Patent.

110. The Yan-Daley helmet incorporates Daley's protrusion 43b with Yan's snap-fit slots, helmet body, and brim. The Yan-Daley helmet incorporates Daley's integral molding teachings. Therefore, in my opinion, the Yan-Daley helmet teaches a front receptacle (snap-fit slot 11) having a first pair of external slots (L-shaped slots) and a stop (protrusion 43b), where each of the first pair of external slots extends upwardly along the front side of the outer shell and the stop is disposed between the first pair of external slots, and where the stop is integrally molded with the exterior surface of the outer shell.



Combined Yan-Daley Helmet

**e. Element 1[d]**

111. Element 1[d] recites “a rear receptacle disposed on the rear side on the exterior surface of the outer shell, the rear receptacle having a second pair of external slots.”

112. First, I have reviewed the specification of the '265 Patent and have not found any explanation or support for the rear receptacle including “a second pair of external slots” as opposed to a single slot, which I have discussed in detail in Section XV.B. Moreover, in my opinion, the rear receptacle is mere duplication of parts as described in Section XI. In my opinion, the result of adding a rear receptacle that is of identical construction as the front receptacle is both predictable

and an expected outcome. A POSA would expect that when they duplicate the front receptacle on the rear of a helmet the result is a helmet that is capable of mounting accessories in two places, which is neither surprising nor unexpected.

113. Additionally, in my opinion, the Yan-Daley helmet teaches this element. Yan teaches that “the first snap-fit slot is located at the front of the helmet body, while the second snap-fit slot is located at the rear of the helmet body.” Ex-1011 at ¶7. Yan further teaches that the “first snap-fit slot 11 and the second snap-fit slot 12 have **identical structures**, each consisting of two symmetrically arranged L-shaped slots.” Ex-1011 at ¶17. Yan also teaches that the “first snap-fit slot 11 and the second snap-fit slot 12 are located above the brim 14.” Ex-1011 at ¶19. In Figure 2, Yan illustrates a helmet body 1 with a first snap-fit slot 11 and a second snap-fit slot 12 each located above the brim 14. As I describe in Section XV.C.1, it would have been obvious to a POSA to add Daley’s protrusion 43b to Yan’s snap-fit slots 11 and 12 such that the two snap-fit slots are identical as taught by Yan. In this way, the accessories may be attached to either snap-fit slot as is also taught by Yan. As I discuss above, the Yan-Daley helmet incorporates Daley’s protrusion 43b with Yan’s snap-fit slot 12. Therefore, in my opinion, the Yan-Daley helmet teaches a rear receptacle (snap-fit slot 12) disposed on the rear side on the exterior surface of the outer shell, the rear receptacle (snap-fit slot 12) having a second pair of external slots (Yan’s L-shaped slots).

**f. Element 1[e]**

114. Element 1[e] recites “an accessory device having a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable with 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.”

115. In my opinion, the Yan-Daley helmet teaches this element. Yan teaches that the “mining lamp 3 and the LED lamp 2 are both detachably mounted on the helmet body 1.” Ex-1011 at ¶15. Yan further teaches that “lamp body base of the mining lamp 3 is adapted to the first snap-fit slot 11. The two sides of the lamp body base can be snapped into the two L-shaped slots of the first snap-fit slot 11.” Ex-1011 at ¶20. Yan also teaches that the “base of the LED lamp body 22 has the same structure as the base of the mining lamp 3. The two sides of the base of the LED lamp body 22 can be inserted into the two L-shaped slots of the second snap-fit slot 12.” Ex-1011 at ¶24. Yan further teaches that “the LED lamp 2 can be taken out of the second snap-fit slot 12 and then inserted into the first snap-fit slot 11.” Ex-1011 at ¶27.

116. Furthermore, Yan teaches that “[b]y using this snap-fit connection method, the mining lamp 3 is not fixed permanently on the helmet body 1, but is instead installed on the helmet body 1 in a detachable manner.” Ex-1011 at ¶20.

Yan also teaches that “[b]y using this snap-fit connection method, the LED lamp 2 is not fixed permanently on the helmet body 1, but is instead installed on the helmet body 1 in a detachable manner.” Ex-1011 at ¶24. Thus, in my opinion, Yan’s lamps 2 and 3 each teach the claimed accessory device.

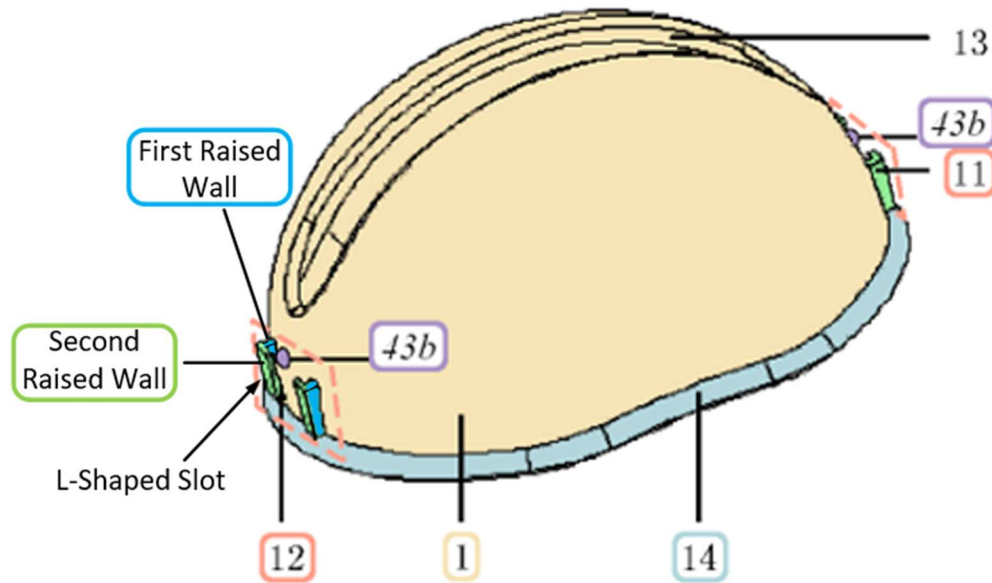
117. Additionally, Daley teaches a headlight assembly 50 that includes “an interlocking trapezoidal-shaped male bracket 46.” Ex-1012 at 5:27-31. Daley’s bracket 46 includes a recessed detent 43a, and “[u]pon complete insertion of the male bracket 46 into the locking ears [42a and 42b], the protrusion 43b ‘snaps’ into the detent 43a, thereby temporarily securing the headlight assembly 50 to the shell 22.” Ex-1012 at 5:39-43. In my opinion, it would be obvious to a POSA to modify each of lamp 2 and lamp 3 to include Daley’s bracket 46.

118. The Yan-Daley helmet incorporates Yan’s lamps 2 and 3 with Daley’s bracket 46 added to each. Therefore, in my opinion, Yan-Daley helmet teaches an accessory device (lamp 2) having a mating receptacle (bracket 46) formed thereon, at least a portion of the mating receptacle being selectively engageable with the front receptacle (snap-fit slot 11) or the rear receptacle (snap-fit slot 12) such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle.

**g. Element 1[f]**

119. Element 1[f] adds “wherein each of the first pair of external slots of the front receptacle is a receiver slot flanked by raised walls, and the stop comprises a protruding member.” First, I have reviewed the specification of the ’265 Patent and have not found any explanation or support for each of the first pair of external slots being a receiver slot, which I have discussed in detail in Section XV.B.

120. Moreover, in my opinion, the Yan-Daley helmet teaches this element. Unlike the ’265 Patent’s lack of support or explanation for pairs of external slots, Yan says in its text that each of snap-fit slot 11 and snap-fit slot 12 has “two symmetrically arranged L-shaped slots.” Ex-1011 at ¶17. In Yan’s Fig. 2, it can be seen that each L-shaped slot has two perpendicular raised walls, the raised walls thus flanking the receiver slot.



Combined Yan-Daley Helmet

121. Additionally, I have reviewed the '265 Patent and the '327 Patent claims, and have found that Patent Owner uses the terms “protruding nub” and “protruding member,” interchangeably with the term “stop.” Ex-1001 at claims 1-2, and 8; Ex-1019 at claims 1 and 2; and Ex-1021 at ¶18. Outside of the claims, I did not see anywhere in the '265 Patent that mentions a “protruding member,” and I saw mention of a “stop” just once. Ex-1021 at ¶18 (reciting “a stop shown in the preferred embodiment as a protruding nub”).

122. Therefore, in my opinion Daley’s protrusion 43b teaches the protruding member and the stop. Ex-1012 at 5:37-40. Daley teaches the shell 22 includes “integrally-molded portions including ... protrusion 43b.” Ex-1012 at 5:37-40. Adding Daley’s protrusion 43b to Yan’s safety helmet teaches such a

receiver slot flanked by raised walls (first and second raised walls of each L-shaped slot) with a stop comprising a protruding member (protrusion 43b).

123. I note here that although Yan's L-shaped slots appear to be parallel, a POSA would have found it obvious to modify Yan's L-shaped slots to form a tapered snap-fit slot based on Daley's teachings that "the locking ears 42a, 42b provide mirror-image and diverging 'L'-shaped appendages being sized and shaped to receive an interlocking trapezoidal-shaped male bracket 46 of the headlight assembly 50." Ex-1012 at 5:27-31.

**h. Element 1[g]**

124. Element 1[g] adds "wherein the accessory device includes a clip." The '265 Patent does not redefine the term "clip" and thus, in my opinion, a POSA would have understood the term to have its ordinary meaning (*e.g.*, any of various devices that grip, clasp, or hook).

125. Daley teaches that "[u]pon complete insertion of male bracket 46 into the locking ears, the protrusion 43b 'snaps' into the detent 43a, thereby temporarily securing the headlight assembly 50 to the shell 22." Ex-1012 at 5:39-43.

Therefore, Daley's bracket 46 with detent 43a operates as a clip by gripping the protrusion 43b while the accessory device is mounted to the helmet. Thus, in my opinion, the Yan-Daley helmet with lamps 2 and 3 modified to include the bracket 46 teaches that the accessory device (lamp 2 or 3) includes a clip (detent 43a of

bracket 46). Moreover, even without adding the bracket 46 to the lamps of Yan, each lamp includes a lamp body (lamp body 22) that would function as a clip (*e.g.*, grip) to engage with the protrusion 43b of Daley. Yan teaches that “the LED lamp 2 comprises ... an LED lamp body 22.” Ex-1011 at ¶21. As shown in Figure 3 of Yan, the lamp body includes a top portion (a clip) that would engage with the nub 32. Additionally, in my opinion, an obvious design choice would have been to add a detent to the lamp body 22 to engage with the protrusion 43b. Therefore, in my opinion, the Yan-Daley helmet teaches this aspect.

**i. Element 1[h]**

126. Element 1[h] adds “wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the protruding member engages the clip to releasably mount the accessory device in the front receptacle.”

127. The Yan-Daley helmet incorporates Yan’s L-shaped slots, which form the snap-fit slots, and teach the ’265 Patent’s receiver slot. It would be obvious to a POSA that these L-shaped slots align and retain mounted accessory devices. In my opinion, the Yan-Daley helmet teaches that the receiver slot (formed by the L-shaped slots) aligns the accessory device (lamp 2 or 3) therein.

