

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BOWMAR ARCHERY LLC,
Petitioner,

v.

MATTHEW FUTTERE,¹
Patent Owner.

IPR2024-00401
Patent 8,043,177 B2

Before SCOTT A. DANIELS, CARL M. DEFRANCO, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

O'HANLON, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining No Challenged Claims Unpatentable
35 U.S.C. § 318(a)
Dismissing Patent Owner's Motion to Exclude
37 C.F.R. § 42.64(c)

¹ Although the captions of the Petition, Preliminary Response, and Sur-reply list Veteran's Innovative Products, LLC as the patent owner, Office records indicate that Matthew Futtere is the owner of the '177 patent.

I. INTRODUCTION

A. Background

Bowmar Archery LLC (“Petitioner”) filed a Petition for *inter partes* review of claims 1–4, 7, 9, 11, 12, 15, and 17 (“the challenged claims”) of U.S. Patent No. 8,043,177 B2 (Ex. 1001, “the ’177 patent”). Paper 2 (“Pet.”). Matthew Futterer (“Patent Owner”) filed a Preliminary Response. Paper 6. On July 2, 2024, we instituted an *inter partes* review of the challenged claims on all grounds raised in the Petition. Paper 7.

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 12, “PO Resp.”), Petitioner filed a Reply to the Patent Owner Response (Paper 19, “Pet. Reply”), and Patent Owner filed a Sur-reply to Petitioner’s Reply (Paper 22, “PO Sur-reply”). An oral hearing was held on April 1, 2025. A transcript of the hearing has been entered into the record. Paper 30 (“Tr.”).

For the reasons that follow, we conclude that Petitioner has failed to prove, by a preponderance of the evidence, that any of the challenged claims is unpatentable.

B. Related Matters

The parties indicate that the ’177 patent is not the subject of any district court proceeding. Pet. 1; Paper 4, 2.

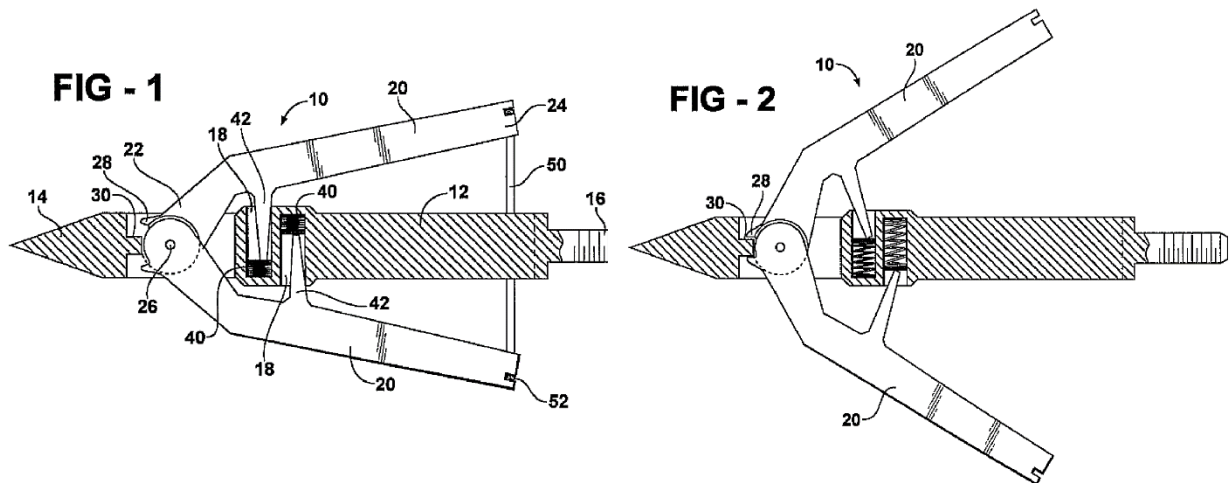
C. Real Parties in Interest

Petitioner identifies itself as the sole real party in interest. Pet. 1.

Patent Owner identifies itself and Veteran Innovative Products, LLC as real parties in interest. Paper 4, 2.

D. The Challenged Patent

The '177 patent discloses “arrowheads with blade members that are collapsible to allow the arrow to pass through bone and outwardly biased to increase the amount of flesh cut by the blade members after passing through the bone.” Ex. 1001, 1:6–10. Figures 1 and 2 illustrate such an arrowhead and are reproduced below.



