

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SHENZHEN RONGLIDA TECHNOLOGY CO. LTD.,  
Petitioner,

v.

PATHWAY IP LLC,  
Patent Owner.

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IPR2025-01231  
Patent 7,841,729 B2

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Before BART A. GERSTENBLITH, FRANCES L. IPPOLITO, and  
MARY C. HOFFMAN, *Administrative Patent Judges*.

HOFFMAN, *Administrative Patent Judge*.

DECISION  
Granting Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

Shenzhen Ronglida Technology Co. Ltd. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–13 of U.S. Patent No. 7,841,729 B2 (Ex. 1001, “the ’729 patent”). Pathway IP LLC (“Patent Owner”) filed a Preliminary Response (Paper 7, “Prelim. Resp.”). With our authorization (Paper 8), Petitioner filed a Reply (Paper 9, “Prelim. Reply”) addressing the real parties in interest issue raised by Patent Owner (Prelim. Resp. 3–10).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Based on the current record and for the reasons explained below, Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one of the challenged claims of the ’729 patent. Thus, we institute this *inter partes* review.

We provide the following preliminary findings of fact and conclusions of law for the sole purpose of explaining our reasons for instituting this *inter partes* review. Any final determinations shall be based on the full trial record.

### A. REAL PARTIES IN INTEREST

Petitioner identifies itself, Shenzhen Ronglida Technology Co. Ltd. d/b/a ShutterLight, as the real party in interest. Pet. 52; Reply 3. Patent Owner identifies itself, Pathway IP LLC, as the real party in interest. Prelim. Resp. 1.

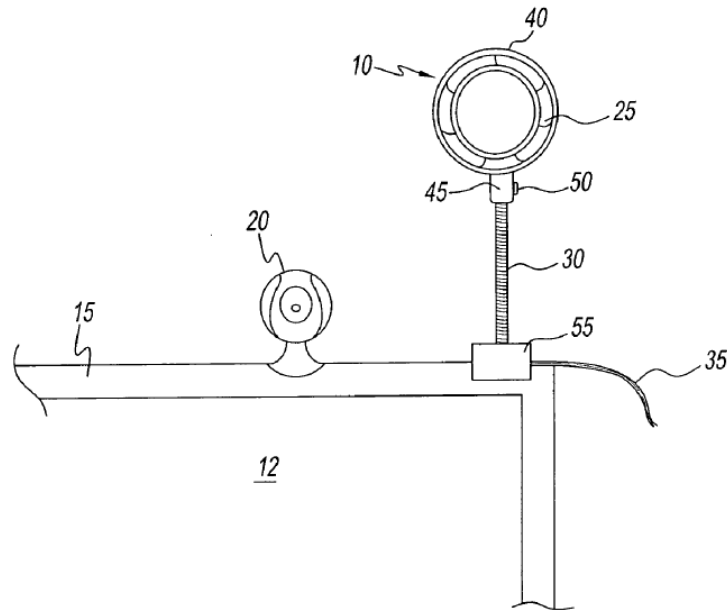
B. RELATED PROCEEDINGS

The parties identify that the '729 patent is involved in *Ex Parte* Reexamination Control No. 90/019,924 and *Pathway IP LLC v. The Individuals, Corporations, Limited Liability Companies, Partnerships, and Unincorporated Associations Identified on Schedule A to the Complaint*, No. 1:24-cv-05218 (N.D. Ill.) (“the '5218 litigation”). Pet. 52; Prelim. Resp. 1–2. Patent Owner also advises that it has asserted infringement of the '729 patent in the following pending litigation: *Pathway IP LLC v. Luxsure-US et al.*, No. 1:2024-cv-11651 (N.D. Ill.). Prelim. Resp. 1.

II. BACKGROUND

A. THE '729 PATENT (EX. 1001)

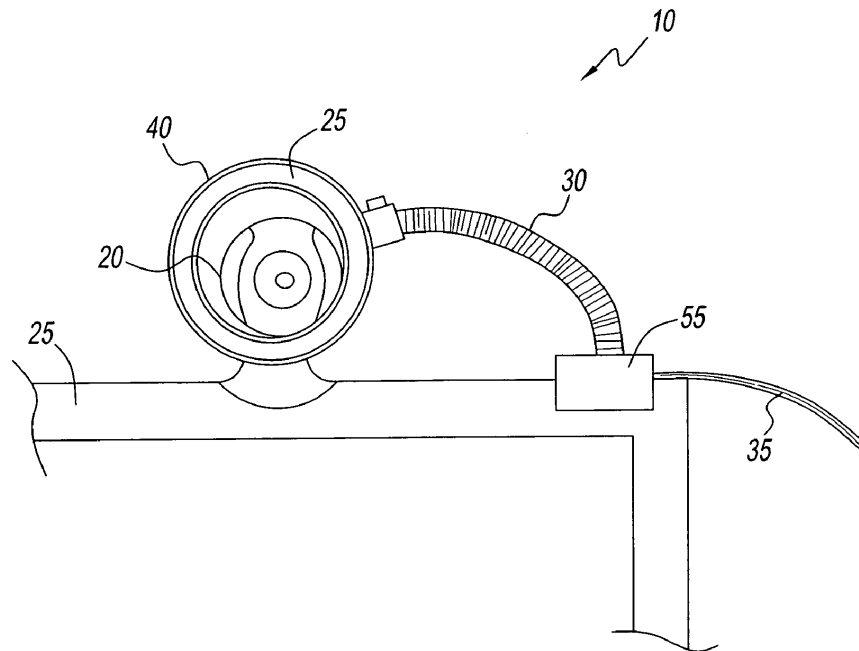
The '729 patent “relates to an illuminator device for a web camera (hereinafter ‘webcam’) that illuminates the face of the person who is viewed using a webcam.” Ex. 1001, 1:10–13. The embodiments seek to provide “proper lighting for users that are viewed through a webcam to ensure that they appear aesthetically pleasing.” *Id.* at 1:34–36. Figure 1, reproduced below, illustrates a webcam illuminator and a webcam. *Id.* at 2:20–21, 39–44.