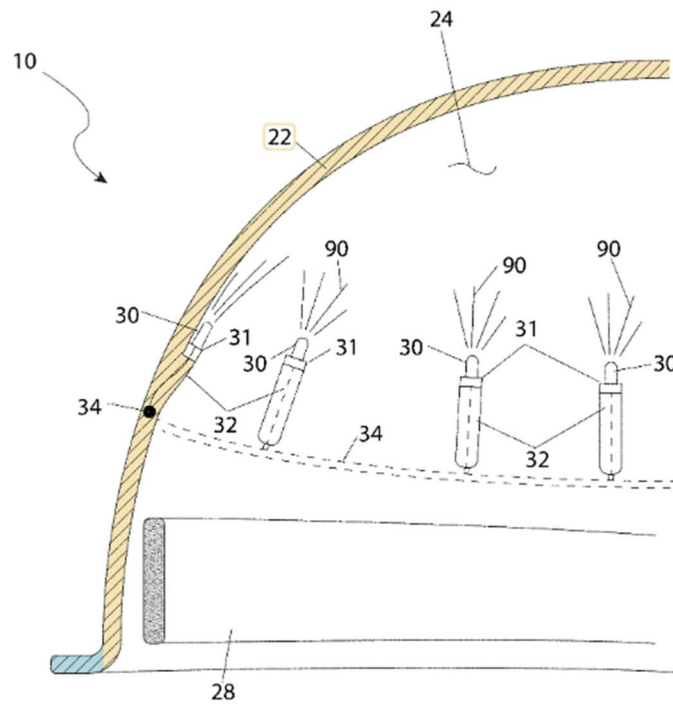
128. Figure 1 of Yan shows lamp 2 aligned within snap-fit slot 12 and lamp 3 aligned within snap-fit slot 11. The Yan-Daley helmet incorporates

Daley's protrusion 43b, which teaches the '265 Patent's protruding member and stop. The protrusion 43b engages with detent 43a of the male bracket 46 to further align the accessory device within the snap-fit slot of the Yan-Daley helmet. The Yan-Daley helmet also teaches that the raised walls (the L-shaped slots) retain the accessory device (lamp 2 or 3) therebetween, and the protruding member (protrusion 43b) engages the clip (detent 43a of bracket 46) to releasably mount the accessory device in the front receptacle (snap-fit slot 11). Therefore, in my opinion, the Yan-Daley helmet teaches this aspect.

### **3. Claim 2**

129. In my opinion, all elements of claim 2 are taught by the Yan-Daley helmet. Claim 2 depends from claim 1, and all elements of claim 1 are taught by the Yan-Daley helmet as I discuss in Section XV.C.2. Claim 2 adds “wherein the outer shell, the front receptacle, and the rear receptacle are formed from a common material.”

130. The Yan-Daley helmet teaches an outer shell and receptacles being formed from a common material. Daley teaches that a safety helmet includes a shell body of one material. Ex-1012 at 1:58-61. The safety helmet shell includes “integrally-molded portions” such as “protrusion 43b” and “a first locking ear 42a and a second locking ear 42b.” Ex-1012 at 5:25-27 and 5:37-40.



Ex-1012, Fig. 4

131. In my opinion, a POSA would have found it obvious to form Yan's shell using a common material throughout (as Daley teaches). Therefore, the Yan-Daley helmet teaches that the outer shell (helmet body 1), the front receptacle (snap-fit slot 11), and the rear receptacle (snap-fit slot 12) are formed from a common material.

#### 4. Claim 3

132. In my opinion, all elements of claim 3 are taught by the Yan-Daley helmet. Claim 3 depends from claim 2, and all elements of claim 2 are taught by the Yan-Daley helmet as I discuss in Section XV.C.3. Claim 3 adds "wherein the common material is plastic."

133. The selection of a known material based on its suitability for its intended use is obvious as described in Section XII. As I describe in Section V, plastic safety helmets were common prior to the earliest priority date the '265 Patent. Therefore, in my opinion, the common material being plastic would have been obvious to a POSA as plastic safety helmets predate the '265 Patent.

134. Moreover, as I discuss in Section XV.C.1., Daley teaches integrally molding features into the helmet shell and using plastic injection molding. Ex-1012 at 4:50-66. Therefore, in my opinion, the common material being plastic would have been obvious to a POSA having reviewed Daley.

#### **5. Claim 4**

135. In my opinion, all elements of claim 4 are taught by the Yan-Daley helmet. Claim 4 depends from claim 1, and all elements of claim 1 are taught by the Yan-Daley helmet as I discuss in Section XV.C.2. Claim 4 further adds “further including 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.”

136. In my opinion, the second accessory device is mere duplication of parts. I’ve been informed that such duplication has no patentable significance unless a new and unexpected result is produced. In my opinion, having multiple

accessory devices that are mountable in the receptacles is neither new nor unexpected. A POSA would expect that when they have two accessories with respective mating receptacles the result is being able to mount either accessory in either receptacle, which is neither surprising nor unexpected.

137. Additionally, it is my opinion that the Yan-Daley helmet teaches this element. As I describe in Section XV.C.2.f., Yan teaches that the “mining lamp 3 and the LED lamp 2 are both detachably mounted on the helmet body 1.” Ex-1011 at ¶15. It would have been obvious to form the bracket 46 on the lamp body (lamp body 22) of each of Yan’s lamp 2 and 3. Thus, in my opinion, the Yan-Daley helmet also teaches at least a portion (bracket 46) of the second accessory device (lamp 2 or 3) being releasably mountable onto each of the front receptacle (snap-fit slot 11) or the rear receptacle (snap-fit slot 12) on the exterior of the outer shell (helmet body 1).

**D. Claims 1 to 4 in View of Yan, Daley, and Kiessler**

**1. Combining Yan, Daley, and Kiessler**

138. In my opinion, Kiessler (like Yan and Daley) qualifies as analogous art at least because it is in the same field of endeavor as the ’265 Patent, i.e., safety helmets. Ex-1015 at ¶1. At minimum, in my opinion, all references are at least reasonably pertinent to at least one problem allegedly solved by the claimed invention—mounted accessories slipping off from safety helmets. Ex-1019 at 1:27-

38; Ex-1011 at ¶5; Ex-1012 at 5:32-43; and Ex-1015 at ¶4. In my opinion, ample motivation-to-combine Kiessler's teachings to modify the Yan-Daley helmet also existed.

139. In the Yan-Daley combination, Daley describes the need to address task illumination (*e.g.*, a light being aimed in the right direction). Ex-1012 at 1:27-35 and 47-51. Daley teaches that "the headlight assembly 50" provides a spot-light effect. Ex-1012 at 5: 1-7. In building the Yan-Daley helmet and in view of these disclosures, in my opinion, a POSA would have been motivated to look to analogous references (including Kiessler), *e.g.*, to help identify ways of providing an adjustable spot-light effect to improve task illumination.

140. In my opinion, upon reviewing the analogous Kiessler reference, a POSA would have seen its teachings related to using a lamp 3 (accessory device) with a fixture (mating receptacle) that includes a clamping lever 21 (clip) in conjunction with a helmet receptacle having a groove head (protruding nub) and would have been motivated to modify the Yan-Daley helmet to include such features, *e.g.*, to allow the lamp to be aligned relative to the helmet Ex-1015 at ¶13. As taught by Kiessler, including such features in the Yan-Daley helmet would also improve temporarily securing accessories in the snap-fit slot structures. For example, Kiessler states that "The invention relates to a device for attaching a lamp to a helmet, which ensures that the lamp is securely fixed to the helmet even

when subjected to vertical impacts from below. The latching means prevents the fixture from slipping out of the receptacle.” Ex-1015 at ¶5.

141. In my opinion, adding Kiessler’s fixture 2 and groove head 13 to the Yan-Daley helmet would have been routine for a POSA exercising only ordinary skill (*e.g.*, neither addition requires new techniques), so the modification would have been achieved with a reasonable expectation of success. Kiessler’s fixture 2 could be easily added to Yan’s accessories (in place of Daley’s male bracket) to provide a means of securing the accessories and providing improved task illumination.

142. Additionally, in my opinion, modifying the Yan-Daley helmet to include Kiessler’s fixture 2 and groove head 13 features would have been obvious to try because there are only a finite number of predictable solutions for improving adjustable task illumination via a safety helmet lamp. In my opinion, a POSA seeking to improve the Yan-Daley helmet’s task illumination functionality, would have recognized that incorporating Kiessler’s clip-based accessory devices involved known methods (*e.g.*, molding) and had a predictable result. In this case, the result would be a safety helmet with front and rear receiver slots for clip-based accessory devices.

**2. Claim 1**

143. In my opinion, the Yan-Daley-Kiessler helmet teaches all elements of claim 1.

**a. Element 1[pre]**

144. Element 1[pre] recites “a safety helmet system.” In my opinion, the Yan-Daley-Kiessler helmet teaches this element.

145. As I noted in Section XV.C.2.a., I have looked at the specification of the '265 Patent, and noted that outside of the claim language, there is no mention of a “safety helmet system.” Given there are no further details in the specification, I understand the system of 1[pre] to refer to a safety helmet along with an accessory device, which the prior art teaches.

146. Yan teaches “a safety helmet,” (Ex-1011 at ¶1) and several accessories (mining lamp 3 and LED lamp 2, Ex-1011 at ¶15). Yan’s safety helmet is modified to include Daley’s protrusion 43b and Kiessler’s groove head 13 and, thus, in my opinion, the Yan-Daley-Kiessler helmet teaches a safety helmet system that includes a safety helmet with an accessory device, which I explain in further detail below.

**b. Element 1[a]**

147. Element 1[a] recites “a safety helmet.”

148. Yan teaches “a safety helmet, and more specifically, ... a mining safety helmet with an emergency lighting function.” Ex-1011 at ¶1. Yan’s safety helmet is modified to include Daley’s protrusion 43b and Kiessler’s groove head 13 and therefore the Yan-Daley-Kiessler helmet teaches a safety helmet.

**c. Element 1[b]**

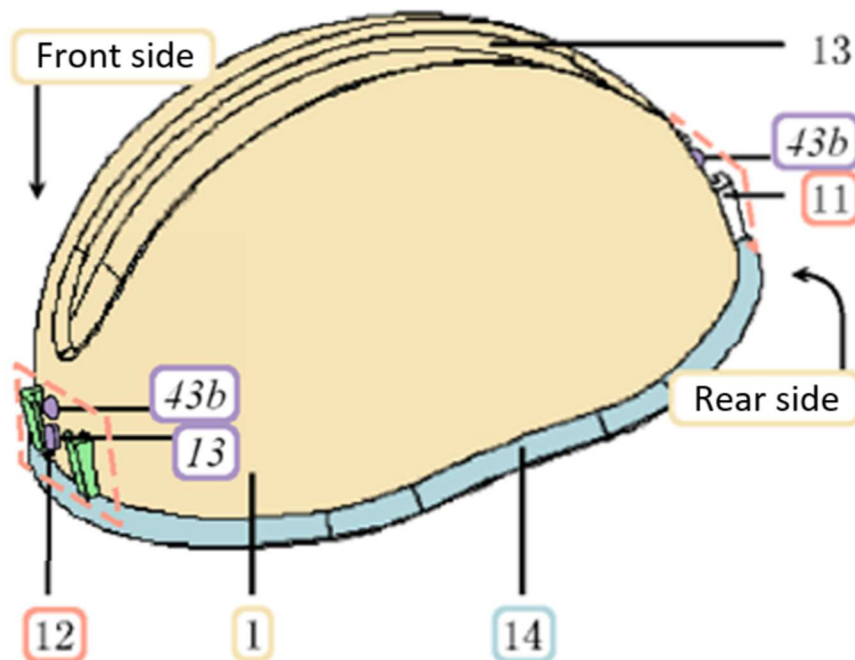
149. Element 1[b] recites “a molded outer shell adapted to be worn by a user, the outer shell having an exterior surface defining a front side, a rear side, and a brim extending forward from the front side.”

