

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DORCO COMPANY, LTD.,
Petitioner,

v.

THE GILLETTE COMPANY, LLC,
Patent Owner.

Case IPR2017-00500
Patent 6,684,513 B1

Before BART A. GERSTENBLITH, ZHENYU YANG, and
ELIZABETH M. ROESEL, *Administrative Patent Judges*.

ROESEL, *Administrative Patent Judge*.

DECISION

Denying Institution of *Inter Partes* Review
35 U.S.C. § 325(d) and 37 C.F.R. § 42.108

Dorco Company, Ltd. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1, 2, 6, 8, 15–17, 19, 20, 23, 24, 28, 29, 31–34, 35, and 36–38 (“the challenged claims”) of U.S. Patent No. 6,684,513 B1 (Ex. 1001, “the ’513 patent”). Pet. 5. The Gillette Company, LLC (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). Based on the particular circumstances of this case, we exercise our discretion under 35 U.S.C. § 325(d) and 37 C.F.R. § 42.108 and do not institute an *inter partes* review of the challenged claims.

I. BACKGROUND

A. *Real Parties in Interest*

Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner identifies itself and Pace Shave, Inc. as real parties in interest. Pet. 3. Patent Owner identifies only itself as a real party in interest and states that it is a wholly-owned subsidiary of The Procter & Gamble Co. Paper 4, 1 (Patent Owner’s Mandatory Notices).

B. *Related Matters*

Pursuant to 37 C.F.R. § 42.8(b)(2), the parties identify the following judicial proceeding involving the ’513 patent: *The Gillette Company v. Dollar Shave Club, Inc.*, No. 15-1158 (D. Del.). Pet. 3; Paper 4, 1.

C. *The ’513 Patent (Ex. 1001)*

The ’513 patent relates to razors and razor blades. Ex. 1001, 1:3–4. The ’513 patent discloses a razor blade including a substrate with a cutting edge defined by a sharpened tip and adjacent facets, a layer of hard coating on the cutting edge, an overcoat layer of a chromium-containing material on the layer of hard carbon coating, and an outer layer of

polytetrafluoroethylene (“PTFE”) coating over the overcoat layer. *Id.* at [57], 1:32–37. An embodiment is shown in Figure 1, which is reproduced below:

FIG. 1

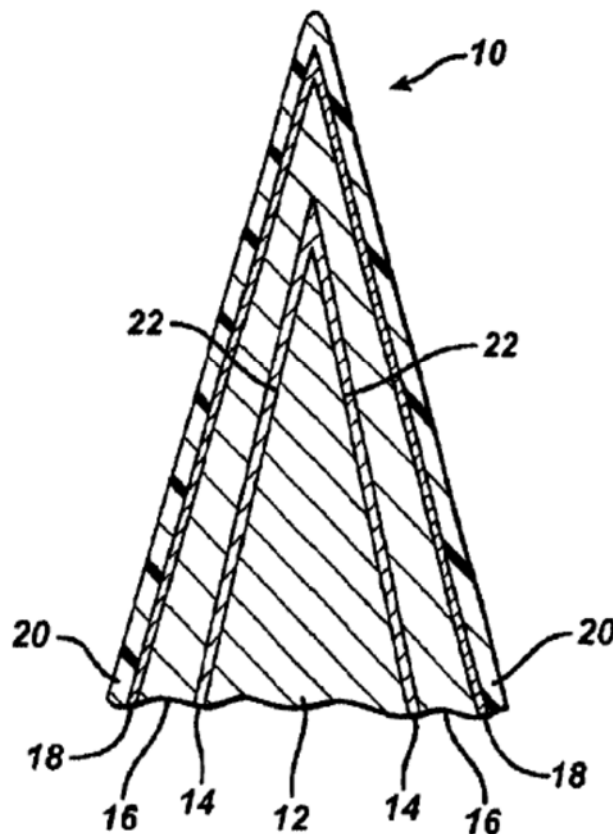


Figure 1 is a vertical sectional view of a cutting edge portion of a razor blade. *Id.* at 2:29–30. Figure 1 shows razor blade 10 including substrate 12, interlayer 14, hard coating layer 16, overcoat layer 18, and outer layer 20. *Id.* at 2:37–39.