Figures 1 and 2 illustrate arrowhead 10, also referred to as a broadhead. *Id.* at 2:51–53. The arrowhead comprises ferrule 12 and blade members 20. *Id.* at 2:53–62. The ferrule includes tip 14, attachment portion 16, and a body extending therebetween. *Id.* at 2:53–58. The blade members are coupled to the ferrule such that they are movable between a retracted position, as illustrated in Figure 1, and an extended position, as illustrated in Figure 2. *Id.* at 2:59–62. Biasing members 40 urge the blade members into the extended position. *Id.* at 3:35–36.

In use, the arrowhead is attached to the shaft of an arrow, and the arrow is fired toward an animal. Ex. 1001, 4:1. Retaining element 50 maintains the blade members in the retracted position to reduce the size of the arrowhead and thereby increase accuracy of the shot. *Id.* at 3:45–46,

4:1–5. The blade members remain in the retracted position as the arrowhead penetrates the animal until the material penetrated by the arrowhead pushes the retaining element rearward to disengage from the blade members. *Id.* at 3:54–59, 4:5–8. The blade members then move to the extended position due to the influence of the biasing member to maximize the cutting surface of the arrowhead through the soft flesh of the animal. *Id.* at 4:8–10, 4:21–24. When the arrowhead encounters a bone, the blade members collapse toward the retracted position to allow the arrowhead to pass through the bone. *Id.* at 4:10–13. The biasing member returns the blade members to the extended position once the arrowhead has passed through the bone. *Id.* at 4:13–16.

E. The Challenged Claims

Petitioner challenges claims 1–4, 7, 9, 11, 12, 15, and 17 of the '177 patent. Pet. 1, 3. Claims 1 and 11 are independent. Claim 1 is illustrative of the challenged claims and is reproduced below.

1. A broadhead for an arrow having a shaft, the broadhead comprising:
 - a ferrule having a rearward end configured for attachment to the shaft and an opposite forward end with a ferrule body extending therebetween;
 - a first blade member having a first end pivotally interconnected with the ferrule body and an opposite second end, the first blade member having a retracted position wherein the second end is spaced from the ferrule body at a first distance and an extended position wherein the second end is spaced from the ferrule body by a distance which is greater than the first distance;
 - a second blade member having a first end pivotally interconnected with the ferrule body and an opposite second

end, the first blade member having a retracted position wherein the second end is spaced from the ferrule body at a first distance and an extended position wherein the second end is spaced from the ferrule body by a distance which is greater than the first distance; and

at least one biasing member biasing the first and second blade members towards the extended positions, the biasing member being the only element operable to hold the blade members in the extended position.

Ex. 1001, 5:20–42.

F. Instituted Grounds of Asserted Unpatentability

The Petition relies on the following prior art references:

Name	Reference	Exhibit
Lint	US 3,168,313 issued February 2, 1965	1002
Vandewater	US 8,016,704 B1 issued September 13, 2011	1003
Minisini	US 2,806,317, issued September 17, 1957	1005
Krieger	US 2,212,345, issued August 20, 1940	1006
Liechty	US 6,287,224 B1, issued September 11, 2001	1012
Hendricks	US 3,600,835, issued August 24, 1971	1013

We instituted trial based on all asserted claims and grounds of unpatentability as follows:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–4, 7, 9, 11, 12, 15, 17	102(b) ²	Lint
11, 12, 15, 17	102(e)	Vandewater

² The application resulting in the '177 patent was filed prior to the date when the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (2011), took effect. Thus, we refer to the pre-AIA version of sections 102 and 103.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–4, 7, 9, 11, 12, 15, 17	103(a)	Lint, Minisini, Krieger
11, 12, 15, 17	103(a)	Hendricks
1–4, 9, 11, 12, 17	102(b)	Liechty

Pet. 3. Petitioner submits declarations of Todd A. Kuhn, Ph.D. (Ex. 1019, “Kuhn Declaration”; Ex. 1046) and Mr. Robert S. Mizek (Ex. 1047) in support of its contentions. Patent Owner submits the declaration of Wayne A. Willkomm, Ph.D. (Ex. 2008) in support of its contentions.