*Fig. 1*

Figure 1 above illustrates webcam illuminator 10 equipped with flexible arm 30 and clamp 55 to connect the illuminator to frame 15 of screen 12 of a computer. Ex. 1001, 2:39–63. The illuminator includes base 45, which receives toroidal bulb 25 for illumination of a user. *Id.* Reflector 40 surrounds or encases the bulb and reflects light onto the user's face. *Id.* Switch 50 activates the bulb, and power cord 35 is optionally included. *Id.*

Figure 2, reproduced below, shows the illuminator proximate the webcam. Ex. 1001, 2:22–23.



*Fig. 2*

Figure 2 above illustrates the illuminator in use in a position in front of the webcam. Ex. 1001, 2:64–3:14. By surrounding the webcam, the direct light from the bulb and the reflected light from the bulb illuminate the face with diffuse light. *Id.* The Specification explains that diffuse light is the most flattering light to view a person’s face because it prevents shadows from being cast on a user’s face. *Id.*

#### B. CHALLENGED CLAIMS

The Petition challenges claims 1–13 of the ’729 patent. Pet. 1. Claims 1 and 10 are independent claims. Ex. 1001, 5:9–6:26.

Claim 1 of the ’729 patent is illustrative and reads as follows<sup>1</sup>:

1. [1pre] An illuminator device for illuminating one or more users in front of a web camera and a communication terminal comprising:

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<sup>1</sup> For ease of reference, we include bracketed designations for the preamble recitation and limitations of independent claims 1 and 10.

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[1a] a bulb having a toroidal shape for emitting light;

[1b] a reflector having a circular configuration to conform to the toroidal shape of said bulb for projecting the emitted light; and

[1c] an arm disposed between said bulb and the terminal for connection to the terminal, wherein said bulb is positionable relative to the web camera to provide optimal viewing of the user through the web camera.

Ex. 1001, 5:9–17.

Independent claim 10 also recites an illumination device and reads as follows:

10. [10pre] An illuminator device for illuminating one or more users in front of a web camera and a communications terminal having a frame and a screen comprising:

[10a] a plurality of bulbs, wherein said plurality of bulbs are disposed in the frame of the terminal and one of said plurality of bulbs surrounds the web camera.

Ex. 1001, 6:12–17.

#### C. ASSERTED GROUNDS OF UNPATENTABILITY

The Petition advances nine grounds, as summarized in the table below (Pet. 2):

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1A	1–6	103(a) <sup>2</sup>	Naghi, <sup>3</sup> Dine, <sup>4</sup>
1B	7	103(a)	Naghi, Dine, Cheng <sup>5</sup>
1C	8, 9	103(a)	Naghi, Dine, Cook <sup>6</sup>
2A	1–7	103(a)	Nelson, <sup>7</sup> Luo <sup>8</sup>
2B	8, 9	103(a)	Nelson, Luo, Cook
3A	1–4, 7	103(a)	Cheng, Masayuki <sup>9</sup>
3B	5, 6	103(a)	Cheng, Masayuki, Nelson
3C	8, 9	103(a)	Cheng, Masayuki, Cook
4A <sup>10</sup>	10–13	103(a)	Du Breuil, <sup>11</sup> Dine

<sup>2</sup> 35 U.S.C. § 103 (2006), *amended* by Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29 § 103, sec. (n)(1), 125 Stat. 284, 287, 293 (2011) (effective Mar. 16, 2013). The pre-AIA version of § 103 applies because the application from which the ’729 patent issued was filed before March 16, 2013, the effective date of the AIA amendments. *See* Ex. 1001, code (22); Pet. 2.

<sup>3</sup> Naghi et al., US 6,799,861 B2, issued Oct. 5, 2004. Ex. 1008 (“Naghi”).

<sup>4</sup> Dine et al., US 2,682,603, issued June 29, 1954. Ex. 1006 (“Dine”).

<sup>5</sup> Cheng, US 2007/0046626 A1, published Mar. 1, 2007, and filed Dec. 28, 2005. Ex. 1005 (“Cheng”).

<sup>6</sup> Cook, US 2006/0007666 A1, published Jan. 12, 2006. Ex. 1007 (“Cook”).

<sup>7</sup> Nelson et al., US 2007/0115672 A1, published May 24, 2007, and filed Nov. 23, 2005. Ex. 1014 (“Nelson”).

<sup>8</sup> Luo, CN 2235130 Y, issued Sept. 11, 1996. Exs. 1012 (original document), 1013 (English-language translation) (“Luo”).

<sup>9</sup> Masayuki, JP 11-66930, published Mar. 9, 1999. Exs. 1009 (original document), 1010 (English-language translation) (“Masayuki”).

<sup>10</sup> For Ground 4A, Petitioner states that claims 10–13 are obvious over “Du Breuil . . . Either Alone or in Combination with Dine.” Pet. 46.

<sup>11</sup> Du Breuil, US 2007/0139515 A1, published Jun. 21, 2007, and filed Dec. 21, 2005. Ex. 1015 (“Du Breuil”).

In support of its arguments, Petitioner relies on a Declaration of Dr. P. Morgan Pattison. Ex. 1017. Patent Owner relies on Declarations of Dr. Eric Bretschneider (Ex. 2036) and Allen Justin Poplin, Esq. (Ex. 2028).

### III. ANALYSIS: REAL PARTIES IN INTEREST

Patent Owner argues the Petition fails to identify all real parties in interest (“RPI”). Prelim. Resp. 3–10. Specifically, Patent Owner argues that Petitioner’s twelve codefendants in the related ’5218 litigation (“the Newer Codefendants”), Shenzhen Neewer Technology Co., and Shenzhen Xing Ying Da Industry Co. are unnamed real parties in interest. *Id.* at 7.

A petition for *inter partes* review may be considered only if the petition identifies all real parties in interest. 35 U.S.C. § 312(a)(2). Whether an unnamed party is a real party in interest “is a highly fact-dependent question.” *See Applications in Internet Time, LLC v. RPX Corp.*, 897 F.3d 1336, 1351, 1360 (Fed. Cir. 2018) (“*AIT*”); *Ventex Co., Ltd. v. Columbia Sportswear N. Am., Inc.*, IPR2017-00651, Paper 152 at 4–5 (PTAB Jan. 24, 2019) (precedential) (citing *Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1242 (Fed. Cir. 2018)); Consolidated Trial Practice Guide, 13 (2019), <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf> (CTPG). “A common consideration is whether the non-party exercised or could have exercised control over a party’s participation in a proceeding.” CTPG at 16. Other considerations include whether the non-party is funding or directing the proceeding; the non-party’s relationship with the petitioner; the non-party’s relationship to the petition itself, including the nature and/or degree of involvement in the filing; and the nature of the entity filing the petition. *Id.* at 17–18.