According to the '513 patent, substrate 12 is typically made of stainless steel. *Id.* at 2:39–40. Interlayer 14 may be niobium or chromium-containing material and is used to facilitate bonding of the hard coating layer

to the substrate. *Id.* at 2:46–49. Hard coating layer 16 is preferably made of diamond, amorphous diamond, or diamond-like carbon (“DLC”), which are carbon-containing materials. *Id.* at 2:52–55, 2:62–63. Overcoat layer 18 may be chromium or chromium alloy and is used to reduce the tip rounding of the hard coated edge and to facilitate bonding of the outer layer to the hard coating. *Id.* at 3:5–10. The ’513 patent asserts that “[b]lade 10 has a cutting edge that has less rounding with repeated shaves than it would have without the overcoat layer.” *Id.* at 3:12–14. Outer layer 20 includes PTFE and is used to provide reduced friction. *Id.* at 3:15–16.

D. Illustrative Claim

The ’513 patent includes 38 claims, including independent claims 1, 20, 24, 28, and 35. Claim 1 is reproduced below:

1. A razor blade comprising
 - a substrate with a cutting edge defined by a sharpened tip and adjacent facets,
 - a layer of hard coating on said cutting edge, said hard coating being made of amorphous material containing carbon,
 - an overcoat layer of a chromium containing material on said layer of hard coating, and
 - an outer layer of polytetrafluoroethylene coating over said overcoat layer.

Ex. 1001, 4:4–12 (paragraph break added after “comprising”).

Claims 20 and 35 differ from claim 1 in that claims 20 and 35 additionally recite a shaving razor comprising a handle, a housing connected to the handle, and at least one razor blade in the housing. *Id.* at 4:52–65, 6:15–27. Claim 24 is directed to a method of making a razor blade and recites the same structures and materials as claim 1. *Id.* at 5:5–15.

Claims 28 and 35 differ from claim 1 in that claims 28 and 35 additionally

recite that the carbon-containing material is “doped with another element” and do not recite that the carbon-containing material is amorphous. *Id.* at 5:27–35, 6:15–27.

E. Petitioner’s Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability under 35 U.S.C. § 103(a):

1. Claims 1, 2, 6, 8, 15–17, 19, 20, 23, 24, 28, 29, 31–34, 35, and 36–38 over Lane¹ in view of Goel;² and
2. Claims 1, 2, 6, 8, 16, 17, 20, and 24 over Lane in view of Admitted Prior Art (“APA”).³

II. DISCUSSION

A. Prosecution History (Ex. 1002)

The ’513 patent was issued on Application No. 09/515,421 (“the ’421 application”), filed February 29, 2000. Ex. 1001, [21]. The portions of the prosecution history most pertinent to our analysis under 35 U.S.C. § 325(d) are summarized below.

The ’421 application was filed with thirty claims. Ex. 1002, 13–16. Original dependent claim 2 of the ’421 application includes all of the limitations of claim 1 of the ’513 patent, except that original claim 2 does not recite that the carbon-containing material is amorphous. *Compare* Ex.

¹ Lane et al., US 3,911,579, issued Oct. 14, 1975 (Ex. 1003, “Lane”).

² Goel et al., US 5,795,648, issued Aug. 18, 1998 (Ex. 1004, “Goel”).

³ Petitioner asserts that column 1, lines 5–23 of the ’513 patent is APA. Pet. 16.

1002, 13 (original claim 2), *with* Ex. 1001, 4:4–12 (claim 1 of the '513 patent). Original claim 5 of the '421 application depends from claim 2 and includes all of the limitations of claim 6 of the '513 patent, except that original claim 5 does not recite that the carbon-containing material is amorphous. *Compare* Ex. 1002, 13 (original claim 5), *with* Ex. 1001, 4:22–23 (claim 6 of the '513 patent).