II. ANALYSIS

A. Principles of Law

1. *Inter Partes Review*

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). Petitioner bears the burden of persuasion to prove unpatentability of each challenged claim by a preponderance of the evidence. 35 U.S.C. § 316(e). This burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

2. *Anticipation*

“Under 35 U.S.C. § 102 a claim is anticipated ‘if each and every limitation is found either expressly or inherently in a single prior art

reference.’” *King Pharm., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1274 (Fed. Cir. 2010) (quoting *Celeritas Techs. Ltd. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1360 (Fed. Cir. 1998)). “Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim.” *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1332 (Fed. Cir. 2010) (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)).

A reference inherently discloses an element of a claim “if that missing characteristic is necessarily present, or inherent, in the single anticipating reference.” *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003) (citing *Cont’l Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991)). “Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient.” *Therasense*, 593 F.3d at 1332 (quoting *Cont’l Can*, 948 F.2d at 1269).

3. Obviousness

A patent claim is unpatentable under 35 U.S.C. § 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 the subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations 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) when in evidence, any objective

evidence of nonobviousness.³ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

The level of ordinary skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The person of ordinary skill in the art is a hypothetical person presumed to have known the relevant art at the time of the invention. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In determining the level of ordinary skill in the art, we may consider certain factors, including: “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Best Med. Int’l, Inc. v. Elekta Inc.*, 46 F.4th 1346, 1353 (Fed. Cir. 2022) (quoting *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007)). “The patent’s purpose can also be informative.” *Id.*

Petitioner contends that a person having ordinary skill in the art at the time of the invention would have had “either: (1) a bachelor’s degree in the field of mechanical engineering and/or related field, and at least two years of work experience in the development of broadheads; or (2) any education and experience equivalent to (1).” Pet. 5 (citing Ex. 1019 ¶ 22).

Patent Owner contends that a person having ordinary skill in the art at the time of the invention would have had “minimum of four years of formal

³ The parties have not directed us to any such objective evidence.

mechanical engineering (or equivalent) and two years experience with developing broadheads.” PO Resp. 20 (citing Ex. 2008 ¶¶ 50–52).

The parties do not identify, and we do not discern, any material difference between the parties’ proposed definitions. For purposes of this decision and based on the record before us, we adopt Petitioner’s proposed definition of the level of ordinary skill. Also, we note that we would reach the same conclusions under either proposed standard.

C. Claim Construction

In an *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b), including construing the claims in accordance with the ordinary and customary meaning of such claims 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). “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention” and “after reading the entire patent.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 1321 (Fed. Cir. 2005) (en banc); *see also id.* at 1315 (“[T]he claims ‘must be read in view of the specification, of which they are a part.’” (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995))). In addition to the specification and prosecution history, we also consider use of the terms in other claims and extrinsic evidence including expert and inventor testimony, dictionaries, and learned treatises, although extrinsic evidence is less significant than the intrinsic record. *Id.*

at 1312–17. Usually, the specification is dispositive, and it is the single best guide to the meaning of a disputed term. *Id.* at 1315.

“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (alteration in original) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

The parties propose definitions for three claim terms. We discuss each in turn below.

1. Ferrule

Petitioner argues that the ’177 patent “defines ‘ferrule’ as a ‘generally cylindrical body,’” which interpretation Petitioner asserts “is consistent with the ordinary meaning to [an ordinarily skilled artisan].” Pet. 19 (citing Ex. 1001, 2:53–55; Ex. 1019 ¶ 61).

Patent Owner does not address Petitioner’s proposed interpretation of this claim term. *See generally* PO Resp.

We adopt Petitioner’s uncontested interpretation of “ferrule.”

2. Blade Member

Patent Owner argues that an ordinarily skilled artisan “would understand the plain and ordinary meaning of blade member to have a cutting edge or flat sharp part” and such an artisan “would further understand the blade member needs to have material characteristics to allow structural strength and retain structural integrity to hold a sharp edge while not deforming inelastically during function.” PO Resp. 20 (citing Ex. 1001,

1:9–10, 4:5–6, 4:21–24, Figs. 1–8; Ex. 2008 ¶ 53; Ex. 1003, 3:37–38; Ex. 2006).

Petitioner replies that “[t]he ordinary and customary meaning of ‘blade’ is ‘a tool or device with an edge.’” Pet. Reply 26 (citing Ex. 1046 ¶ 96; Ex. 1047 ¶¶ 16, 24); *see also* Pet. 49 (arguing that the ordinary and customary meaning of “blade member” does not require “a sharp edge”). Petitioner argues that some broadheads have “blades that have dull, blunt, and unsharpened edges.” Pet. Reply 26 (citing Ex. 1046 ¶ 98; Ex. 1047 ¶¶ 19–23).