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Petitioner's identification of the real party in interest is accepted unless and until Patent Owner produces some evidence to support its argument that a particular third party should have been named as a real party in interest. *Worlds Inc.*, 903 F.3d at 1242.

Here, Patent Owner presents evidence that the same law firm represents Petitioner and the Neewer Codefendants in the '5218 litigation and that Petitioner and the Neewer Codefendants file joint briefing in that proceeding. Exs. 2003, 2007. However, this evidence alone does not establish RPI status. CTPG at 17 (a party in a joint defense group does not become an RPI based solely on its participation in that group); *see also Denso Corp. v. Beacon Navigation GmbH*, IPR2013-00026, Paper 34 at 10–11 (PTAB Mar. 14, 2014) (the mere fact that parties are co-defendants or concurrent defendants in related litigation does not make them RPI).

Patent Owner also presents evidence that Petitioner and the Neewer Codefendants, as well as Shenzhen Neewer Technology Co., sell the same NEEWER-branded product. Exs. 2002, 2029. As Petitioner correctly points out, however, evidence of a shared supply chain does not establish RPI status. Reply 2 (citing *Toshiba Memory Corp. v. Anza Tech., Inc.*, IPR2018-01597, Paper 56 at 15 (PTAB Mar. 12, 2020)). Furthermore, there is insufficient evidence that the relationship between Petitioner and the alleged supplier(s) of the NEEWER-branded product (iphotoxx, Lixinshunyl, Photo Guard, RUIHOTOR, ShiQiaoShang, QiHuichang, and/or Shenzhen Neewer Technology Co.) is anything more than a standard customer-supplier relationship. Prelim. Resp. 5–6; *see Samsung Elecs. Co. v. SEVEN Networks, LLC*, IPR2018-01108, Paper 31 at 11 (PTAB Nov. 28, 2018) (“[T]he customer-supplier relationship between [two parties] does not make [one of the parties] an RPI.”). To establish something more than a standard

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commercial relationship, Patent Owner points to an agreement (produced in the '5218 litigation) between authorized seller Shenzhen BaiNaChuan Technology CO LTD (a Neewer Codefendant) and Shenzhen Neewer Technology Co., *combined with Petitioner's lack of a similar agreement*. Prelim Resp. 5–6 (citing Exs. 2006, 2007). Patent Owner does not, however, explain why the *absence* of an authorized seller agreement including Petitioner is evidence of RPI status. *See* Prelim. Resp. 5–6. Without more, the fact that Petitioner did not produce evidence of a seller agreement or the like in the related litigation is not sufficient to demonstrate that Petitioner has something more than a customer-supplier relationship with its supplier.

Patent Owner presents evidence of other ties (e.g., trademark registrations, patent assignments, and litigation filings) between some Neewer Codefendants, Shenzhen Neewer Technology Co., and Shenzhen Xing Ying Da Industry Co. Exs. 2005, 2008–2027, 2029. This evidence does not appear to implicate *Petitioner*, and Patent Owner does not argue that this evidence supports, nor do we find that it supports, any ties sufficient to establish RPI status between Petitioner and a non-party.

Lastly, Patent Owner presents evidence that Petitioner's sales are substantially less than that of the other Neewer Codefendants and further argues that the sales are less than the USPTO's filing fees for this proceeding. Prelim Resp. 7 (citing Ex. 2028 ¶ 2). Aside from sheer speculation that this proceeding is for the benefit of others and against Petitioner's own financial interests, there is nothing in the current record indicating that another party is controlling, funding, or directing this proceeding or is otherwise involved in the filing of this Petition.

Notably, Patent Owner did not request authorization to file a motion for discovery nor request a preliminary sur-reply on the RPI issue in this

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case. If Patent Owner sought additional discovery or further briefing, it was incumbent on Patent Owner to make a request. Instead, Patent Owner attempts to place the impetus on the Board to, in effect, pursue its own requests for document production from Petitioner, by asserting at the end of the Preliminary Response's discussion of RPI that the Board should require certain documentation from Petitioner. That is not the mechanism for requesting additional discovery. *See* 37 C.F.R. § 42.51(b)(2) (putting the burden for requesting additional discovery on the requesting party). Accordingly, based on this record, we determine that Patent Owner's evidence is insufficient, and its arguments are speculative as to whether Petitioner should have named additional RPIs. Therefore, we accept Petitioner's initial real party in interest identification, which does not include the Neewer Codefendants, Shenzhen Neewer Technology Co., or Shenzhen Xing Ying Da Industry Co.<sup>12</sup> The parties may further develop the record after institution.

#### IV. ANALYSIS: ASSERTED GROUNDS

##### A. LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the art at the time of the invention is a factual determination that provides a primary guarantee of objectivity in an obviousness analysis. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 1324 (Fed. Cir. 1999) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991)). The “person having ordinary skill in the art” is a hypothetical construct,

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<sup>12</sup> We note for completeness that Patent Owner does not assert that the Petition would be time-barred pursuant to 35 U.S.C. § 315(b) if any of the alleged RPIs were so named.

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from whose vantage point obviousness is assessed. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998).

Petitioner contends that, at the time of filing of the '729 patent, a person of ordinary skill in the art (“POSITA”) “would have at least a bachelor’s degree in electrical engineering or a related field and at least two years of experience with lighting technology.” Pet. 2 (citing Ex. 1017 ¶ 35). Petitioner makes additional contentions about what a POSITA would have understood. *Id.* (“A POSITA would understand that all types of cameras (*e.g.*, analog and digital, photo and video) generally involve the same lighting considerations . . . . [and] that it is important to provide light that evenly illuminates the target subject or object to minimize reflected glare and shadows.”).