150. In my opinion, the Yan-Daley-Kiessler helmet teaches this element.

151. First, the Yan-Daley helmet teaches an outer shell adapted to be worn by a user. Yan teaches that “[t]he mining safety helmet is an essential tool for miners working underground” and that “[i]t not only provides lighting but also effectively protects the miner’s head from falling objects.” Ex-1011 at ¶2. Yan also teaches that the safety helmet includes a “helmet body 1.” Ex-1011 at ¶16. Yan’s helmet body is an outer shell adapted to be worn by a user. Therefore, in my opinion, the Yan-Daley helmet teaches such an outer shell adapted to be worn by a user.

152. Second, the Yan-Daley-Kiessler helmet teaches the outer shell having an exterior surface defining a front side, a rear side, and a brim extending forward from the front side, as illustrated in modified Figure 2 below. Yan teaches that

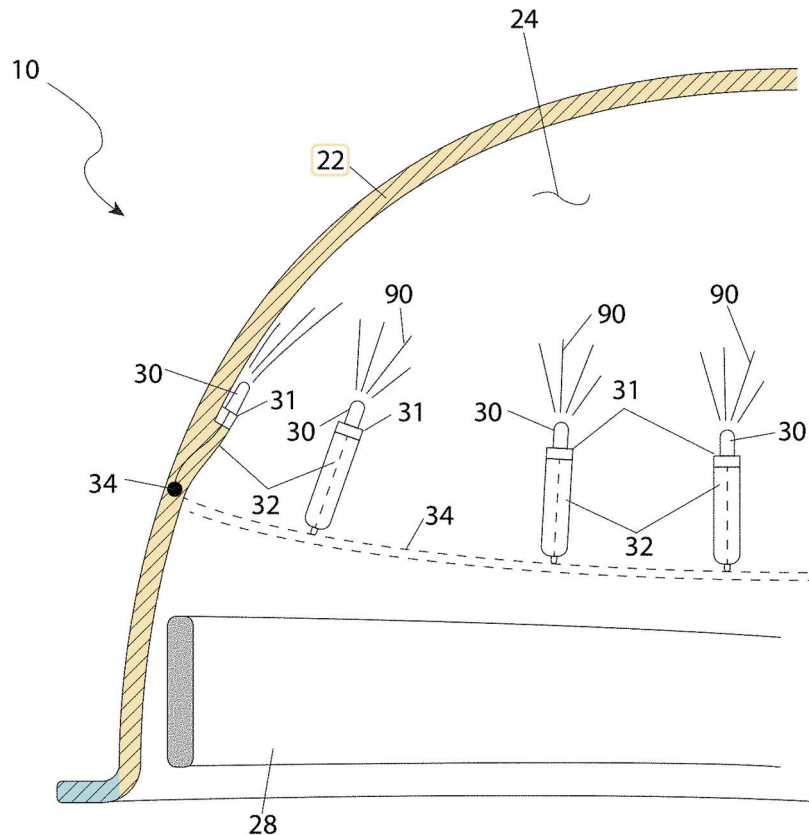
“**brim 14** is located at the bottom of the **helmet body 1** and encircles the bottom edge of the **helmet body 1**.” Ex-1011, ¶19. A **brim** encircling the bottom edge of the **helmet body** extends forward from the front side, as illustrated in modified Figure 2 below. In my opinion, Yan’s Figure 2 illustrates a **helmet body 1** with a **brim 14** that extends forward from the front side. Therefore, in my opinion, the Yan-Daley-Kiessler helmet teaches such an outer shell having an exterior surface defining a front side, a rear side, and a brim.



Combined Yan-Daley-Kiessler Helmet

153. Moreover, in my opinion, the Yan-Daley-Kiessler helmet teaches or suggests the outer shell being molded. Figure 4 of Daley illustrates a cross-sectional view of shell 22 showing consistent lines and cross-hatching pattern

throughout the shell and brim of the helmet. Daley further teaches that a safety helmet includes a shell body of one material. Ex-1012 at 1:58-61. The helmet shell includes “integrally-molded portions” such as protrusion 43b and locking ears 42a and 42b. Ex-1012 at 5:25-27 and 5:37-40.



Ex-1012, Fig. 4

154. Therefore, it is my opinion that the Yan-Daley-Kiessler helmet teaches a molded outer shell (helmet body 1) adapted to be worn by a user, the outer shell having an exterior surface defining a front side, a rear side, and a brim (brim 14) extending forward from the front side.

**d. Element 1[c]**

155. Element 1[c] recites “a front receptacle having a first pair of external slots and a stop, wherein each of the first pair of external slots extends upwardly along the front side of the outer shell and is disposed between the first pair of external slots, and wherein the stop is integrally molded with the exterior surface of the outer shell.”

156. First, as I mentioned in Section XV.C.2.d, I have reviewed the specification of the '265 Patent and have not found any explanation or support for the front receptacle including “a first pair of external slots” as opposed to a single slot. Nor have I found any explanation or support for the stop being disposed between the first pair of external slots. Refer back to Section XV.B, where I have discussed these issues in detail.

157. Moreover, in contrast to the '265 Patent's lack of support or explanation, Yan details how each snap-fit slot includes two L-shaped slots, which teach the claimed “first pair of external slots.” Ex-1011 at ¶17. Yan describes a snap-fit slot 11, which teaches the '265 Patent's front receptacle. Yan's snap-fit slot 11 is located on an exterior surface of the helmet body 1 (an outer shell) and above the brim 14 of the safety helmet, as is shown in Yan's Figure 2. Ex-1011, ¶19. In my opinion, the two L-shaped slots of the snap-fit slot 11 form a first pair of external slots extending upwardly along the front side of the outer shell.

158. Additionally, Kiessler teaches a helmet receiver 1 that includes a groove head 13 “arranged centrally between the stop edges 12.” Ex-1015 at ¶¶35-36. Kiessler further teaches that “the receiver 1 is designed as a plastic injection molding.” Ex-1015 at ¶46. Kiessler teaches a “fixture 2” that corresponds to the receiver 1 and can be attached to a lamp 3. Ex-1015 at ¶34. Kiessler also teaches that the “fixture 2 comprises a clamping lever 21.” Ex-1015 at ¶38. The clamping lever 21 includes a recess 213 and the width of the recess 213 “corresponds essentially to the width of the web 132 of the groove head 13.” Ex-1015 at ¶39.

159. Moreover, Daley teaches integrally molding a safety helmet having a shell 22 with portions including protrusion 43b. Ex-1012 at 5:37-40. As seen in Figure 3 of Daley, the protrusion 43b is disposed between the locking ears 42a and 42b, which teach the claimed first pair of external slots. Thus, Daley also teaches integrally molding a stop with the exterior surface of the outer shell.

160. Therefore, in my opinion, the Yan-Daley-Kiessler helmet teaches a front receptacle (snap-fit slot 11) having a first pair of external slots (Yan’s L-shaped slots) and a stop (groove head 13), wherein each of the first pair of external slots extends upwardly along the front side of the outer shell (helmet body 1) and the stop is disposed between the first pair of external slots, and wherein the stop is integrally molded with the exterior surface of the outer shell.

**e. Element 1[d]**

161. Element 1[d] recites “a rear receptacle disposed on the rear side on the exterior surface of the outer shell, the rear receptacle having a second pair of external slots.”

162. First, I have reviewed the specification of the '265 Patent and have not found any explanation or support for the rear receptacle including “a second pair of external slots” as opposed to a single slot, which I have discussed in detail in Section XV.B. Moreover, in my opinion, the rear receptacle is mere duplication of parts as described in Section XI. In my opinion, the result of adding a rear receptacle that is of identical construction as the front receptacle is both predictable and an expected outcome. A POSA would expect that when they duplicate the front receptacle on the rear of a helmet the result is a helmet that is capable of mounting accessories in two places, which is neither surprising nor unexpected.

163. Additionally, in my opinion, the Yan-Daley-Kiessler helmet teaches this element. Yan teaches that “the first snap-fit slot is located at the front of the helmet body, while the second snap-fit slot is located at the rear of the helmet body.” Ex-1011 at ¶7. Yan further teaches that the “first snap-fit slot 11 and the second snap-fit slot 12 have **identical structures**, each consisting of two symmetrically arranged L-shaped slots.” Ex-1011 at ¶17. Yan also teaches that the “first snap-fit slot 11 and the second snap-fit slot 12 are located above the brim

14.” Ex-1011 at ¶19. In Figure 2, Yan illustrates a helmet body 1 with a first snap-fit slot 11 and a second snap-fit slot 12 each located above the brim 14. As I describe in Section XV.D.1, it would have been obvious to a POSA to add Daley’s protrusion 43b and Kiessler’s groove head 13 to Yan’s snap-fit slots 11 and 12 such that the two snap-fit slots are identical as taught by Yan. In this way, the accessories may be attached to either snap-fit slot as is also taught by Yan. As I discuss above, the Yan-Daley-Kiessler helmet incorporates Daley’s protrusion 43b and Kiessler’s groove head 13 to Yan’s snap-fit slot 12. Therefore, in my opinion, the Yan-Daley-Kiessler helmet teaches a rear receptacle (snap-fit slot 12) disposed on the rear side on the exterior surface of the outer shell, the rear receptacle (snap-fit slot 12) having a second pair of external slots (Yan’s L-shaped slots).

**f. Element 1[e]**

164. Element 1[e] recites “an accessory device having a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable with 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.”

165. In my opinion, the Yan-Daley-Kiessler helmet teaches this element. Yan teaches that the “mining lamp 3 and the LED lamp 2 are both detachably mounted on the helmet body 1.” Ex-1011 at ¶15. Yan further teaches that “lamp

body base of the mining lamp 3 is adapted to the first snap-fit slot 11. The two sides of the lamp body base can be snapped into the two L-shaped slots of the first snap-fit slot 11.” Ex-1011 at ¶20. Yan also teaches that the “base of the LED lamp body 22 has the same structure as the base of the mining lamp 3. The two sides of the base of the LED lamp body 22 can be inserted into the two L-shaped slots of the second snap-fit slot 12.” Ex-1011 at ¶24. Yan further teaches that “the LED lamp 2 can be taken out of the second snap-fit slot 12 and then inserted into the first snap-fit slot 11.” Ex-1011 at ¶27.

166. Furthermore, Yan teaches that “[b]y using this snap-fit connection method, the mining lamp 3 is not fixed permanently on the helmet body 1, but is instead installed on the helmet body 1 in a detachable manner.” Ex-1011 at ¶20. Yan also teaches that “[b]y using this snap-fit connection method, the LED lamp 2 is not fixed permanently on the helmet body 1, but is instead installed on the helmet body 1 in a detachable manner.” Ex-1011 at ¶24. Thus, in my opinion, Yan’s lamps 2 and 3 each teach the claimed accessory device.