In an Office Action mailed May 25, 2001, the Examiner rejected claim 2 of the '421 application under 35 U.S.C. § 103 as unpatentable over Lane in view of Hahn.⁴ Ex. 1002, 38. The Examiner found that Lane discloses all elements of claim 2, except that Lane “does not specifically mention the hard coating (I) being made of a carbon[-]containing material such as diamond or diamond-like carbon material.” *Id.* The Examiner found that Hahn discloses “a hard coating such as diamond or diamond-like carbon material (60) for hardening the cutting edge of a razor blade. . . .” *Id.* The Examiner concluded:

It would have been obvious to one skilled in the art to select a well known hard coating material such as the diamond or diamond-like carbon material of Hahn et al. for the hard coating material of Lane et al. The modification is obvious since it would only involve selecting one known type of hard coating material for another for hardening the cutting edge of the razor blade.

Id. at 38–39.

The Examiner rejected claim 5 of the '421 application under 35 U.S.C. § 103 as unpatentable over Lane in view of Decker.⁵ Ex. 1002,

⁴ Hahn et al., US 5,295,305, issued Mar. 22, 1994 (Ex. 1005, “Hahn”).

⁵ Decker et al., US 5,799,549, issued Sept. 1, 1998 (Ex. 2004, 58–64, “Decker”).

39. The Examiner found that Lane discloses all elements of claim 5, except that Lane “does not specifically mention the hard coating (I) being made of a carbon[-]containing material such as amorphous diamond.” *Id.* The Examiner found that Decker discloses “a hard coating such as amorphous diamond material (60) for hardening the cutting edge of a razor blade.” *Id.* The Examiner concluded:

It would have been obvious to one skilled in the art to select a well known hard coating material such as the amorphous diamond material of Decker et al. for the hard coating material of Lane et al. The modification is obvious since it would only involve selecting one known type of hard coating material for another for hardening the cutting edge of a razor blade.

Id.

In response to the May 25, 2001 Office Action, Applicants cancelled dependent claim 3 and amended claims 1, 2, 21, 22, and 25 to recite that the hard coating is made of amorphous material. Ex. 1002, 51, 54, 55.

Applicants argued that an amorphous hard coating has advantages over a crystalline hard coating. *Id.* at 51. Applicants argued that, by providing a chromium-containing layer between an amorphous hard coating material and a PTFE layer, the invention provides improved wear resistance compared with known amorphous carbon hard coating materials used with PTFE. *Id.* Applicants argued that it was unexpected that “a material that is softer than the hard coating, namely the chromium layer, would provide wear resistance and/or additional strength to the hard coating.” *Id.* at 51–52. Applicants argued that Lane does not disclose or suggest a hard coating of an amorphous material and that Hahn and Decker “teach away from the

invention in teaching that a PTFE layer should be deposited directly on the amorphous hard coat carbon layer. . . .” *Id.*

In an Office Action mailed February 5, 2002, the Examiner rejected certain claims of the ’421 application under 35 U.S.C. § 103 as unpatentable over Hahn in view of Lane. Ex. 1002, 60. The claims subject to this rejection included claims 1, 4, 7, 17–19, 21, and 25 of the ’421 application, which correspond to challenged claims 1, 2, 8, 15–17, 20, and 24 of the ’513 patent, respectively. *See id.* at 106–108 (Examiner’s renumbering of amended claims of ’421 application). The Examiner found that Hahn discloses all claim elements, except that Hahn “lacks an overcoat layer of chromium between the hard coating (60) and the polytetrafluoroethylene outer layer (72).” *Id.* The Examiner found that Lane discloses a razor blade comprising an overcoat layer (II) of a chromium-containing material provided between a layer (I) of hard coating and an outer layer (III) of PTFE and that the chromium overcoat layer (II) provides a hard and durable shaving edge. *Id.* at 60–61 (citing Lane, 6:11–22). The Examiner concluded:

It would have been obvious to one skilled in the art to modify Hahn et al. by providing a layer of chromium coating between the hard coating (60) and the polytetrafluoroethylene layer to aid in facilitating a hard and durable shaving edge for the razor blade as taught by Lane et al.

Id. at 61.