Patent Owner contends that a POSITA

would have at least: (a) a bachelor’s degree in electrical engineering, optical engineering, or a related field; (b) two years of practical experience in designing and developing lighting systems, particularly those integrated with electronic devices such as webcams or computer monitors; and (c) knowledge of user-interface considerations for consumer electronics . . . . Additional experience can substitute for education and vice versa.

Prelim. Resp. 12 (citing Ex. 2036 ¶ 48). Patent Owner disputes Petitioner’s contentions regarding what a POSITA would have understood. Prelim. Resp. 12–13 (“[O]ne of ordinary skill in the art would have understood that analog and digital cameras have different operating principles and lighting requirements [and] Petitioner’s lack of appreciation for the suitability and unsuitability of different lights for different applications infects and dooms its invalidity analysis.” (citing Ex. 2036 ¶¶ 36–47)).

The parties are in general agreement as to the educational background and years of experience required for a POSITA. Pet. 2; Prelim. Resp. 12. For purposes of this Decision, we consider a person of ordinary skill in the art to have a bachelor's degree in electrical engineering or related field and two years of practical experience in lighting technology, and that additional experience may substitute for education and vice versa, which is consistent with the level of skill reflected in the '729 patent and prior art of record. *See* Exs. 1001, 1005–1010, 1012–1015; *see also Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required “where the prior art itself reflects an appropriate level and need for testimony is not shown” (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985))).

Additionally, we need not delve into the parties' differing positions as to what a POSITA “would have understood” (Pet. 2; Prelim Resp. 12–13) here, because that issue is not necessary to resolve in order to understand the level of ordinary skill in the art. To the extent it impacts our Decision, we address what a POSITA would have understood in our merits analysis below.

#### B. CLAIM CONSTRUCTION

In an *inter partes* review, the Board generally construes the terms of a patent claim “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b); *see Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

Petitioner states that in the parallel district court litigation, the parties have proposed various claim terms for construction but the district court has not issued a claim construction order as of the filing date of the Petition.

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Pet. 14–15. Petitioner argues that the Board need not formally construe any claim terms in order to adjudicate the merits of the Petition because any differences between the parties’ proposed claim constructions are not material to the grounds of unpatentability asserted in the Petition. *Id.* at 14–16. Petitioner further argues that although it asserts that various terms are indefinite in the district court, there is no need for the Board to address that issue in order to apply the prior art cited in the Petition. *Id.* at 16–17.

Patent Owner agrees that the Board need not formally construe any claim terms in order to adjudicate the merits of the Petition and argues Petitioner fails to show unpatentability of any claim under any reasonable construction of the claims. Prelim. Resp. 13 (citing Ex. 2036 ¶ 51).

We determine that no express claim construction is necessary to determine whether institution is warranted in this proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (holding that only terms in controversy must be construed “and only to the extent necessary to resolve the controversy”) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

#### C. OVERVIEW OF ASSERTED PRIOR ART

##### *1. Naghi (Ex. 1008)*

Naghi relates to “portable lighting devices for illuminating objects.” Ex. 1008, 1:6–7. Figure 1, reproduced below, illustrates an embodiment of a reading light attached to a reading publication. *Id.* at 2:21–22.

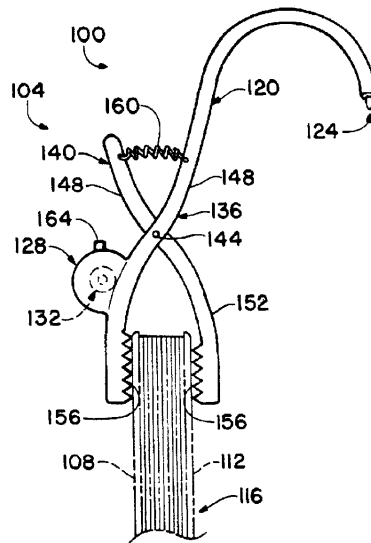


FIG. 1

Figure 1 above illustrates reading light 100, including mounting mechanism 104, with engagement teeth 156, for mounting the reading light to a reading support surface such as cover 108, one or more pages 112, and/or a spine of reading publication 116. Ex. 1008, 2:56–67, 3:66–4:15. The reading light further includes adjustable, bendable body portion 120 that terminates at one end at light source 124 for illuminating the pages of the reading publication. *Id.* at 2:56–67. The light source is oriented to a desired position by moving the adjustable, bendable body to a desired configuration. *Id.* at 4:18–20.

Figure 11, reproduced below, is a perspective view of a light similar to the reading light illustrated in Figure 1, but associated with a laptop computer. Ex. 1008, 7:18–37.

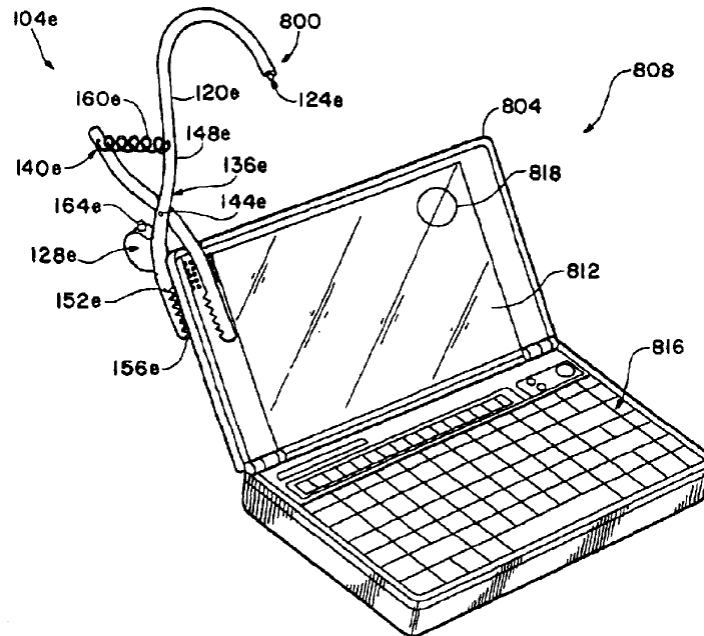


FIG. 11

Figure 11 above illustrates laptop or notebook light 800 (similar to reading light 100 in Figure 1) clipped to display frame 804 of laptop computer 808. Ex. 1008, 7:18–37. The laptop light may be used to illuminate objects associated with the laptop such as an object of digital camera 818. *Id.* For example, illuminating an object of the digital camera may include attaching the light to a support surface such as the display frame and illuminating the object of the camera with an LED (light-emitting diode) of the light. *Id.*

2. Nelson (Ex. 1014)

Nelson discloses an illuminating book light. Ex. 1014, code (54). Figure 1A, reproduced below, illustrates an illuminating device.