167. Additionally, Kiessler teaches a “fixture 2” that corresponds to the receiver 1 and can be attached to a lamp 3. Ex-1015 at ¶34. Kiessler further teaches that the “fixture 2 comprises a clamping lever 21.” Ex-1015 at ¶38. The clamping lever 21 includes a recess 213 and the width of the recess 213 “corresponds essentially to the width of the web 132 of the groove head 13.” Ex-

1015 at ¶39. In my opinion, it would be obvious to a POSA to modify each of lamp 2 and lamp 3 to include Kiessler's fixture 2. In the Yan-Daley-Kiessler helmet, the fixture 2 engages with the groove head 13 via the recess 213 as explained in Kiessler and abut the protrusion 43b to further secure the accessory within the snap-fit slot.

168. The Yan-Daley-Kiessler helmet incorporates Yan's lamps 2 and 3 with Kiessler's fixture 2 added to each. Therefore, in my opinion, Yan-Daley-Kiessler helmet teaches an accessory device (lamp 2) having a mating receptacle (fixture 2) formed thereon, at least a portion of the mating receptacle being selectively engageable with the front receptacle (snap-fit slot 11) or the rear receptacle (snap-fit slot 12) such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle.

**g. Element 1[f]**

169. Element 1[f] adds "wherein each of the first pair of external slots of the front receptacle is a receiver slot flanked by raised walls, and the stop comprises a protruding member." First, I have reviewed the specification of the '265 Patent and have not found any explanation or support for each of the first pair of external slots being a receiver slot, which I have discussed in detail in Section XV.B.

170. Moreover, in my opinion, the Yan-Daley-Kiessler helmet teaches this element. Unlike the '265 Patent's lack of support or explanation for pairs of external slots, Yan says in its text that each of snap-fit slot 11 and snap-fit slot 12 has "two symmetrically arranged L-shaped slots." Ex-1011 at ¶17. In Yan's Fig. 2, it can be seen that each L-shaped slot has two perpendicular raised walls, the raised walls thus flanking the receiver slot.

171. Additionally, as I described in Section XV.C.2.g, I have reviewed the '265 Patent and the '327 Patent claims, and have found that Patent Owner uses the terms "protruding nub" and "protruding member," interchangeably with the term "stop."

172. Thus, it is my opinion that Kiessler's groove head 13 teaches the protruding member and the stop. Kiessler teaches using a receiver 1 with a groove head 13 arranged between stop edges 12, with the receiver 1 being plastic injection molded. Ex-1015 at ¶¶34-36, 46. Additionally, Daley's protrusion 43b teaches the protruding member and stop. Daley teaches the shell 22 includes "integrally-molded portions including ... protrusion 43b." Ex-1012 at 5:37-40.

173. Therefore, the Yan-Daley helmet teaches such a receiver slot flanked by raised walls (first and second raised walls of each **L-shaped slot**) with a stop comprising a protruding member (**groove head 13**).

**h. Element 1[g]**

174. Element 1[g] adds “wherein the accessory device includes a clip.”

175. The Yan-Daley-Kiessler helmet modifies Yan’s lamp 3 to include Kiessler’s fixture 2 with clamping lever 21. Yan’s lamp 3 teaches the ’265 Patent’s accessory device and Kiessler’s clamping lever 21 teaches the ’265 Patent’s clip. Therefore, in my opinion, and as I describe in Section XV.D.1, the Yan-Daley-Kiessler helmet teaches an accessory device (lamp 3) that includes a clip (clamping lever 21).

**i. Element 1[h]**

176. Element 1[h] adds “wherein the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the protruding member engages the clip to releasably mount the accessory device in the front receptacle.”

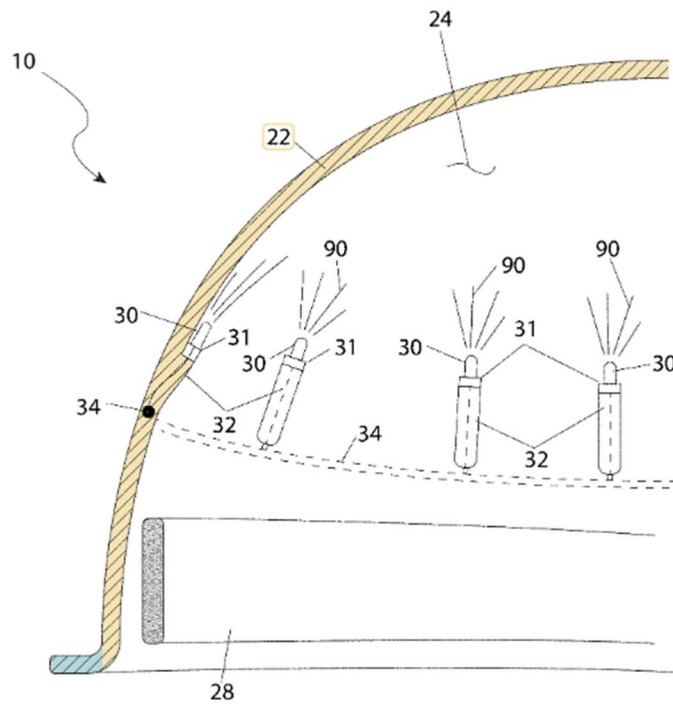
177. The Yan-Daley-Kiessler helmet incorporates Yan’s L-shaped slots, which form the snap-fit slots, and teach the ’265 Patent’s receiver slot. It would be obvious to a POSA that these L-shaped slots align and retain mounted accessory devices as the groove head 13 engages with the clamping lever 21. In my opinion, the Yan-Daley-Kiessler helmet teaches that the receiver slot (defined by L-shaped slots) aligns the accessory device (lamp 2 or 3) therein, the raised walls (L-shaped slots) retain the accessory device therebetween, and the protruding member

(groove head 13) engages the clip (clamping lever 21) to releasably mount the accessory device in the front receptacle (snap-fit slot 11). Therefore, in my opinion, the Yan-Daley-Kiessler helmet teaches this aspect.

### **3. Claim 2**

178. In my opinion, all elements of claim 2 are taught by the Yan-Daley-Kiessler helmet. Claim 2 depends from claim 1, and all elements of claim 1 are taught by the Yan-Daley-Kiessler helmet as I discuss in Section XV.D.2. Claim 2 adds “wherein the outer shell, the front receptacle, and the rear receptacle are formed from a common material.”

179. The Yan-Daley-Kiessler helmet teaches being formed from a common material. Daley teaches that a safety helmet includes a shell body of one material. Ex-1012, 1:58-61. The safety helmet shell includes “integrally-molded portions” such as “protrusion 43b” and “a first locking ear 42a and a second locking ear 42b.” Ex-1012, 5:25-27, 5:37-40.



Ex-1012, Fig. 4

180. In my opinion, a POSA would have found it obvious to form Yan's shell using a common material throughout (as Daley teaches). Therefore, the Yan-Daley-Kiessler helmet teaches that the outer shell (helmet body 1), the front receptacle (snap-fit slot 11), and the rear receptacle (snap-fit slot 12) are formed from a common material.

#### 4. Claim 3

181. In my opinion, all elements of claim 3 are taught by the Yan-Daley-Kiessler helmet. Claim 3 depends from claim 2, and all elements of claim 2 are taught by the Yan-Daley-Kiessler helmet as I discuss in Section XV.D.3. Claim 3 adds "wherein the common material is plastic."

182. The selection of a known material based on its suitability for its intended use is obvious as described in Section XII. As I describe in Section V, plastic safety helmets were common prior to the earliest priority date the '265 Patent. Therefore, in my opinion, the common material being plastic would have been obvious to a POSA as plastic safety helmets predate the '265 Patent.

183. Moreover, as I discuss in Section XV.D.1, Daley teaches integrally molding features into the helmet shell and using plastic injection molding. Ex-1012 at 4:50-66. Additionally, Kiessler teaches a plastic, injection-molded receiver for mounting a lamp accessory, such as a miner's lamp, to a helmet. Ex-1015 at ¶¶40 and 46. Therefore, in my opinion, the common material being plastic would have been obvious to a POSA having reviewed Daley and/or Kiessler.

## **5. Claim 4**

184. In my opinion, all elements of claim 4 are taught by the Yan-Daley-Kiessler helmet. Claim 4 depends from claim 1, and all elements of claim 1 are taught by the Yan-Daley-Kiessler helmet as I discuss in Section XV.D.2. Claim 4 further adds “further including 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.”

185. In my opinion, the second accessory device is mere duplication of parts. I've been informed that such duplication has no patentable significance unless a new and unexpected result is produced. In my opinion, having multiple accessory devices that are mountable in the receptacles is neither new nor unexpected. A POSA would expect that when they have two accessories with respective mating receptacles the result is being able to mount either accessory in either receptacle, which is neither surprising nor unexpected.

186. Additionally, it is my opinion that the Yan-Daley-Kiessler helmet teaches this element. As I describe in Section XV.D.2.g., Yan teaches that the “mining lamp 3 and the LED lamp 2 are both detachably mounted on the helmet body 1.” Ex-1011 at ¶15. It would have been obvious to form the fixture 2 on the lamp body (lamp body 22) of each of Yan's lamp 2 and 3. Thus, in my opinion, the Yan-Daley-Kiessler helmet also teaches at least a portion (clamping lever 21 of fixture 2) of the second accessory device (lamp 2 or 3) being releasably mountable onto each of the front receptacle (snap-fit slot 11) or the rear receptacle (snap-fit slot 12) on the exterior of the outer shell (helmet body 1).

**E. Claims 1 to 4 in View of Yan and Nesbitt**

**1. Combining Yan and Nesbitt**

187. As a threshold matter, in my opinion, Yan and Nesbitt qualify as analogous art at least because they are in the same field of endeavor as the '265

Patent, i.e., safety helmets. Ex-1001 at 3:26-27; Ex-1011 at ¶1; and Ex-1013 at 1:5-7. At minimum, in my opinion, both references are at least reasonably pertinent to at least one problem allegedly solved by the claimed invention—mounted devices slipping off from safety helmets. Ex-1019 at 1:27-38; Ex-1011 at ¶5; and Ex-1013 at 2:22-33. In my opinion, ample motivation-to-combine also existed.

188. First, in my opinion, Yan invites a POSA to seek out “equivalent structural modifications.” Ex-1011 at ¶29. Based on this, in my opinion, a POSA would have been expressly motivated to look to analogous references (including Nesbitt), e.g., to help understand certain aspects related to structural modifications of the snap-fit slot structures (particularly when seeking to construct Yan’s safety helmet).

189. In my opinion, upon reviewing the analogous Nesbitt reference, a POSA would have seen its teachings related to using a plurality of integrally formed sockets at different locations on a safety helmet, each having a respective nub, to detachably retain devices (Ex-1013 at 2:22-31), and would have been motivated to modify each of Yan’s snap-fit slot structures to be molded to the helmet body and include such a nub. Modifying each of the snap-fit slots in this manner would keep the snap-fit slots identical and allow for accessories to be

detachably mounted to either slot in an identical manner as taught by Yan. Ex-1011 at ¶25.

190. In my opinion, when modifying Yan's snap-fit slot structures to include Nesbitt's nubs, a POSA could adopt the teachings of Nesbitt to integrally mold the receptacle (*e.g.*, Yan's L-shaped slots) with a nub to the safety helmet shell for each snap-fit slot using at least one common (*i.e.*, same) material, such as polyethylene. Ex-1013 at 2:57-67. In my opinion, the POSA could also adopt Nesbitt's positional teaching for each nub to centrally position the protrusion between the L-shaped slots in Yan. Ex-1013 at Fig. 8. In my opinion, forming such features from a common material would have been cheaper, easier, and allowed for a reduced sales price for the Yan-Nesbitt helmet, which would have further motivated the Yan-Nesbitt combination.