Patent Owner replies by noting that Petitioner’s witness, Mr. Mizek, “concedes ‘the term “blade” does not have a specialized meaning in the archery industry.’” PO Sur-reply 15 (citing Ex. 1047 ¶ 16). Patent Owner argues that its interpretation of “the plain and ordinary meaning of blade to have a sharp flat part or cutting edge” is supported by the references cited by Mr. Mizek, which, Patent Owner alleges, use modifiers such as “dull” or “blunt” to alter the plain and ordinary meaning. *Id.* at 16–17 (citing Ex. 1010, 5:10–50; Ex. 1039, 3:14–15).

“[W]hen a patent ‘repeatedly and consistently’ characterizes a claim term in a particular way, it is proper to construe the claim term in accordance with that characterization.” *GPNE Corp. v. Apple Inc.*, 830 F.3d 1365, 1370 (Fed. Cir. 2016). The ’177 patent repeatedly and consistently discloses the blade members as cutting elements. *See, e.g.*, Ex. 1001, 1:6–10 (“to increase the amount of flesh cut by the blade members”), 4:21–24 (“Thus, the blade members 20 are in the extended position on either side of the bone to maximize the cutting surface of the arrowhead 10 through the soft flesh of the animal.”). Thus, as used in the ’177 patent, a blade element has a cutting

surface, the possibility of a blade having a dull or non-cutting surface in other contexts notwithstanding. Petitioner’s witness, Mr. Mizek, interprets the ’177 patent in the same manner. *See* Ex. 2018, 29:9–20 (“[I]t’s clear that Flanagan’s intent was to cut flesh.”). Notably, during the hearing, Petitioner’s counsel agreed that a “blade” has a cutting edge. Tr. 24:16–19.

This interpretation of a “blade member” having a cutting surface is consistent with the use of the term in the asserted prior art.⁴ *See, e.g.*, Ex. 1003, 9:1–5 (describing blades that “have at least one substantially sharpened portion or edge”); Ex. 1012, 12:14–18 (describing blades that have a “cutting edge”).

The asserted prior art also contrasts the functions of cutting and barbing. *See* Ex. 1012, 2:45–48 (describing barbing as inhibiting or preventing arrow extraction from a game animal). During the hearing, Petitioner’s counsel agreed that the purpose of a barb is to retain the arrowhead in the animal and the purpose of a blade is to perform a cutting function. Tr. 18:20–20:6 (“There are two functions. Retaining the broadhead in the body and cutting flesh.”; agreeing that the purpose of a barb is to “merely retain[] the broadhead in the body of the animal”). And Petitioner’s witness, Mr. Mizek, acknowledges that “blades” and “barbs” have different attributes and perform different functions. *See* Ex. 1047 ¶¶ 25–26 (testifying that blades “have an edge” and barbs are elements that form an angle that is less than 90° to the ferrule body). Our interpretation of “blade member” also appears to be consistent with the Examiner’s

⁴ Although the parties’ interpretations discuss an “edge” of the blade members, we use the synonymous “surface” because that is the term used by the ’177 patent. *See* Ex. 1001, 4:21–24.

interpretation of the term during examination of the application resulting in the '177 patent. *See* Ex. 1009, 37 (the Examiner finding that “Tentler^[5] shows an arrow head including . . . blades 168”); Ex. 2003, 8:42–45 (Tentler disclosing that “blades 108 extend from their pivot ends 110 to outer blade tips 164, with *an outer sharpened blade cutting length 166* and an inner (optionally sharpened) blade edge 168 folding closely adjacent to (or within) the rearward body end 142” (emphasis added)).

Thus, the specification, the prior art, and the prosecution history all support the interpretation of “blade member” as having a cutting surface. Petitioner’s assertions to the contrary are unpersuasive. Therefore, we interpret “blade member” to have a cutting surface.

3. Biasing Member

Patent Owner argues that “[a] person of ordinary skill in the art would understand the plain and ordinary meaning of a biasing member to mean a structure that pushes against another structure.” PO Resp. 21 (citing Ex. 1001, 3:35–44, 4:58–62; Ex. 1003, 3:63–66; Ex. 2008 ¶ 54).