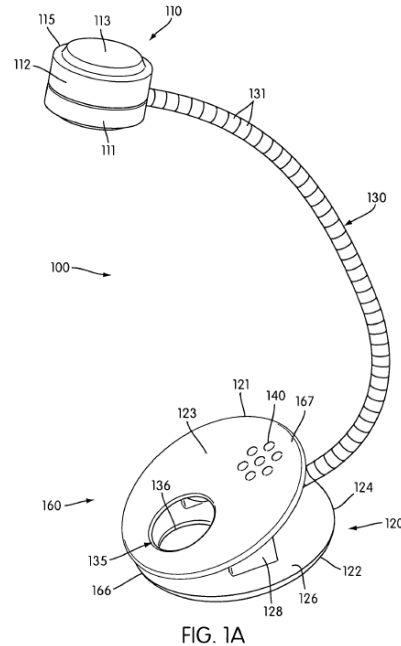


Figure 1A above illustrates illuminating device 100 including head 110, neck 130, and body 160. Ex. 1014 ¶ 19. The neck enables the head to be adjustably positioned relative to the body. *Id.* The head includes housing 115 that has a light source. *Id.* Clamp 120 has a clamped position and an open position and is capable of attaching, grasping, or securing itself to a number of structures, for example, laptop computers. *Id.* ¶¶ 32, 37.

### 3. Cheng (Ex. 1005)

Cheng is directed to a digital presenter which includes a camera and may be used to conduct a video conference. Ex. 1005 ¶ 2. Figure 1, reproduced below, illustrates an embodiment of a digital presenter. *Id.* ¶ 11.

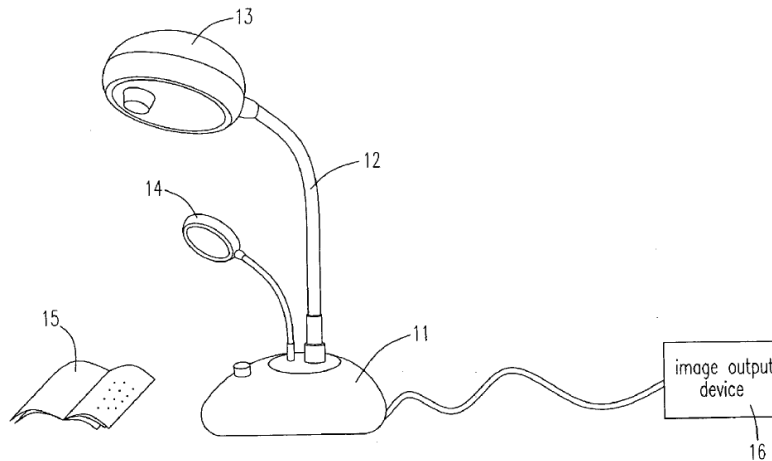
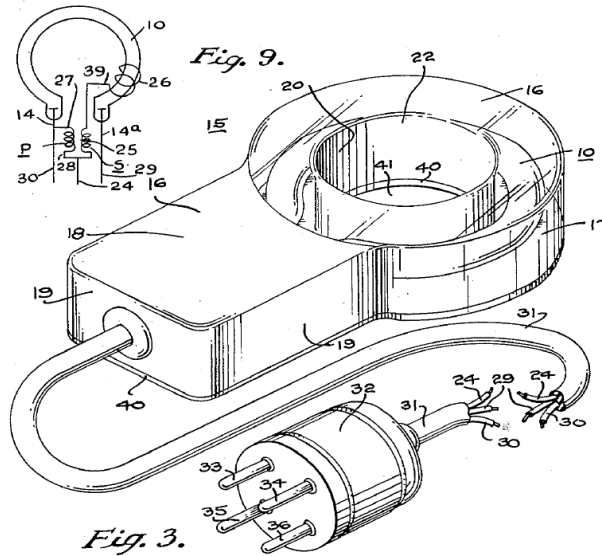


Figure 1 above illustrates a digital presenter having base 11, support arm 12, image acquiring device 13, displayed object 15, lamp 14, and image output device 16. Ex. 1005 ¶ 15. The support arm is a flexible support arm. *Id.* Image acquiring device 13 is a charge-coupled device (CCD) and displayed object 15 is a book, which is photographed by the image acquiring device. *Id.* The lamp is connected to the base and used to facilitate acquiring the image of the book. *Id.* The image output device may be a television, a projector, or a desktop computer monitor. *Id.* ¶ 20.

#### 4. Dine (Ex. 1006)

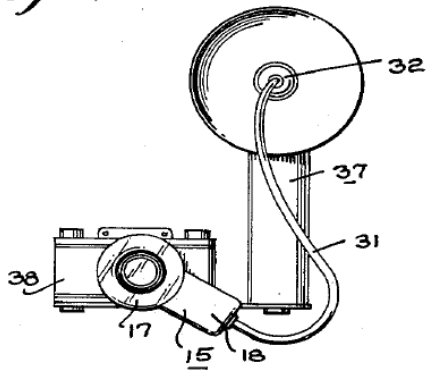
Dine discloses a portable photographic light unit, and more particularly, a gaseous-discharge flash-lamp unit. Ex. 1006, 1:1–7. Figures 3 and 9 are reproduced below.



Figures 3 and 9 above illustrate gaseous discharge tube 10, the main body portion of this tube being generally circular in form and housed within enclosure 15 having reflective coating 42. Ex. 1006, 2:3–35, 3:49–56. Walled circular part 17 is provided with annular member 20 to form an annular chamber for receiving the circular portion of the tube. *Id.*

Figures 1 and 2 are reproduced below.