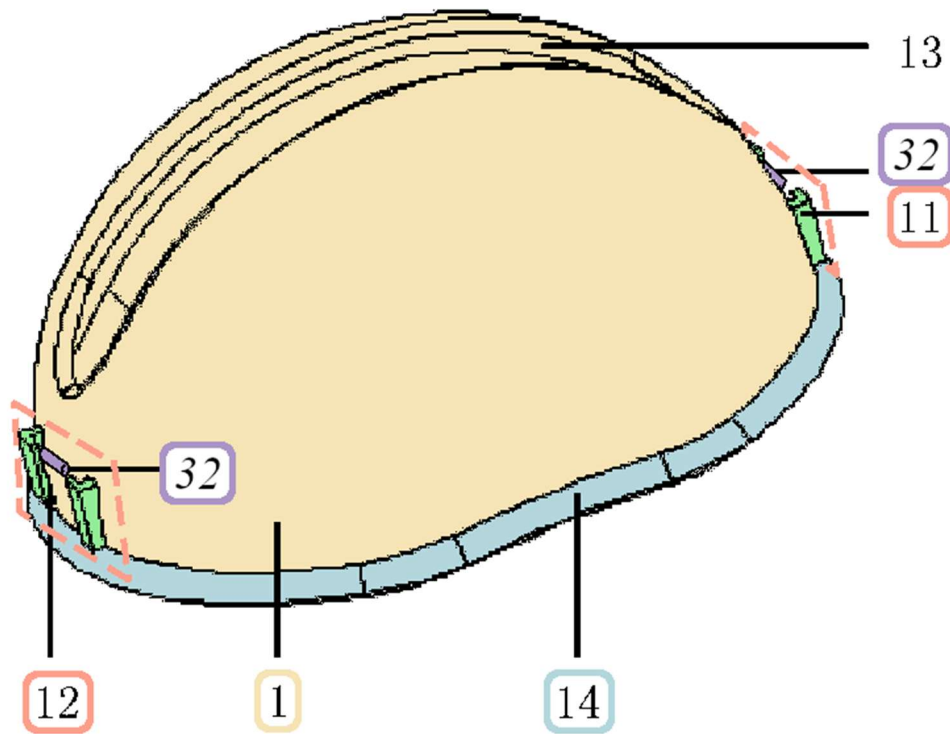
191. In my opinion, including the nub feature with the snap-fit slot structures would create a more robust securing of the accessories in the snap-fit slot structures and thus would have been a desirable structural modification. In my opinion, having a more robust securing would have made the Yan-Nesbitt helmet more attractive to potential purchasers, thereby further motivating the combination as a matter of commercial desirability.

192. In my opinion, a POSA would have been motivated to incorporate Nesbitt's centrally located and integrally molded nub into each of Yan's snap-fit

slot structures to securely mount detachable accessory devices while keeping the snap-fit slots identical. In my opinion, adding Nesbitt's nub to Yan's snap-fit slot structures would have been routine for a POSA exercising only ordinary skill, so the modification would have been achieved with a reasonable expectation of success.

193. Additionally or alternatively, in my opinion, modifying Yan's safety helmet to include Nesbitt's integrally molded mounting features would have been obvious to try because there are only a finite number of predictable solutions for improving the temporary security of the snap-fit slots. In my opinion, modifying Yan's safety helmet to include Nesbitt's integrally molded mounting features would also have been a simple substitution of one element (a receptacle having L-shaped slots and nub 32) for another (a snap-fit slot receptacle having only L-shaped slots) to obtain predictable results. In this case, the results are an integrally molded receptacle having a protruding nub to more securely fasten Yan's lamp accessories. In my opinion, a POSA seeking to improve Yan's snap-fit slot structure for temporarily securing accessory devices, would have recognized that incorporating Nesbitt's integrally molded socket features involved a known method of molding and had a predictable result. The result being a molded receptacle having a protruding nub for more securely snapping in detachable accessory devices.

194. An example depiction of the combination Yan-Nesbitt safety helmet is below. The modified figure represents Yan's helmet depicted in Yan's Figure 2 modified to include Nesbitt's nub 32 at each snap-fit slot.



Combined Yan-Nesbitt Helmet

## 2. Claim 1

195. In my opinion, all elements of claim 1 are taught by the Yan-Nesbitt helmet.

### a. Element 1[pre]

196. Element 1[pre] recites “a safety helmet system.” In my opinion, the Yan-Nesbitt helmet teaches this element.

197. As I noted in Section XV.C.2.a., I have looked at the specification of the '265 Patent, and noted that outside of the claim language, there is no mention of a “safety helmet system.” Given there are no further details in the specification, I understand the system of 1[pre] to refer to a safety helmet along with an accessory device, which the prior art teaches.

198. Yan teaches “a safety helmet, and more specifically, ... a mining safety helmet with an emergency lighting function.” Ex-1011, ¶1. Yan’s safety helmet is modified to include Nesbitt’s nub 32 and, thus, the Yan-Nesbitt helmet teaches a safety helmet.

**b. Element 1[a]**

199. Element 1[a] recites “a safety helmet.”

200. Yan teaches “a safety helmet, and more specifically, ... a mining safety helmet with an emergency lighting function.” Ex-1011, ¶1. Yan’s safety helmet is modified to include Nesbitt’s nub 32 and, thus the Yan-Nesbitt helmet teaches a safety helmet.

**c. Element 1[b]**

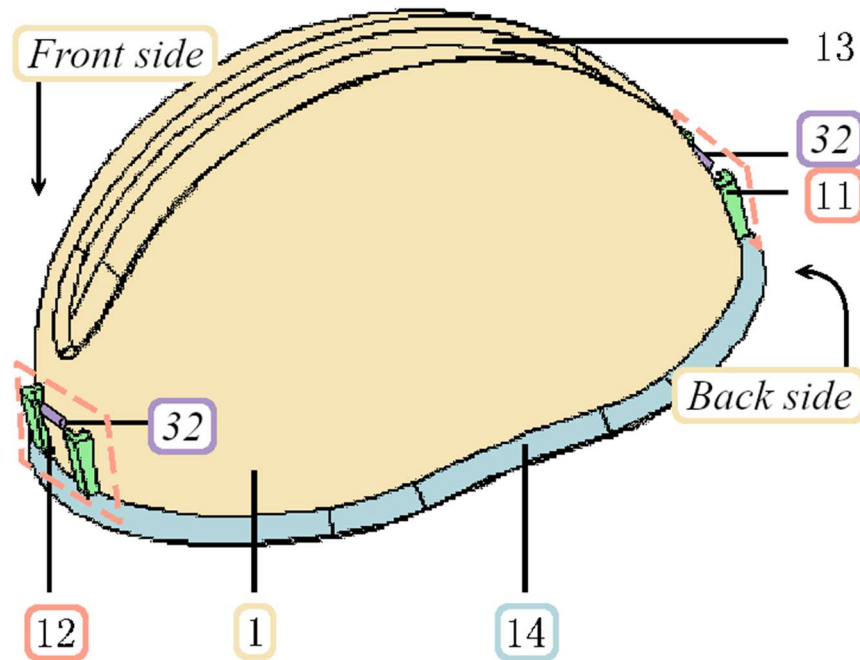
201. In my opinion, the Yan-Nesbitt helmet teaches this element.

202. First, in my opinion, the Yan-Nesbitt helmet teaches an outer shell adapted to be worn by a user. Yan teaches that “[t]he mining safety helmet is an essential tool for miners working underground” and that “[i]t not only provides

lighting but also effectively protects the miner's head from falling objects.” Ex-1011 at ¶2. Yan also teaches that the safety helmet includes a “helmet body 1.” Ex-1011 at ¶16. In my opinion, Yan's helmet body is an outer shell adapted to be worn by a user. Therefore, in my opinion, the Yan-Nesbitt helmet teaches such an outer shell adapted to be worn by a user.

203. Second, in my opinion, the Yan-Nesbitt helmet teaches the outer shell having an exterior surface defining a front side, a rear side, and a brim extending forward from the front side. Yan teaches that “brim 14 is located at the bottom of the helmet body 1 and encircles the bottom edge of the helmet body 1.” Ex-1011

at ¶19. In my opinion, a brim encircling the bottom edge of the helmet body extends forward from the front side.

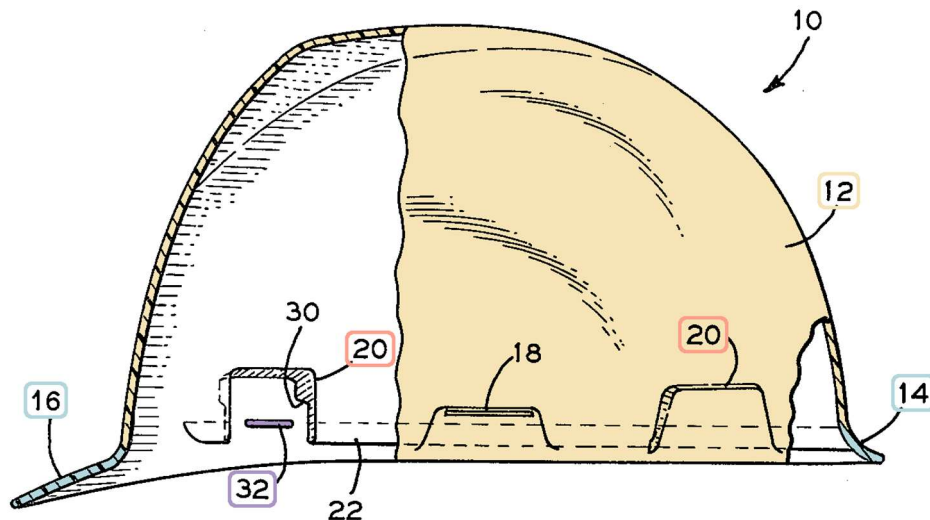


Combined Yan-Nesbitt Helmet

204. Therefore, in my opinion, the Yan-Nesbitt helmet teaches such an outer shell (helmet body 1) having an exterior surface defining a front side, a rear side, and a brim (brim 14).

205. Third, in my opinion, the Yan-Nesbitt helmet teaches or suggests being molded. Nesbitt includes a line drawing, Figure 8, that illustrates a cross-sectional view of the shell 12 showing consistent unbroken lines and the same cross-hatching pattern throughout the shell and brim of the safety helmet.

Therefore, in my opinion, Nesbitt teaches a brim that is unitary with and molded from a common material (*e.g.*, polyethylene) with the helmet shell.



Ex-1013, Fig. 8

206. In my opinion, a POSA would have found it obvious to mold Yan's shell (as Nesbitt teaches). Therefore, in my opinion, the Yan-Nesbitt helmet teaches a molded outer shell (helmet body 1) adapted to be worn by a user, the outer shell having an exterior surface defining a front side, a rear side, and a brim (brim 14) extending forward from the front side.

**d. Element 1[c]**

207. In my opinion, the Yan-Nesbitt helmet teaches this element.

208. First, I have reviewed the specification of the '265 Patent and have not found any explanation or support for the front receptacle including "a first pair of external slots" as opposed to a single slot. Nor have I found any explanation or

support for the stop being disposed between the first pair of external slots. Refer back to Section XV.B, where I have discussed these issues in detail.