Petitioner does not address Patent Owner’s proposed interpretation of this claim term. *See generally* Pet.; Pet. Reply.

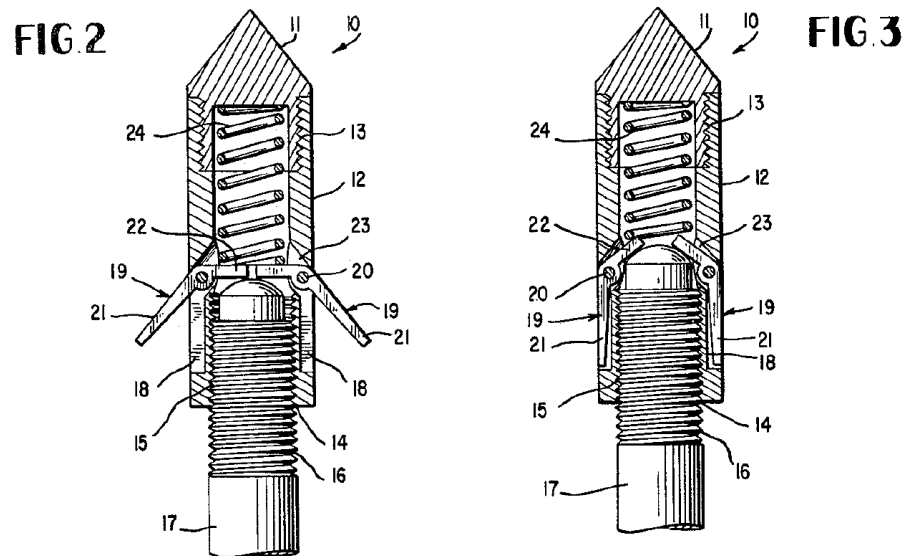
We adopt Patent Owner’s uncontested interpretation of “biasing member.”

⁵ US 7,713,152 B1, issued May 11, 2020 (Ex. 2003).

D. Overview of the Asserted Prior Art

1. *Lint – Exhibit 1002*

Lint discloses an arrowhead that can be interchangeably used for both target and hunting arrows. Ex. 1002, 1:8–11, 2:1–3. Figures 2 and 3 illustrate such an arrowhead and are reproduced below.



Figures 2 and 3 illustrate arrowhead 10 including tip portion 11 and body portion 12. *Id.* at 2:29–31. Barbs 19 are positioned within slots 18 in the body portion and rotate about pivot pins 20 between an open position, as illustrated in Figure 2, and a closed position, as illustrated in Figure 3. *Id.* at 2:42–47. The barbs are used with a hunting arrow to prevent the removal of the arrowhead after it becomes embedded within the flesh of an animal. *Id.* at 1:53–57, 2:67–70. However, when extended, the barbs adversely affect accuracy, making the arrowhead unsuitable for target archery. *Id.* at 1:68–72. To convert the arrowhead for target archery, the user threads arrow shaft 17 into bore 14 of the body portion so that the shaft engages

inner bard ends 22, causing the barbs to be retracted to the closed position illustrated in Figure 3. *Id.* at 3:5–10.

2. Vandewater – Exhibit 1003

Vandewater discloses a broadhead arrowhead with a pivotable blade. Ex. 1003, 1:60–62. Figures 15 and 16 illustrate such an arrowhead and are reproduced below.