The Examiner also rejected certain claims of the ’421 application under 35 U.S.C. § 103 as unpatentable over Hahn and Lane in view of Decker. *Id.* at 61. The claims subject to this rejection included claim 5 of the ’421 application, which corresponds to challenged claim 6 of the ’513 patent. *See id.* at 106. The Examiner found that Hahn as modified by

Lane discloses all claim elements, “except the amorphous coating of Hahn et al. is formed of diamond-like carbon material (DLC) rather than amorphous diamond material as claimed.” *Id.* at 62. The Examiner found that Decker discloses “the use of amorphous diamond coating for the cutting edge of a razor blade to harden the same.” *Id.* The Examiner concluded:

It would have been obvious to one skilled in the art to further modify Hahn et al. by substituting the amorphous diamond coating of Decker et al. for the amorphous diamond-like carbon coating of Hahn et al. The modification is obvious since it would only involve substituting one known type of amorphous coating for another for hardening the cutting edge of a razor blade.

Id.

In response to the February 5, 2002 Office Action, Applicants argued that “Lane effectively teaches away from the use of a hard coating of an amorphous material . . . by stressing instead that refractory materials should be used.” Ex. 1002, 79 (citing Lane (Ex. 1003) at 1:14, 1:22–59, 2:41–42, 2:57–3:8). Applicants argued there is “no motivation to combine, as Hahn teaches directly bonding the PTFE to the hard coating, thus teaching away from any use of an intermediate layer as in Lane,” and “Lane emphasizes the use of refractory material, thus teaching away from any use of a non-refractory material as in Hahn.” *Id.* at 80.

In a Final Office Action mailed August 8, 2002, the Examiner repeated the rejection of claims 1, 4, 7, 17–19, 21, and 25 (among others) over Hahn and Lane and the rejection of claim 5 (among others) over Hahn, Lane, and Decker. Ex. 1002, 85–87. In response to Applicants’ arguments distinguishing the refractory materials of Lane, the Examiner directed Applicants’ attention to Lane’s disclosure of “‘glass’ (i.e. amorphous

material)” and Lane’s teaching that the disclosed invention is not necessarily limited to refractory materials. *Id.* at 88 (citing Lane (Ex. 1003), 5:62–63, 5:66–68).

In response to the August 8, 2002 Final Office Action, Applicants cancelled dependent claims 2 and 22 and amended independent claims 1, 21, and 25 to recite a hard coating “made of amorphous material containing carbon.” Ex. 1002, 94, 98–99 (underlined words added to claims). Responding to the Examiner’s findings regarding Lane, Applicants argued that “amorphous materials containing carbon . . . are in no way suggested by Lane’s teaching of refractory materials or by his mention of glass.” *Id.* at 96. Applicants additionally argued that Lane’s disclosure that the invention “may find equal application to any material” is speculative and does not suggest amorphous materials containing carbon. *Id.*

Following an Advisory Action (Ex. 1002, 100–01), Applicants filed a Request for Continued Examination with the same claim amendments and remarks as submitted in response to the August 8, 2002 Final Office Action (*id.* at 104–15). In addition, Applicants added claims 31–43, which recite that the hard carbon coating is doped with another element. *Id.* at 109–11, 115. Claims 31–43 of the ’421 application correspond to claims 24–38, 19, and 23 of the ’513 patent.

Thereafter, the Examiner issued a Notice of Allowability for claims 1, 4–21, 23–28, and 31–43 of the ’421 application, which correspond to claims 1–38 of the ’513 patent. Ex. 1002, 116.

B. Lane (Ex. 1003)

Lane is asserted as prior art under 35 U.S.C. § 102(b). Pet. 18. As discussed above, Lane was relied upon by the Examiner to reject the claims during prosecution of the '513 patent. Ex. 1002, 38, 60, 85.