209. Moreover, in contrast to the '265 Patent's lack of support or explanation, Yan details how each snap-fit slot includes two L-shaped slots, which teach the claimed "first pair of external slots." Ex-1011 at ¶17. Yan teaches a snap-fit slot 11 (a front receptacle) having a first pair of external slots wherein each of the first pair of external slots extends upwardly along the front of the outer shell. Ex-1011 at ¶19. In my opinion, the two L-shaped slots of the snap-fit slot 11 form a pair of external slots extending upwardly along the front side of the outer shell above the brim. The Yan-Nesbitt helmet incorporates Yan's snap-fit slots and brim and therefore teaches these elements.

210. Additionally, as I describe in Section XV.E.1, Nesbitt teaches a safety helmet with a shell 12 that includes "plurality of sockets 20 ... integrally molded into the shell 12" (Ex-1013 at 2:65-67) with each socket comprising a nub 32 (Ex-1013 at 3:1-7). Thus, in my opinion, the nub 32 is a protruding member that is integrally molded with the shell.

211. Therefore, in my opinion, the Yan-Nesbitt helmet teaches a front receptacle (snap-fit slot 11) having a pair of external slots (formed by Yan's L-shaped slots) extending upwardly along the front side of the outer shell (helmet

body 1) and the stop (nub 32) is disposed between the first pair of external slots, and wherein the stop is integrally molded with exterior surface of the outer shell.

**e. Element 1[d]**

212. First, I have reviewed the specification of the '265 Patent and have not found any explanation or support for the rear receptacle including “a second pair of external slots” as opposed to a single slot, which I have discussed in detail in Section XV.B. Moreover, in my opinion, the rear receptacle is mere duplication of parts as described in Section XI. In my opinion, the result of adding a rear receptacle that is of identical construction as the front receptacle is both predictable and an expected outcome. A POSA would expect that when they duplicate the front receptacle on the rear of a helmet the result is a helmet that is capable of mounting accessories in two places, which is neither surprising nor unexpected.

213. Additionally, in my opinion, the Yan-Nesbitt helmet teaches this element. Yan teaches “the first snap-fit slot is located at the front of the helmet body, while the second snap-fit slot is located at the rear of the helmet body.” Ex-1011 at ¶7. Yan further teaches that the “first snap-fit slot 11 and the second snap-fit slot 12 have **identical structures**, each consisting of two symmetrically arranged L-shaped slots.” Ex-1011 at ¶17. Yan also teaches that the “first snap-fit slot 11 and the second snap-fit slot 12 are located above the brim 14.” Ex-1011 at

¶19. In Figure 2, Yan illustrates a helmet body 1 with a first snap-fit slot 11 and a second snap-fit slot 12 each located above the brim 14.

214. As I discuss in Section XV.E.1, a POSA would have found it obvious to add Nesbitt's nub 32 to each of Yan's snap-fit slots 11 and 12 such that the two snap-fit slots are identical, and accessories may be attached to either snap-fit slot, as taught by Yan.

215. Therefore, in my opinion, the Yan-Nesbitt helmet teaches a rear receptacle (snap-fit slot 12) disposed on the rear side on the exterior surface of the outer shell, the rear receptacle (snap-fit slot 12) having a second pair of external slots.

**f. Element 1[e]**

216. In my opinion, the Yan-Nesbitt helmet teaches this element. Yan teaches that the "mining lamp 3 and the LED lamp 2 are both detachably mounted on the helmet body 1." Yan further teaches that "lamp body base of the mining lamp 3 is adapted to the first snap-fit slot 11. Ex-1011 at ¶15. The two sides of the lamp body base can be snapped into the two L-shaped slots of the first snap-fit slot 11." Ex-1011 at ¶20. Yan also teaches that the "base of the LED lamp body 22 has the same structure as the base of the mining lamp 3. The two sides of the base of the LED lamp body 22 can be inserted into the two L-shaped slots of the second snap-fit slot 12." Ex-1011 at ¶24. Yan further teaches that "the LED lamp 2 can

be taken out of the second snap-fit slot 12 and then inserted into the first snap-fit slot 11.” Ex-1011 at ¶27.

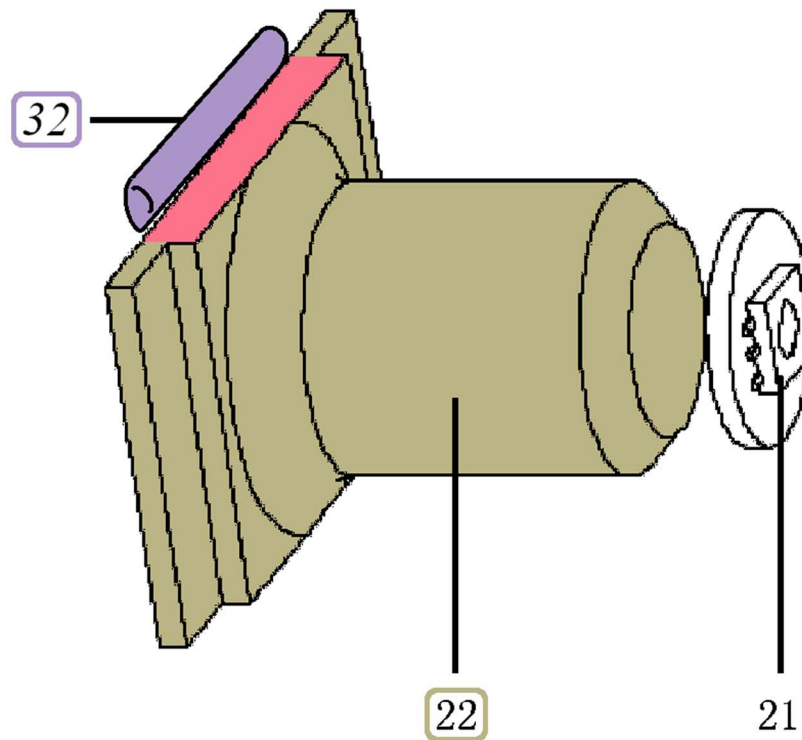
217. Furthermore, Yan teaches that “[b]y using this snap-fit connection method, the mining lamp 3 is not fixed permanently on the helmet body 1, but is instead installed on the helmet body 1 in a detachable manner” (Ex-1011 at ¶20) and “[b]y using this snap-fit connection method, the LED lamp 2 is not fixed permanently on the helmet body 1, but is instead installed on the helmet body 1 in a detachable manner” (Ex-1011 at ¶24). Thus, in my opinion, Yan’s lamps 2 and 3 each teach the claimed accessory device. The Yan-Nesbitt helmet incorporates Yan’s lamps 2 and 3.

218. Yan’s lamp 2 has a lamp body 22, which teaches the ’265 Patent’s mating receptacle and portion that is mountable onto the receptacles of the helmet. Ex-1011 at ¶21. Therefore, in my opinion, Yan-Nesbitt helmet teaches an accessory device (lamp 2) having a mating receptacle (lamp body 22) formed thereon, at least a portion of the mating receptacle being selectively engageable with the front receptacle (snap-fit slot 11) or the rear receptacle (snap-fit slot 12) such that the accessory device is releasably mountable onto each of the front receptacle and the rear receptacle.



**h. Element 1[g]**

220. In my opinion, the Yan-Nesbitt helmet teaches this element. Yan teaches that “the LED lamp 2 comprises an LED light source 21, an LED lamp body 22, and lithium batteries 23.” Ex-1011 at ¶21. In my opinion, the lamp body 22 includes a top portion that operates as a clip to engage with the nub 32. An example depiction of the Yan’s lamp 2 accessory engaging with Nesbitt’s nub 32 is shown below. The modified figure represents Yan’s lamp 2 depicted in Yan’s Figure 3 modified to indicate interaction with Nesbitt’s nub 32. Therefore, in my opinion, and as I describe in Section XV.E.1, the Yan-Nesbitt helmet teaches an accessory device (lamp 3) that includes a clip (lamp body 22).



Combined Yan-Nesbitt Lamp and Nub

**i. Element 1[h]**

221. In my opinion, the Yan-Nesbitt helmet teaches this element. It would be obvious to a POSA that Yan's L-shaped slots align and retain mounted accessory devices as the lamp body 22 engages with the nub 32. Therefore, in my opinion, the Yan-Nesbitt helmet teaches that the receiver slot aligns the accessory device (lamp 2 or 3) therein, the raised walls (L-shaped slots) retain the accessory device therebetween, and the protruding member (nub 32) engages the clip (lamp

body 22) to releasably mount the accessory device in the front receptacle (snap-fit slot 11).

### **3. Claim 2**

222. In my opinion, all elements of claim 2 are taught by the Yan-Nesbitt helmet. Claim 2 depends from claim 1, and all elements of claim 1 are taught by the Yan-Nesbitt helmet as I discuss in Section XV.E.2. Claim 2 adds “wherein the outer shell, the front receptacle, and the rear receptacle are formed from a common material.”

223. In my opinion, the Yan-Nesbitt helmet teaches or suggests being formed from a common material. Nesbitt includes a line drawing, Figure 8, that illustrates a cross-sectional view of the shell 12 showing consistent unbroken lines and the same cross-hatching pattern throughout the shell and brim of the safety helmet. Therefore, in my opinion, Nesbitt teaches a brim that is unitary with and molded from a common material (e.g., polyethylene) with the helmet shell.

224. Additionally, Nesbitt teaches a safety helmet with a shell 12 that includes “plurality of sockets 20 ... integrally molded into the shell 12.” Ex-1013 at 2:65-67. Nesbitt further teaches “Lands 30 bridge the shell 12 with the end surfaces 26 over the recess 28. Nub 32 partially extends into the recess 28.” Ex-1013 at 3:1-7. Thus, in my opinion, the nub 32 is a protruding nub that is integrally molded with the shell from the common material.

225. In my opinion, a POSA would have found it obvious to mold Yan's shell using a common material throughout (as Nesbitt teaches). Therefore, in my opinion, the Yan-Nesbitt helmet teaches that the outer shell (helmet body 1), the front receptacle (snap-fit slot 11), and the rear receptacle (snap-fit slot 12) are formed from a common material (e.g., polyethylene).

#### **4. Claim 3**

226. Claim 3 depends from claim 2, and all elements of claim 2 are taught by the Yan-Nesbitt helmet as I discuss in Section XV.E.3. In my opinion, all elements of claim 3 are also taught by the Yan-Nesbitt helmet.

227. The common material being plastic is obvious for the reasons I discuss above in Section XV.C.4. Additionally, in my opinion, the Yan-Nesbitt helmet teaches the additional element of claim 3.

228. Nesbitt teaches "a safety helmet 10 having an impact-resistant polyethylene shell 12." Ex-1013 at 2:57-59. Nesbitt further teaches that "the sockets 20 are formed by an indentation 24 integrally formed within the shell 12" (Ex-1013 at 3:1-5) and "a nub is formed within the shell, the nub substantially disposed between the extensions" (Ex-1013 at 4:54-57). Polyethylene is a well-known and commonly produced plastic.

229. Thus, in my opinion, a POSA would have found it obvious to use plastic as taught by Nesbitt to for the helmet body of the Yan-Nesbitt helmet.

**5. Claim 4**

230. Claim 4 depends from claim 1, and all elements of claim 1 are taught by the Yan-Nesbitt helmet as I discuss in Section XV.E.2. Claim 4 adds “further including 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.”

231. In my opinion, the second accessory device is mere duplication of parts. I’ve been informed that such duplication has no patentable significance unless a new and unexpected result is produced as described in Section XI. In my opinion, having multiple accessory devices that are mountable in the receptacles is neither new nor unexpected. A POSA would expect that when they have two accessories with respective mating receptacles the result is being able to mount either accessory in either receptacle, which is neither surprising nor unexpected.