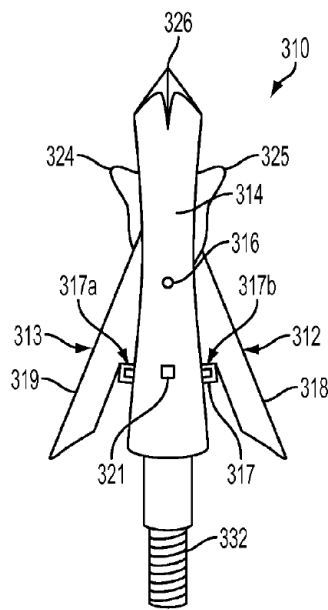


FIG. 15

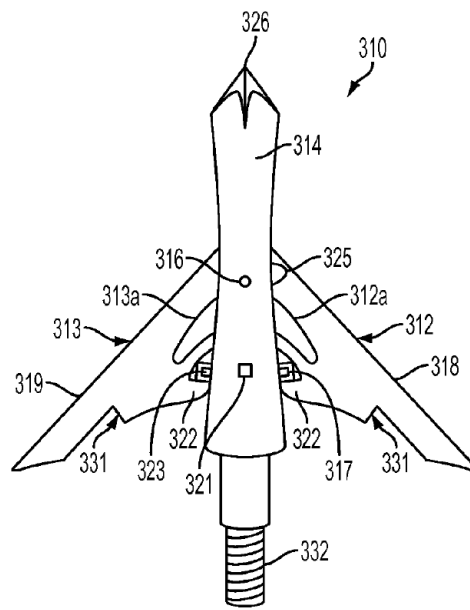


FIG. 16

Figures 15 and 16 illustrate arrowhead 310 including body 314, first blade 312, and second blade 313. *Id.* at 8:39–42. The blades have sharpened edges 318, 319. *Id.* at 9:1–2. In use, the arrowhead is configured in the folded position, as illustrated in Figure 15, to minimize the frontal area of the blades to improve aerodynamics during arrow flight. *Id.* at 9:26–28, 9:34–37, 11:5–10. In this position, shelf region 331 of each blade rests on a leading edge of pivot-limiter 317 to retain the blades in the folded position. *Id.* at 9:5–11. When the arrowhead impacts an object, such as an animal,

on the point. *Id.* at 2:27–31. In use, the arrowhead is placed in the operative position, as illustrated in Figure 2, in which the barb rests on tapered surface 16 of the ferrule. *Id.* at 2:35–37, 2:43–46. To remove the arrowhead from a fish, the ferrule is rotated relative to the point until the barb is in alignment with and moves into slot 17. *Id.* at 2:46–50.

4. Krieger – Exhibit 1006

Krieger discloses arrows and arrowheads. Ex. 1006, 1:1–2. Figure 1 illustrates such an arrow and arrowhead and is reproduced below.

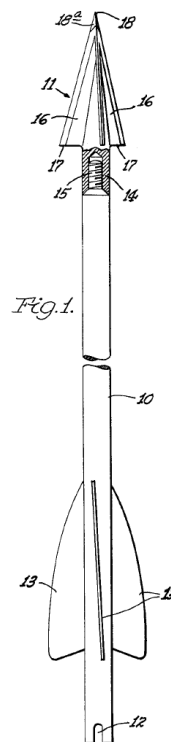
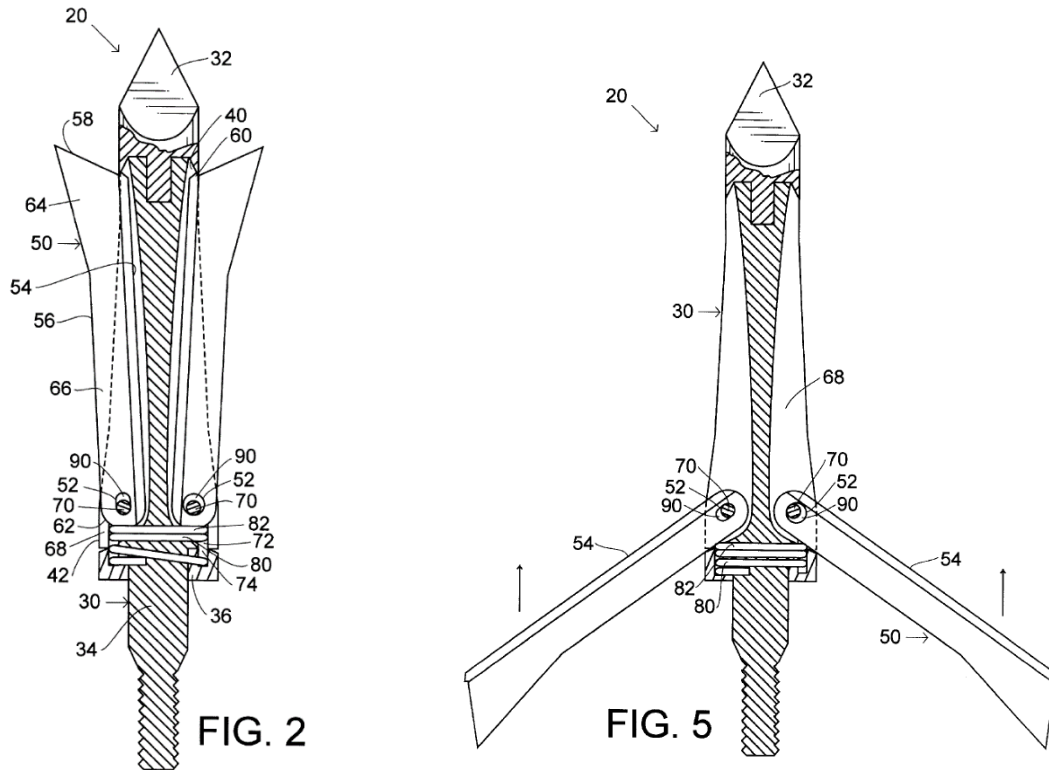