Lane discloses a razor blade and method of making a razor blade. Ex. 1003, [57]. The razor blade includes a stainless steel substrate with a cutting edge formed by the intersection of two surfaces. *Id.* at 4:42–47, Fig. 5. On the stainless steel substrate are sequentially deposited: (I) a coating of refractory material; (II) a coating of a material, such as chromium or chromium alloy, that displays adhesion to a subsequent coating of lubricious material; and (III) a coating of lubricious material, such as PTFE. *Id.* at 3:11–21, 5:13–16, 5:30–32, 6:11–18, 7:9–17, Fig. 5 (showing blade 101 with layers I, II, and III on surfaces that form the cutting edge).

C. Hahn (Ex. 1005)

As discussed above, Hahn was relied upon by the Examiner to reject the claims during prosecution of the '513 patent. Ex. 1002, 38, 60, 85.

Hahn discloses a razor blade including a substrate having a wedge-shaped edge, an interlayer deposited on the tip and flanks of the wedge-shaped edge, a layer of diamond or DLC deposited on the interlayer, and a friction-reducing coating of PTFE applied to the DLC-coated edges of the blade. Ex. 1005, [57], 1:47–60, 3:28–30, 3:56–4:8, 5:4–9, Fig. 3.

D. Goel (Ex. 1004)

Goel is asserted as prior art under 35 U.S.C. § 102(b). Pet. 22. Goel was not relied upon by the Examiner to reject the claims during prosecution of the '513 patent.

Goel discloses diamond-like nanocomposite (“DLN”) materials for coating a precision-edged or sharp-edged substrate in order to preserve precise and sharp edges and provide corrosion and erosion resistance. Ex. 1004, 1:7–10, 2:28–40. According to Goel, the DLN coatings are formed from interpenetrating networks, including a diamond-like carbon network stabilized by hydrogen, a silicon network stabilized by oxygen, and, optionally, a network of dopant elements or compounds. *Id.* at 2:40–46. Petitioner focuses on the embodiment shown in Figure 6, which shows a razor blade with a precision-edged tip that includes a substrate, an interlayer coated on the substrate, a DLN coating on the interlayer, and a PTFE coating on the DLN coating. *Id.* at 3:5–6, 4:5–8, Fig. 6. According to Goel, the interlayer improves adherence of the DLN coating to the substrate. *Id.* at 6:6–11, 6:17–18.

E. Admitted Prior Art (APA)

Petitioner contends that the following passage from the ’513 patent is APA:

A razor blade is typically formed of a suitable substrate material such as stainless steel, and a cutting edge is formed with a wedge-shaped configuration with an ultimate tip having a radius less than about 1000 angstroms, e.g., about 200–300 angstroms. Hard coatings such as diamond, amorphous diamond, diamond-like carbon-(DLC) material, nitrides, carbides, oxides or ceramics are often used to improve strength, corrosion resistance and shaving ability, maintaining needed strength while permitting thinner edges with lower cutting forces to be used. Polytetrafluoroethylene (PTFE) outer layer can be used to provide friction reduction. Interlayers of niobium or chromium[-]containing materials can aid in improving the binding between the substrate, typically stainless steel, and hard carbon coatings, such as DLC. Examples of razor blade cutting edge structures and processes of

manufacture are described in U.S. Pat. Nos. 5,295,305; 5,232,568; 4,933,058; 5,032,243; 5,497,550; 5,940,975; 5,669,144; EP 0591339; and PCT 92/03330, which are hereby incorporated by reference.

Ex. 1001, 1:5–23; *see* Pet. 16. As noted by Petitioner (Pet. 18), the above-quoted passage identifies Hahn, U.S. Pat. No. 5,295,305, as an example of known razor blade cutting edge structures and processes of manufacture.

Ex. 1001, 1:19–21.

F. Parties' Contentions

Petitioner contends that it would have been obvious to a person of ordinary skill in the art to replace the refractory hard coating layer disclosed in Lane with either the DLN layer disclosed in Goel or the DLC layer disclosed in the APA. Pet. 27, 34, 54. According to Petitioner, this “sole modification” of Lane is enough to meet all limitations of the challenged claims. *Id.* at 34–35, 54–55. As support for its contentions, Petitioner submits a Declaration of Dr. Michael Watts. Ex. 1007.