232. Additionally, it is my opinion that the Yan-Nesbitt helmet teaches a second accessory device (“mining lamp 3 and the LED lamp 2 are both detachably mounted on the helmet body 1.” Ex-1011 at ¶15) having a second mating receptacle (lamp body 22). Thus, in my opinion, the Yan-Nesbitt helmet also teaches at least a portion (lamp body 22) of the second accessory device (lamp 2 or 3) being releasably mountable onto each of the front receptacle (snap-fit slot 11) or

the rear receptacle (snap-fit slot 12) on the exterior of the outer shell (helmet body 1).

**F. Claims 1 to 4 in View of the Klein News Release**

**1. Priority Date of Challenged Claims**

233. As I mentioned in Section IV, the priority date of the Challenged Claims is at issue because of new matter that was added during prosecution of the parent patent to which the '265 claims priority, as I describe in Section VI(B). That new matter provides the only support for certain limitations in the Challenged Claims, as I detail below.

234. During prosecution of the parent patent to which the '265 claims priority to, each of the independent claims was amended on April 25, 2022 to incorporate new claim elements that lacked any support in Priority Applications as filed.

235. In particular, independent claims 1 and 4 of the '935 Application correspond to claims 1 and 8 in the '327 Patent. These claims were amended to recite that “the **protruding nub is integrally molded** with the outer shell from the common material.” Ex-1004, 62-63. Independent claim 25 of the '935 Application corresponds to claim 16 in the '327 Patent. This claim was similarly amended to recite that “the outer shell **forms the protruding nub from a same material** as the outer shell.” Ex-1004, 64. Independent claim 26 of the '935 Application

corresponds to claim 17 in the '327 Patent. This claim was amended to recite “**the protruding nub being integrally molded** with the outer shell on the exterior from a common material.” Ex-1004, 65. In my opinion, there was no support in the Priority Applications as-filed for these amendments.

236. The '265 Patent, which is the child of the '327 Patent, recites that “the stop is integrally molded with the exterior surface of the outer shell” in claim 1, element 1[b] and that “the outer shell, the front receptacle [which includes the stop], and the rear receptacle [also includes the stop] are formed from a common material” in claim 2. The Priority Applications as-filed are silent regarding integral molding or forming the protruding nub or the stop of a common or same material as the outer shell.

237. On April 25, 2022, Patent Owner submitted a declaration by Mr. James Hill, its longtime employee, to support its position regarding the added materials. Ex-1004 at 48-49 and 73-74. In my opinion, the declaration by Mr. Hill is factually flawed.

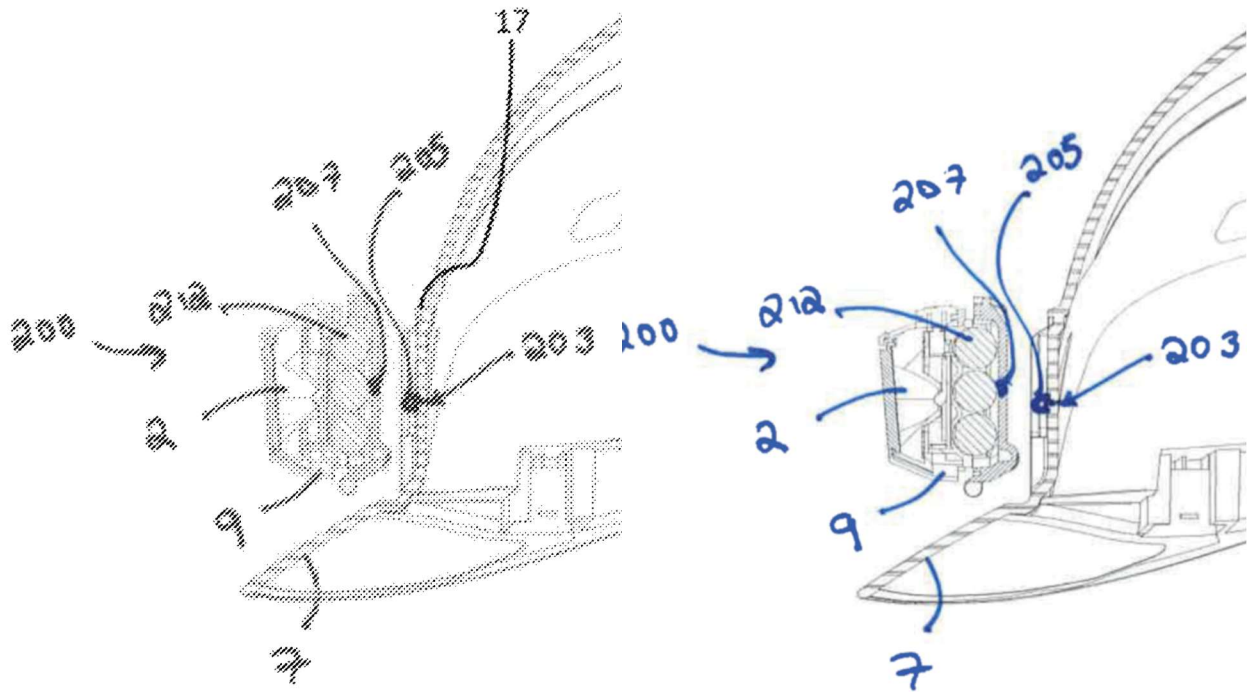
238. Mr. Hill opined that support for added subject matter contested by the Examiner could be found in the drawings of the '935 Application. Mr. Hill states that “In my opinion, the front/rear tapered receiver (11), and the protruding nub (17), are each a feature that is formed by, unitary with, and/or 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.” Ex-1004 at 43-44.

239. In my opinion, Mr. Hill’s reliance on Fig. 8 of the ’935 Application is misplaced. Fig. 8 was added to the ’935 Application on October 21, 2021, and is similar to Fig. 5 of the ’491 Provisional with one notable difference, the lead line and reference numeral 17 were added in 2021. Ex-1004, 45, 159; Ex-1006, 11.

240. Therefore, it is my opinion that Mr. Hill erroneously relied on materials that were added in 2021 in order to support his opinion. It is my understanding that, for a priority date of January 26, 2019, Mr. Hill should have relied only on the contents of the Priority Applications as-filed, which is what would have been available to a POSA at the time the ’935 Application was filed. For the January 26, 2018 priority date, it my understanding that Mr. Hill should have relied on only the contents of the ’472 Provisional, which is what would have been available to a POSA at the time the ’472 Provisional was filed.

241. The version of Fig. 8 used by Mr. Hill is reproduced below along with Fig. 5 of the ’491 Provisional. As seen below, Fig. 5 from the ’491 Provisional did not include the lead line or reference numeral 17.



'935 Application, Fig. 8 (Excerpt)

'491 Provisional, Fig. 5 (Excerpt)

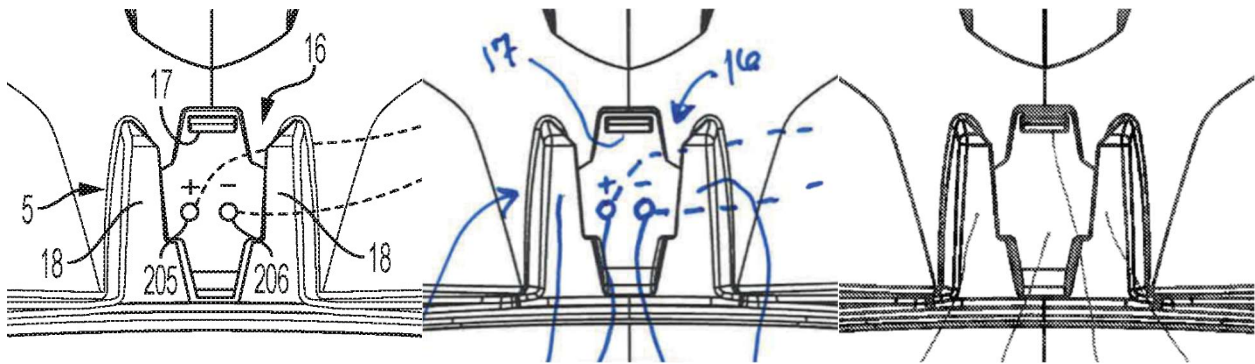
242. In my opinion, the characteristics of the feature indicated by the new numeral 17 are unclear. However, it is my opinion Fig. 5 does not indicate that the feature would not engage with a clip of, or otherwise interact with, the headlamp device 200 while the headlamp device is mounted. Therefore, in my opinion, this feature is not illustrating the protruding nub (or the claimed stop or protruding member).

243. Additionally, it is unclear whether the uniform cross-hatching for the helmet shell extends to the newly indicated feature, and therefore, in my opinion, a POSA would not understand that the feature is integrally molded of a common material based on that figure.

244. The protruding nub 17 is only shown and labeled in Fig. 3 of the '935 Application as-filed. Ex-1007, 16.

245. Fig. 3 of the '935 Application corresponds to Fig. 3 of the '491 Provisional (Ex-1006, 10) and to Fig. 5 of the '472 Provisional (Ex-1007, 14).

Each of these figures is reproduced in relevant part below:



'935 App., Fig. 3 (Exc.)    '491 Prov., Fig. 3 (Exc.)    '472 Prov., Fig. 5 (Exc.)

246. The rectangular feature indicated by numeral 17 does not include the fillets referenced by Mr. Hill. Moreover, in my opinion, the line drawing is insufficient for a POSA to have understand that the rectangular feature protrudes from the outer shell of the helmet, as opposed to being a detent.

247. In my opinion, the line drawing of the protruding nub 17 is insufficient for a POSA to have understood that the protruding nub 17 is integrally molded with, or formed from, the outer shell or that it is of a same material as the outer shell.

248. In my opinion, the written portion of the Priority Applications as-filed is also insufficient for a POSA to have understand that the protruding nub 17 is integrally molded with, or formed from, the outer shell or that it is of a same material as the outer shell.

249. Mr. Hill also stated that his conclusion 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” is “based on an observation of the photos illustrated in Figures 12 and 13 of the ’935 Application,” stating that his opinion is partially based on the material color. Ex-1004, 45-46.

250. Figures 12 and 13 of the ’935 Application do not show the protruding nub, as well as failing to show other portions of the receivers. Additionally, Figures 12 and 13 are black and white photographs that do not show the material color. This can be seen in Ex-1005, pages 15-16, which show the photographs that were added into the ’935 Application. Therefore, a POSA would not have been able to rely on material color as Mr. Hill did.

251. For these reasons, it is my opinion that Mr. Hill’s declaration is flawed and that the Priority Applications as-filed are not sufficient to allow a POSA to make the protruding nub 17 (or a stop or protruding member) integrally

molded with, or formed from, the outer shell or with a same (*i.e.*, common) material as the outer shell.

252. It is my understanding that, due to the Priority Applications as-filed being insufficient to allow a POSA to have understood that the inventors were in possession of the claimed protruding nub as of the dates that any of the Priority Applications were filed, the priority date for the '265 Patent is the date on which the new matter was added as I describe in Section XIII. Therefore, I understand that due to the inclusion of new matter on October 21, 2021, the priority date for the Challenged Claims may be no earlier than October 21, 2021.