Figure 1 illustrates arrowhead 11 secured to arrow shaft 10 at shank 14. *Id.* at 1:32–43. The arrowhead includes blades 16 that are arranged at a slight acute angle or spirally. *Id.* at 1:44–56. This arrangement causes the arrow to rotate during flight and thereby provide resistance to cross air currents, resulting in a truer flight. *Id.* at 1:56–2:4. The longitudinal edges of the blades are sharpened to reduce air friction. *Id.* at 2:10–12.

5. *Liechty – Exhibit 1012*

Liechty discloses a blade-opening arrowhead. Ex. 1012, code (57). Figures 2 and 5 illustrate such an arrowhead and are reproduced below.

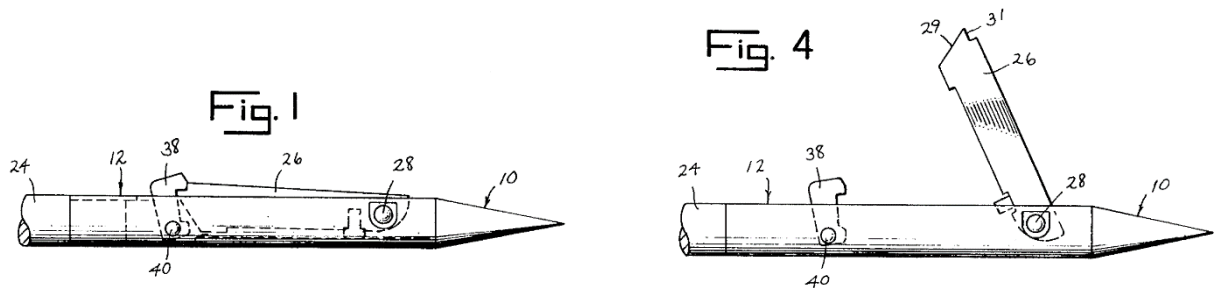


Figures 2 and 5 illustrate arrowhead 20 including blades 50 pivotally connected to body 30 by hinge pins 70. *Id.* at 10:23–35. In use, the blades are placed in the retracted position, as illustrated in Figure 2, in which “annular spring 80 produces an urging force which urges blades 50 in a forward direction such that a catch lip 60 on distal blade edge 58 of each blade 50 is received or engaged in a corresponding receiving notch 40.” *Id.* at 11:40–43, 11:59–63. When the arrowhead impacts an animal, “a wing 64 projecting out from blade edges 56 and 58 of each blade, catches on the animal's surface and opening force 100 drives blades 50 rearwardly” to the fully open position, as illustrated in Figure 5 *Id.* at 12:2–14, Fig. 3. In the open position, as illustrated in Figure 5, “the continual urging force

produced by annular spring 80 drives or continually urges cutting edge 54 of each blade 50 in a forward direction, further slicing uncut or unpenetrated tissue.” *Id.* at 12:14–18.

6. Hendricks – Exhibit 1013

Hendricks discloses “a head for a spear or like weapon” that “has particular application to underwater spears which are utilized to catch game fish.” Ex. 1013, 1:7–9, 1:26–28. Figures 1 and 4 illustrate such a weapon head and are reproduced below.



Figures 1 and 4 illustrate a weapon head including tip section 10 and body section 12. *Id.* at 1:72–75. The body section includes a slot 14 into which barb 26 is positioned. *Id.* at 1:75–2:2, 2:7–9, Fig. 3. The barb is pivotally connected to the body section via pin 28 and is movable between a closed position, as illustrated in Figure 1, and an open position, as illustrated in Figure 4. *Id.* at 2:7–16. In use, the barb is placed in the closed position and held in place by catch 38. *Id.* at 2:39–42, 2:65–3:1. When the weapon head penetrates a fish, the fish body pivots the catch to release the barb, and resilient member 36 urges the barb to the open position. *Id.* at 3:1–6, Fig. 3.