Patent Owner contends that the Petition should be rejected under 35 U.S.C. § 325(d) because it “merely raises the same issues that the Office has already considered and rejected.” Prelim. Resp. 2. Patent Owner contends that “Hahn comprises essentially what Petitioner calls APA” and that Goel is cumulative of Hahn with respect to the limitations of the independent claims of the '513 patent. *Id.* at 26. Patent Owner contends that Petitioner's Ground 2 “merely raises substantially the same issues, based on the same art . . . that the Office already considered and rejected during prosecution” of the '513 patent and that Petitioner's Ground 1 “merely substitutes Goel for Hahn in the combination with Lane.” *Id.* at 25–

26. As support for its contentions, Patent Owner submits a Declaration of Dr. Caroline A. Ross. Ex. 2001.

G. Section 325(d)

In determining whether to institute *inter partes* review, we may “deny some or all grounds for unpatentability for some or all of the challenged claims.” 37 C.F.R. § 42.108(b); *see* 35 U.S.C. § 314(a). Our discretionary determination of whether to institute review is, in part, guided by 35 U.S.C. § 325(d), which states, in relevant part:

MULTIPLE PROCEEDINGS -- . . . In determining whether to institute or order a proceeding under this chapter, chapter 30, or chapter 31, the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.

35 U.S.C. § 325(d).

Our discretion under § 325(d) involves a balance between several competing interests. *See Neil Ziegman, N.P.Z., Inc. v. Stephens*, Case IPR2015-01860, slip op. at 12–13 (PTAB Feb. 24, 2016) (Paper 11) (“While petitioners may have sound reasons for raising art or arguments similar to those previously considered by the Office, the Board weighs petitioners’ desires to be heard against the interests of patent owners, who seek to avoid harassment and enjoy quiet title to their rights.”) (citing H.R. Rep. No. 112-98, pt. 1, at 48 (2011)). “On the one hand, there are the interests in conserving the resources of the Office and granting patent owners repose on issues and prior art that have been considered previously.” *Fox Factory, Inc. v. SRAM, LLC*, Case IPR2016-01876, slip op. 7 (PTAB Apr. 3, 2017) (Paper 8). “On the other hand, there are the interests of giving petitioners the opportunity to be heard and correcting any errors by the Office in

allowing a patent—in the case of an *inter partes* review—over prior art patents and printed publications.” *Id.*

H. Analysis

Under the circumstances of this case, we exercise our discretion under Section 325(d) and decline to institute an *inter partes* review based on any ground asserted in the Petition. We find that the Petition presents “the same or substantially the same prior art or arguments” as were previously presented to the Office during prosecution of the ’513 patent. 35 U.S.C. § 325(d).

Petitioner’s Grounds I and II present essentially the same question of patentability as was previously considered by the Examiner: whether it would have been obvious to provide a chromium-containing overcoat layer (as disclosed in Lane) between a hard coating layer of amorphous carbon-containing material (as disclosed in Hahn, Goel, and APA) and a friction-reducing PTFE outer layer (as disclosed in Lane, Hahn, Goel, and APA). *Compare* Pet. 34–35, 54–55 (Petitioner’s contention that it would have been obvious to use a chromium adhesion promoting layer between a diamond-like hard coating and a PTFE layer), *with* Ex. 1002, 61, 85 (Examiner’s contention that it would have been obvious to provide a layer of chromium coating between a hard coating of amorphous DLC and a PTFE layer “to aid in facilitating a hard and durable shaving edge for the razor blade”).

We agree with Patent Owner that Petitioner’s Ground 2 (obviousness over Lane and APA) is based on the same art as was considered by the Examiner during prosecution of the ’513 patent. Prelim. Resp. 15–17, 25,

26. Although Petitioner has substituted APA for Hahn,⁶ Hahn is cited in the paragraph of the '513 patent that Petitioner asserts as APA (Ex. 1001, 1:21), and Petitioner concedes that Hahn is an example of APA (Pet. 18).