*Fig. 1.*



*Fig. 2.*

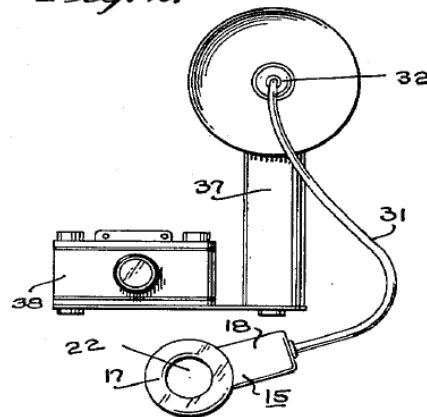


Figure 1 above shows the lighting unit's circular part concentrically about a camera lens to produce an intense flash of light uniformly

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illuminating a subject being photographed. Ex. 1006, 1:8–18. Figure 2 above shows the lighting unit removed from the lens. *Id.*

5. Luo (Exs. 1012, 1013<sup>13</sup>)

Luo discloses a shadowless flash. Ex. 1013, code (54). Figure 1 of Luo is reproduced below.

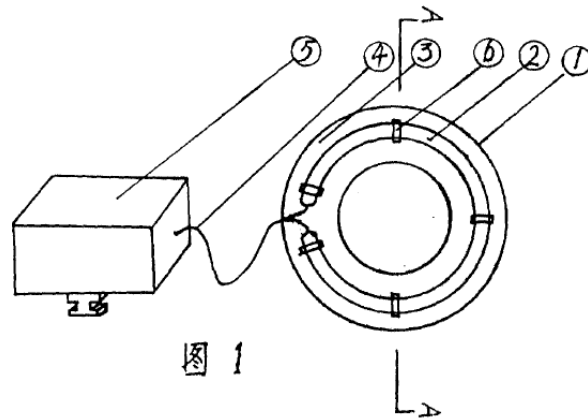


Figure 1 above illustrates ring flash housing 1 with toroidal lamp tube 2 and circular reflector 3. Ex. 1013, 3, 5. An axis of the ring flash may be aligned with an axis of a camera lens to produce more aesthetically pleasing photographs. *Id.* at 2.

6. Masayuki (Exs. 1009, 1010)

Masayuki discloses an illumination device to obtain ring-shaped uniform diffused illumination. Ex. 1010, 1. Figure 1, reproduced below, illustrates an illumination device.

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<sup>13</sup> Exhibit 1013 is a certified English translation of prior art reference Luo, Exhibit 1012. In this Decision, we cite to the English translations of prior art references.

Fig. 1

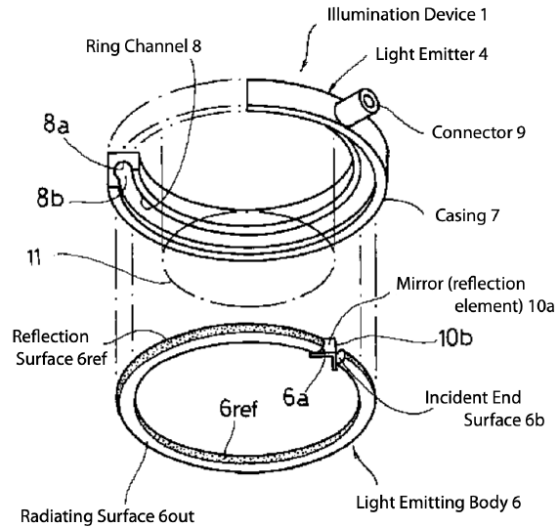


Figure 1 above illustrates illumination device 1, including casing 7 and light emitting body 6. Ex. 1010, 1. Light advancing through the light emitting body is directed from reflection surface  $6_{ref}$  formed at bottom section 8a of ring channel 8 toward radiating surface  $6_{out}$ . *Id.* at 1, 6, Fig. 4. The casing may be mounted around a camera lens. *Id.* at 7.

7. Cook (Ex. 1007)

Cook discloses a light modifier. Ex. 1007, code (54). Figure 4 is reproduced below.

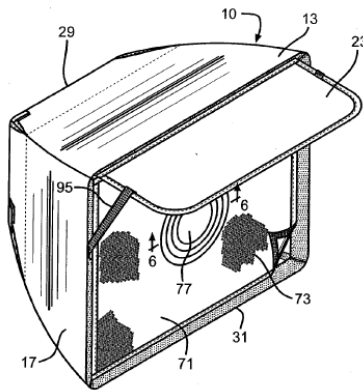


FIG. 4

Figure 4 above illustrates light modifier 10 with collapsible housing 13 that defines sidewall 17 made of a fabric material. Ex. 1007 ¶ 13. The

housing defines first end 29 and second end 31. *Id.* The first end is adapted to receive a light source. *Id.* ¶ 14. Panel 71 is removably secured to the second end and is formed of at least one layer of netting 73 having aperture 77 located essentially in the center of the panel. *Id.* ¶ 15. The layer of netting acts to diffuse or modify the light that it receives from the light source. *Id.*

#### 8. Du Breuil (Ex. 1015)

Du Breuil discloses lighting for video systems. Ex. 1015, code (54). Figure 2, reproduced below, illustrates a video telephone with a light source. *Id.* ¶ 4.

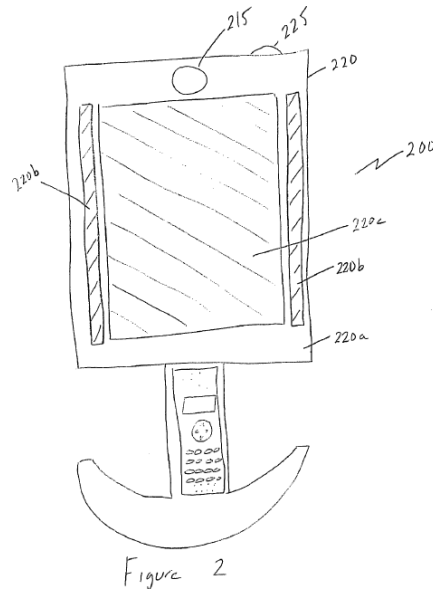


Figure 2 above illustrates camera 215 and screen assembly 220. Ex. 1015 ¶¶ 17, 18. The screen assembly includes housing 220a supporting light source(s) 220b and screen 220c. *Id.* Figure 1 below, illustrates a similar video telephone with a modified light source. *Id.* ¶¶ 14–16.