## **2. Claim 1**

253. In my opinion, the Klein News Release discloses all elements of claim 1.

### **a. Element 1[pre]**

254. As I noted in Section XV.C.2.a, I have looked at the specification of the '265 Patent, and noted that outside of the claim language, there is no mention of a “safety helmet system.” Given there are no further details in the specification, I understand the system of 1[pre] to refer to a safety helmet along with an accessory device, which the Klein News Release discloses.

255. The Klein News Release shows and describes ten different models of hard hat, Ex-1010 at 1, with “hard hat” being interchangeable with the safety

helmets of the '265 Patent. For example, Ex-1001, column 1 lines 14-17, recite that “The present disclosure relates to ... safety helmets ...[,] also referred to as hard hats.”. Additionally, as I note in Section V, “hard hat” is a term commonly used to refer to safety helmets. The Klein News Release also shows and describes “Convenient accessories and replacement parts offer customization for added versatility.” Ex-1010 at 1.

256. Therefore, in my opinion, the Klein News Release discloses a safety helmet system that includes a safety helmet and an accessory device, which I will explain in further detail below.



Ex-1010, Image 1

257. I pause here to note that the original Klein News Release images are color images. In some of the following images I have annotated the color images with reference lines and colored textboxes.

**b. Element 1[a]**

258. The Klein New Release shows and describes ten different models of hard hat. Ex-1010, 1. Thus in my opinion, Klein News Release discloses a safety helmet.

**c. Elements 1[b]**

259. The Klein News Release discloses molded hard hats with various brims, including “Cap Style” and “Full Brim” hats, and indicates the hard hats are designed for electricians, line workers, and other professionals. Ex-1010 at 2. It also indicates that the hard hats include shells, which can be white or orange in color. Ex-1010 at 2. Additionally, the Klein News Release discloses that each hat has been “[t]ested for reverse donning to safely wear frontwards or backwards.” Ex-1010 at 1.

260. In my opinion, based on the disclosures of the Klein News Release, a POSA would appreciate that each of the hard hat shells are molded. In my opinion, a POSA would further appreciate that the outer shells have exterior surfaces with front and back ends, with a brim extending at least from the front side.



Ex-1010, Image 3 (Excerpt)

261. Accordingly, it is my opinion that the Klein News Release discloses a molded outer shell (*e.g.*, a white shell) adapted to be worn by a user (*e.g.*, an electrician), the outer shell having an exterior surface defining a front side, a rear side, and a brim extending forward from the front side.

**d. Element 1[c]**

262. First, as I mentioned in Section XV.C.2.d, I have reviewed the specification of the '265 Patent and have not found any explanation or support for the front receptacle including “a first pair of external slots” as opposed to a single slot. Nor have I found any explanation or support for the stop being disposed between the first pair of external slots. Refer back to Section XV.B, where I have discussed these issues in detail. Moreover, according to the Klein News Release,

these mounts implement patent-pending technology for holding headlamps without straps or zip-ties. Ex-1010 at 1.



Ex-1010, Image 1 (Excerpt)

263. Accordingly, it is my opinion that it would be apparent to a POSA reviewing the Klein News Release’s images and description, that the Klein News Release discloses the claimed front receptacle having a first pair of external slots and a stop, wherein each of the first pair of external slots extends upwardly along the front side of the outer shell and is disposed between the first pair of external slots, and wherein the stop is integrally molded with the exterior surface of the outer shell.

**e. Element 1[d]**



Ex-1010, Image 2 (Excerpt)

264. First, I have reviewed the specification of the '265 Patent and have not found any explanation or support for the rear receptacle including “a second pair of external slots” as opposed to a single slot, which I have discussed in detail in Section XV.B. Moreover, the rear receptacle is mere duplication of parts as described in Section XI. In my opinion, the result of adding a rear receptacle that is of identical construction as the front receptacle is both predictable and an expected outcome. A POSA would expect that when they duplicate the front receptacle on the rear of a helmet the result is a helmet that is capable of mounting accessories in two places, which is neither surprising nor unexpected. Additionally, it would be apparent to a POSA reviewing the Klein News Release, such as the

images reproduced in this declaration, that the Klein News Release discloses a rear receptacle disposed on the rear side on the exterior surface of the outer shell, the rear receptacle having a second pair of external slots.

**f. Element 1[e]**

265. In my opinion, the Klein News Release discloses such accessory devices. Ex-1010 at Image 1. The Klein News Release further discloses that “[p]atent-pending accessory mounts on front and back securely hold [headlamps] without using straps or zip ties.” Ex-1010 at 1.



Ex-1010, Image 1



Ex-1010, Image 3 (Excerpt)

266. Thus, in my opinion, as would be apparent to a POSA reviewing the Klein News Release (*e.g.*, the images and description), the Klein News Release discloses the claimed accessory device (*e.g.*, the Hardhat Headlamp (Cat. No. KHH56220)), which is an accessory device have a mating receptacle formed thereon, at least a portion of the mating receptacle being selectively engageable with 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.

**g. Element 1[f]**

267. First, I have reviewed the specification of the '265 Patent and have not found any explanation or support for each of the first pair of external slots

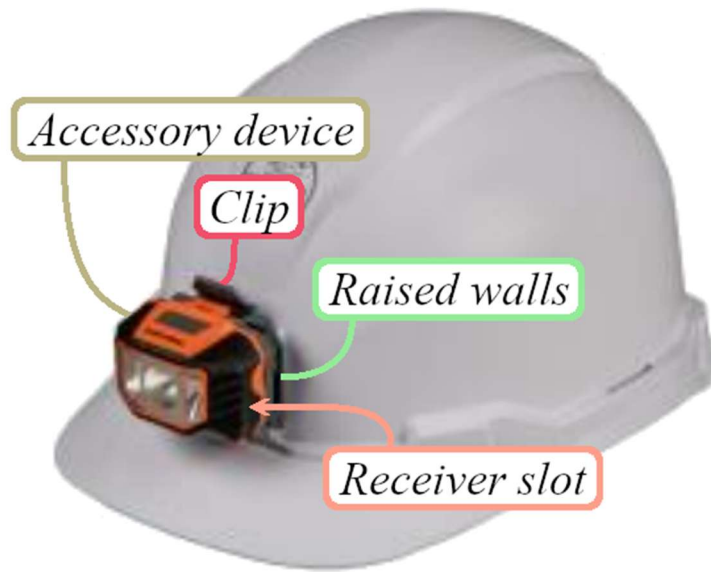
being a receiver slot, which I have discussed in detail in Section XV.B. Moreover, in my opinion, the Klein News Release discloses hard hats with the receptacles recited in element 1[f]. Ex-1010 at Image 1.



Ex-1010, Image 1 (Excerpt)

268. In my opinion it would have been apparent to a POSA that the Klein News Release discloses that each of the first pair of external slots of the front receptacle is a receiver slot flanked by raised walls with a stop comprising a protruding member.

**h. Element 1[g]**



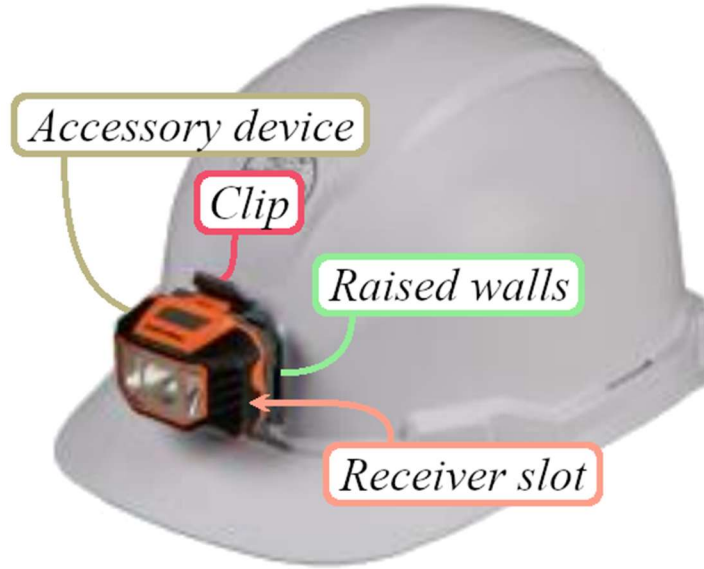
Ex-1010, Image 3 (Excerpt)

269. In my opinion it would have been apparent to a POSA that the Klein News Release discloses the claimed accessory device that includes a clip.

**i. Element 1[h]**



Ex-1010, Image 1 (Excerpt)



Ex-1010, Image 3 (Excerpt)

270. In my opinion it would have been apparent to a POSA that the Klein News Release discloses the receiver slot aligns the accessory device therein, the raised walls retain the accessory device therebetween, and the protruding member engages the clip to releasably mount the accessory device in the front receptacle.

### 3. Claim 2

271. Claim 2 depends from claim 1, which is disclosed by the Klein Press Release as I discuss in Section XV.F.2. In my opinion, based on the disclosures of the Klein News Release, a POSA would appreciate that each of the hard hat shells are molded from a common (e.g., plastic) material. Accordingly, in my opinion, the Klein News Release discloses that the outer shell, the front receptacle, and the rear receptacle are formed from a common material.

**4. Claim 3**

272. Claim 3 depends from claim 2, which is disclosed by the Klein News Release as I discuss in Section XV.F.3. The selection of plastic for the common material is obvious as I discuss in Section XV.C.4. Moreover, in my opinion, a POSA would understand from the images that the material is plastic. Accordingly, in my opinion, the Klein News Release discloses the common material being plastic.

**5. Claim 4**

273. Claim 4 depends from claim 1, which is disclosed by the Klein News Release as I discuss in Section XV.F.2. In my opinion, the second accessory device is mere duplication of parts, as I discuss above in Section XV.X.9.c. Moreover, the Klein News Release discloses this claim element. The Klein News Release discloses that “[p]atent-pending accessory mounts on front and back securely hold Hardhat Headlamp (Cat. No. KHH56220) or Rechargeable Auto-Off Headlamp (Cat. No. 56034) without using straps or zip ties.” Ex-1010, 1. Moreover, in my opinion, it would be apparent to a POSA reading this description and reviewing the Klein News Release’s images that the Klein News Release discloses a first accessory device (e.g., Hardhat Headlamp (Cat. No. KHH56220)) 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.

274. Additionally, as would be apparent to a POSA reviewing the Klein News Release, it discloses a second accessory device (e.g., Rechargeable Auto-Off Headlamp (Cat. No. 56034)) 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.

275. Accordingly, in my opinion, the Klein News Release discloses claim 4.

## **XVI. CONCLUDING STATEMENTS**

276. In my opinion, claims 1 to 4 are not supported because the claim terms “a stop...wherein the stop is integrally molded,” and “the outer shell, the front receptacle [which includes the stop], and the rear receptacle [also includes the stop] are formed from a common material” are not supported by the disclosure of the Priority Applications.

277. In my opinion, claims 1 to 4 are not supported because there is no written description support for the claim terms “first pair of external slots” and “second pair of external slots.”

278. In my opinion, claims 1 to 4 are obvious in view of Yan and Daley.

279. In my opinion, claims 1 to 4 are obvious in view of Yan, Daley, and Kiessler.

280. In my opinion, claims 1 to 4 are obvious in view of Yan and Nesbitt.

281. In my opinion, claims 1 to 4 are anticipated by the Klein News Release.

282. I hereby 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 Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the results of these proceedings.

Date: 9/25/2025

A handwritten signature in blue ink, appearing to read "Per Reinhall", is positioned above a horizontal line.

Per Reinhall, Ph.D.