Furthermore, Petitioner asserts that Hahn discloses the same feature that Petitioner relies upon as APA: a hard coating layer made of amorphous DLC. *Compare* Pet. 14, 18, 33 (discussing Hahn), *with id.* at 54–55 (“sole modification” of Lane in view of APA is replacement of Lane’s refractory material with APA’s amorphous DLC).

Petitioner’s Ground 2 identifies no claim elements disclosed by the asserted APA that are not also disclosed by the art cited by the Examiner during prosecution. Regarding claim 6, for example, Petitioner cites APA as disclosing “amorphous diamond” as a material for the hard coating. Pet. 58. During prosecution, the Examiner cited Decker as disclosing this same feature. Ex. 1002, 39, 62, 86.

We agree with Patent Owner that Petitioner’s Ground 1 (obviousness over Lane and Goel) is based on art that is either the same as or substantially the same as that considered by the Examiner during prosecution. Prelim. Resp. 18–19, 26, 29–32. First, Patent Owner’s evidence shows that Goel was before the Office during prosecution. Ex. 2004, 372–85 (certified copy of file history for the '513 patent includes Goel). Second, Petitioner asserts that Goel discloses a diamond-like hard coating that comprises DLC—the same material that Petitioner asserts is disclosed by Hahn. *Compare* Pet. 14, 18, 33 (discussing Hahn), *with id.* at 23, 34–35, 40 (discussing Goel).

⁶ As discussed above, Lane and Hahn were relied upon by the Examiner to reject the claims during prosecution of the '513 patent. Ex. 1002, 38, 60, 85.

Petitioner's Ground 1 identifies no elements of challenged claims 1, 2, 6, 8, 15–17, 20, and 24 that are disclosed by Goel that are not also disclosed by the art cited by the Examiner during prosecution. Regarding claim 6, for example, Petitioner cites Goel as disclosing “amorphous diamond” as a material for the hard coating. Pet. 41. During prosecution, the Examiner cited Decker as disclosing this same feature. Ex. 1002, 39, 62, 86.

Petitioner contends that Goel discloses a hard coating that is “doped with another element,” as recited in challenged claims 19, 23, 28, 29, 31–34, 35 and 36–38. Pet. 23–24, 44; *see also id.* at 6 (explaining that claims that recite a dopant are challenged only in Ground 1). Patent Owner does not assert that Goel is cumulative of Hahn in this respect. Nevertheless, we do not view Petitioner's Ground 1 differently from Petitioner's Ground 2 under Section 325(d). In each case, the same or substantially the same prior art or arguments were previously presented to the Office. As noted by Patent Owner (Prelim. Resp. 33), Petitioner relies on the same reasons or motivation to combine Lane with Goel (Ground 1), as it relies upon to combine Lane with APA (Ground 2). Pet. 26–33 (arguing that Lane suggests that refractory materials can be replaced with other hard coat materials and that the hard coat materials of Goel and APA are compatible with Lane). Contrary to Petitioner's assertion (Pet. 22), Goel was before the Office during prosecution. Ex. 2004, 372–85. Furthermore, the prosecution history demonstrates that the claims that recite a dopant were allowed for the same reasons as the claims that do not include this limitation. *See* Ex. 1002, 104–16 (claims allowed based on amendments and arguments common to all claims, with no separate substantive argument regarding claims that recite a hard coating doped with another element).

Despite the close similarity of the prior art and arguments raised by the Petition and the prior art and arguments presented to the Office during prosecution, Petitioner does not specifically identify any errors by the Office in allowing the '513 patent and makes little attempt to explain why the Board should revisit the patentability issues considered by the Examiner. As Patent Owner demonstrates, to the extent that Petitioner tries to distinguish its prior art and arguments from the prosecution history, its attempted distinctions are factually incorrect. First, Petitioner asserts there is “*express language in Lane*” criticizing the use of refractory materials and “that language in Lane was never cited during the prosecution of the '513 patent.” Pet. 14–15 (citing Ex. 1003, 1:23–29, 2:38–41). As Patent Owner demonstrates, however (Prelim. Resp. 21–22), one of the cited passage of Lane—Ex. 1003, 1:23–29—was cited and discussed by Applicants three times during prosecution. Ex. 1002, 79, 95, 113–14 (citing Lane’s discussion of refractory materials at column 1, lines 22–59). Second, Petitioner asserts that “Goel was not cited to the USPTO.” As discussed above, however, Patent Owner’s evidence refutes this assertion. Ex. 2004, 372–85.