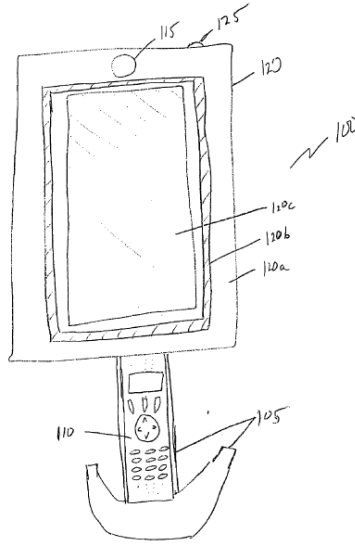


Figure 1

Figure 1 above illustrates camera 115 and screen assembly 120c. Ex. 1015 ¶¶ 14–16. Light source 120b circumscribes screen 120c as a contiguous element. *Id.* Figure 7, reproduced below, illustrates a video telephone with an alternative light source. *Id.* ¶ 9.

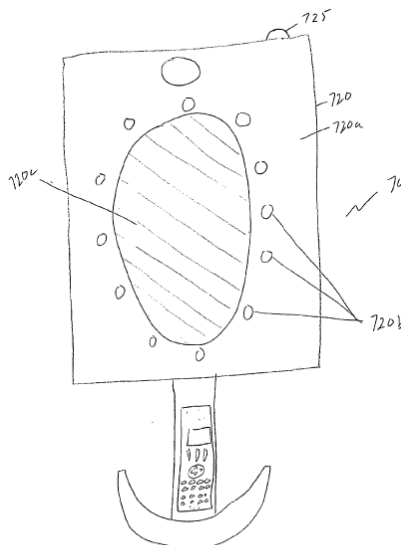


Figure 7

Figure 7 above illustrates smaller discrete light sources 720b in housing assembly 720a, the light sources being dispersed around screen 720c like the numbers on the face of a clock. Ex. 1015 ¶ 52.

D. GROUND 1A: OBVIOUS OVER NAGHI AND DINE

Under Ground 1A, Petitioner contends that claims 1–6 are unpatentable under § 103(a) as obvious over Naghi and Dine. Pet. 17–25.

*1. Legal Principles*

A claim is unpatentable under § 103(a) if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). When a ground in a petition is based on a combination of references, we consider “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). We base our obviousness inquiry on factual considerations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) any objective indicia of obviousness or non-obviousness that may be in evidence.<sup>14</sup> *See Graham*, 383 U.S. at 17–18.

We begin our analysis with independent claim 1. Considering these factors, we preliminarily determine that Petitioner has shown a reasonable likelihood of establishing that claim 1 is unpatentable as obvious over Naghi and Dine for the reasons explained below.

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<sup>14</sup> At this stage, neither party argues that there are objective indicia of obviousness or non-obviousness, so this factor is not part of our analysis. *See generally* Pet.; Prelim. Resp.

*2. Claim 1 Preamble*

Claim 1’s preamble recites “an illuminator device for illuminating one or more users in front of a web camera and a communication terminal comprising.” Ex. 1001, 5:9–11.

Petitioner identifies Naghi’s laptop light 800 for illuminating (via light source 124/124a-e) one or more users in front of camera 818 and laptop computer 808. Pet. 19 (citing Ex. 1008, 1:45–50, 7:24–25), 22. Currently, Patent Owner does not specifically contest Petitioner’s assertions regarding the preamble of claim 1. Prelim. Resp. 27–35.

At this stage, we need not decide whether the preamble is limiting because we are persuaded that Naghi teaches the preamble of claim 1, for the reasons given by Petitioner.

*3. Disputed Limitations 1a and 1b*

Limitation 1a recites “a bulb having a toroidal shape for emitting light.” Ex. 1001, 5:11. Limitation 1b recites “a reflector having a circular configuration to conform to the toroidal shape of said bulb for projecting the emitted light.” *Id.* at 5:12–13.

(a) Petitioner’s Contentions

Petitioner identifies Dine’s toroidal-shaped bulb 10 and conforming housing 17 with reflective coating 42. Pet. 19–20 (citing Ex. 1006, 2:8–9, 3:1–2, 2:28–34, 3:49–57, 4:43–46; Ex. 1017 ¶ 59).

Petitioner’s declarant, Dr. Pattison, explains that “a POSITA would have been motivated to modify Naghi’s portable lighting apparatus by incorporating Dine’s Toroidal bulb shape and conforming reflector . . . to optimize the laptop user’s on-camera appearance . . . without casting unflattering shadows.” Ex. 1017 ¶ 60–61 (citing Ex. 1006 1:16–18);

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Pet. 20–22; *see also id.* at 21 (discussing the “need to uniformly illuminate a webcam user’s face”). Dr. Pattison further explains a “toroidal shape light source or bulb provides for light being emitted from a larger area which thereby provides the opportunity for brighter, more uniform illumination of the object and for light to reach the object to be imaged at different angles and reflect from the object.” Ex. 1017 ¶ 61.

According to Dr. Pattison, toroidal-shaped lights (i.e., ring lights) “were well-known in the art to achieve uniform illumination” and combining Naghi with Dine’s bulb shape would have been “straightforward and predictable.” Ex. 1017 ¶ 64. Dr. Pattison also opines that “there is nothing challenging about integrating Dine’s circular reflector teaching into Naghi’s lighting system” and that such a modification “fall[s] well within the routine skill of a POSITA.” *Id.* ¶ 65; *see also id.* ¶¶ 43–44 (discussing the evolution of bulb shape and the use of reflectors with incandescent bulbs and LEDs).

#### (b) Patent Owner Arguments; Analysis

Patent Owner argues that a POSITA would not have been motivated to substitute Naghi’s LED with Dine’s toroidal bulb and reflector because 1) Naghi requires constant light, whereas Dine provides flashes of brilliant light, 2) Naghi uses an LED and dissuades the use of Dine’s high-powered, heat-emitting bulb, 3) Naghi already provides optimal uniform lighting, and 4) Naghi teaches a movable device whereas the advantages of Dine’s toroidal bulb and reflector depend on a fixed, concentric lens mounting. Prelim. Resp. 27–35. At this preliminary stage, we do not agree.

Patent Owner’s first and second arguments are generally directed to whether incorporating Dine’s flash-type bulb and reflector for Naghi’s LED would have been a simple substitution. In our view, Petitioner proposes to

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substitute Dine’s bulb *shape*, not bulb type. The fact that Dine produces high-powered, heat-emitting flashes of light instead of constant light is irrelevant, because the combination does not propose to eliminate Naghi’s LED, only change its shape. Thus, Patent Owner’s bodily incorporation arguments largely do not address the combination as proposed, i.e., modifying Naghi’s LED with Dine’s toroidal shape and reflector to improve illumination.

It is well accepted that “it is not necessary that a device shown in one reference [] be physically inserted into the device of the other. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (internal citations omitted); *see also In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983) (“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.”); *In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973) (“Combining the teachings of references does not involve an ability to combine their specific structures.”). Moreover, the artisan is not compelled to blindly follow the teaching of one prior art reference over the other without the exercise of independent judgment. *See Lear Siegler, Inc. v. Aeroquip Corp.*, 733 F.2d 881, 889 (Fed. Cir. 1984).

Naturally, some adaptation of Naghi’s LED would be required to form a toroidal-shaped bulb with a reflector. Patent Owner has not asserted that doing so would have required more than ordinary skill, aside from arguing that a POSITA “would not have understood that analog and digital cameras have different operating principles and lighting requirements.” Prelim Resp. 12–13 (citing Ex. 2036 ¶¶ 36–47). Petitioner’s declarant, however, gives credible testimony to the contrary, and preliminarily, we agree with

Petitioner that a POSITA would have understood that analog and digital cameras “generally involve the same lighting considerations.” Pet. 2 (citing Ex. 1017 ¶ 35); Ex. 1017 ¶¶ 38–44; *see also KSR*, 550 U.S. at 421 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”).

Regarding Patent Owner’s third argument (that Naghi indicates its LED already provides “optimal lighting”), this teaching does not prevent a POSITA from making improvements to Naghi’s LED like modifying its shape and adding a reflector. As discussed above, Dine teaches that a toroidal-shaped bulb offers an advantage, i.e., eliminating unflattering shadows by providing brighter, more uniform illumination.

Lastly, with respect to Patent Owner’s fourth argument (that Naghi’s device is not fixed to a lens whereas Dine’s bulb and reflector are fixed to a lens), we do not agree. Dine’s bulb and reflector are also movable and *may* (but are not required to) be concentrically mounted about the lens. Ex. 1006, Figs. 1, 2. Moreover, although Patent Owner argues that Naghi’s adjustable arm cannot maintain Dine’s concentric alignment (Prelim. Resp. 35), combining the teachings of references does not involve the ability to physically combine specific structures, as discussed above. Here, Naghi’s bulb may be positioned at, or at least towards, the lens due to its adjustable arm/body portion. Naghi’s device, *when modified as proposed*, would be similarly capable of being positioned concentrically about a lens as in Dine. As such, when modified, the Naghi-Dine device possesses the same advantages touted in Dine.

#### *4. Undisputed Limitation 1c*

At this stage, Patent Owner does not specifically contest Petitioner’s contentions regarding limitation 1c, which recites “an arm disposed between

said bulb and the terminal for connection to the terminal, wherein said bulb is positionable relative to the web camera to provide optimal viewing of the user through the web camera.” Ex. 1001, 5:14–17; Prelim. Resp. 27–35.

Petitioner identifies Naghi’s arm (bendable body portion 120) disposed between light source 124/124a-e and laptop computer 808, wherein the light source is positionable relative to camera 818 to provide optimal viewing of the user through the web camera. Pet. 22–23 (citing Ex. 1008, 4:18–20).

#### *5. Conclusion as to Claim 1*

For the above reasons, we determine that Petitioner has shown, sufficiently and persuasively at this stage, that the Naghi and Dine combination teaches or suggests all the limitations of claim 1. We, therefore, determine that Petitioner is reasonably likely to prevail in showing that claim 1 is unpatentable under § 103(a) as obvious over Naghi and Dine.

#### *6. Claims 2–6*

For claims 2–6, which depend (directly or indirectly) from claim 1, Petitioner advances arguments that map with particularity every claim limitation to teachings in Naghi and Dine. Pet. 23–25. At this stage in the proceeding, Patent Owner does not contest those arguments except to contend that the Naghi-Dine combination does not teach or suggest claim 1, which we addressed above. Prelim. Resp. 27–35, 43.

### V. OTHER GROUNDS

Because Petitioner has shown a reasonable likelihood of prevailing with respect to at least one claim, we institute on all claims and all grounds raised in the Petition. 37 C.F.R. § 42.108(a) (“When instituting . . . review, the Board will authorize the review to proceed on all of the challenged

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claims and on all grounds of unpatentability asserted for each claim.”); *see SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018).

However, we provide the following remarks regarding Ground 4A as guidance to the parties in an effort to promote a streamlined trial.

Petitioner advances arguments that map with particularity every limitation in claim 10 to disclosures in the asserted prior art (i.e., DeBreuil on its own and DeBreuil in combination with Dine). Pet. 46–50.

Patent Owner argues that it would not have been obvious to rearrange DeBreuil’s light element(s) from “below the camera” to a location such that a bulb “surrounds” the webcam, nor would there have been a reasonable expectation of success. Prelim. Resp. 39–41.

The parties may wish to explore the construction of the claim term “surrounds,” and whether the term is broad enough to encompass “is on one side of” or whether it is more limited to something such as “enclose on all sides,” or something else.

## VI. CONCLUSION

We determine that there is a reasonable likelihood that Petitioner would prevail with respect to at least one of the claims challenged in the Petition, and we institute *inter partes* review.

Any argument not raised in a Patent Owner Response to the Petition, or as permitted in another manner during trial, shall be deemed waived even if asserted in the Preliminary Response. In addition, nothing in this Decision authorizes Petitioner to supplement information advanced in the Petition in a manner not permitted by the Board’s Rules.

VII. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review of all challenged claims of the '729 patent is instituted on all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(a) and 37 C.F.R. § 42.4, notice is given of institution of trial commencing on the entry date of this Decision.

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