Petitioner relies on the Watts Declaration (Ex. 1007), which was not presented to the Office during prosecution of the '513 patent. We agree with Patent Owner, however, that Dr. Watts’ testimony does not add facts or analysis substantially beyond what was considered by the Office during prosecution. Prelim. Resp. 27–29.

The technology background section in Dr. Watts’ Declaration cites Lane and Hahn (Ex. 1007 ¶¶ 17–19), both of which were relied upon by the Examiner to reject the claims during prosecution of the '513 patent

(Ex. 1002, 38, 60, 85). Dr. Watts also cites Goel; however, Goel was also before the Examiner (Ex. 2004, 372–85), and Dr. Watts does not cite Goel for any teaching not also found in Lane or Hahn (Ex. 1007 ¶¶ 17, 19).

Dr. Watts’ discussion of motivation to combine is also cumulative of information presented to the Office during prosecution. Dr. Watts opines that Lane provides a motivation to replace refractory materials with improved hard coating materials, citing Lane’s disclosures regarding problems with refractory materials (Ex. 1007 ¶¶ 90–92, 95 (citing Ex. 1003, 1:15–20, 1:23–28, 1:38–59)) and Lane’s statement that “this invention is not necessarily limited to refractory materials” (*id.* ¶ 93 (citing Ex. 1003, 5:69–6:4)). The Examiner expressly considered whether it would have been obvious to replace Lane’s refractory hard coating material with well-known hard coating materials, such as the diamond or DLC material of Hahn or the amorphous diamond of Decker. Ex. 1002, 38–39. The Examiner also considered Lane’s disclosures regarding problems with refractory materials (*id.* at 79 (Applicant’s argument citing Lane (Ex. 1003), 1:22–59, 2:41–42)) and Lane’s statement that the disclosed invention is not necessarily limited to refractory materials (*id.* at 88 (Examiner’s assertion citing Lane (Ex. 1003), 5:66–68)).

Dr. Watts further opines that the DLN material of Goel and the DLC material of APA are each compatible with the coating layers of Lane, including the chromium overcoat layer. Ex. 1007 ¶¶ 98–111. As support for these opinions, Dr. Watts cites the teachings of Goel, APA, and Hahn, all of which were before the Office during prosecution. Ex. 1002, 8 (APA); Ex. 2004, 92–97 (Hahn), 372–85 (Goel). In our view, Dr. Watts’ compatibility opinion is substantially the same as the Examiner’s position

that it would have been obvious to provide a layer of chromium coating between a hard coating (such as the DLC material of Hahn) and the PTFE layer to aid in facilitating a hard and durable shaving edge for the razor blade. Ex. 1002, 61, 85. To the extent that Dr. Watts' testimony might be considered a new argument not previously presented to the Office, the facts and evidence cited in support of that testimony do not go substantially beyond that already considered by the Examiner during prosecution of the '513 patent and are not sufficient to warrant reconsideration of the Examiner's determination to allow the claims.

Accordingly, under the facts and circumstances presented here, Petitioners' interests in being heard during an *inter partes* review are outweighed by the Board's interests in conserving the resources of the Office and granting Patent Owner repose on issues and prior art that have been considered previously.

III. CONCLUSION

For the foregoing reasons, we exercise our discretion and decline to institute *inter partes* review of claims 1, 2, 6, 8, 15–17, 19, 20, 23, 24, 28, 29, 31–34, 35, and 36–38 of the '513 patent on the grounds presented in the Petition. See 35 U.S.C. §§ 314(a), 325(d); 37 C.F.R. § 42.108.

IV. ORDER

Accordingly, it is

ORDERED that the Petition is denied, and no trial or *inter partes* review is instituted on any asserted ground.

IPR2017-00500
Patent 6,684,513 B1

PETITIONER:

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