E. Asserted Anticipation by Lint

Petitioner argues that claims 1–4, 7, 9, 11, 12, 15, and 17 are anticipated by Lint. Pet. 20–36. In support of its showing, Petitioner relies upon the Kuhn Declaration. *Id.* (citing Ex. 1019). We have reviewed the parties’ briefs and the evidence of record and determine that, for the reasons explained below, Petitioner has failed to show, by a preponderance of the evidence, that these claims are anticipated by Lint.

Independent claims 1 and 11 each recite a broadhead having first and second blade members. Ex. 1001, 5:20–21, 5:25–38, 6:13–14, 6:20–39. Petitioner maps Lint’s barbs 19 to the recited blade members. Pet. 22, 24 (reproducing and annotating Lint Figure 2 to add “First Blade Member” and “Second Blade Member” labels to Lint’s barbs 19).

Patent Owner argues that, as used in the relevant art, “blade” and “barb” have distinct meanings, with “barb” meaning “a projection extending backward from a point, having an angle of less than 90 degrees from the body, to prevent easy extraction” and “blade member as used in the ’177 [p]atent mean[ing] having a cutting edge or a flat sharp part.” PO Resp. 37–38 (citing Ex. 2008 ¶¶ 77–78; Ex. 2007; Ex. 2011). Patent Owner argues that “Petitioner and Dr. Kuhn improperly state[] Lint discloses blade members and routinely change[] the language and Figures of Lint to disclose ‘blade members’ even though Lint expressly uses the term ‘barb.’” *Id.* at 38–39 (citing Ex. 2010, 81:13–20). Patent Owner argues that, during his deposition, Dr. Kuhn was unable to distinguish between a blade and a barb. *Id.* at 39–42 (citing Ex. 2010, 70:10–73:12, 78:19–79:10, 79:19–22, 80:13–88:25, 98:10–14; Ex. 2008 ¶¶ 79–83).

Petitioner replies that the terms “blade” and “barb” can refer to the same element. Pet. Reply 29–30. Notably, Petitioner agrees with Patent Owner’s interpretation of “barb.” *See id.* at 29 (“In the archery industry, the term ‘barb’ refers to an element of a broadhead in which the angle formed between the trailing or rear edge of the element and the ferrule is less than 90 degrees.” (citing Ex. 1046 ¶ 103; Ex. 1047 ¶ 25)). Continuing, Petitioner argues that Lint’s barbs 19 “are ‘blades’ because they are a tool or device with an edge.” *Id.* at 31 (citing Ex. 1046 ¶¶ 108–111; Ex. 1047 ¶ 27).

As discussed in section II.C.2 above, we interpret a “blade member” to have a cutting surface. Petitioner does not support adequately its assertion that Lint’s barbs 19 have a cutting surface. Petitioner acknowledges that Lint discloses “barb 19,” but Petitioner merely labels the barbs as blade members in annotated versions of Lint Figure 2. Pet. 21–22, 24. Petitioner’s witness, Dr. Kuhn, provides substantially identical testimony, also failing to explain how Lint’s barbs have a cutting surface or perform a cutting function. *See* Ex. 1019 ¶¶ 68, 70. Such conclusory assertions fail to satisfy Petitioner’s burden of persuasion.

To the contrary of Petitioner’s assertions, Lint discloses that its barbs *do not* perform a cutting function. Lint discloses that its barbs retract to the closed position upon impact with an animal. Ex. 1002, 2:62–67. Only when the arrowhead has “completely penetrated the flesh of an animal” does the spring urge the barbs into the extended position “to retain the arrowhead within the animal.” *Id.* at 2:67–70.⁶ Lint discloses that its barbs provide

⁶ During the hearing, Petitioner’s counsel argued that Lint’s disclosure of its barbs deploying “[a]fter the arrowhead 10 has completely penetrated the flesh of an animal” means the spring urges the barbs forward after the

resistance to the removal of the arrow from an animal (*id.* at 1:53–57, 2:67–70), but Lint does not disclose its barbs as performing any cutting function. Thus, Lint’s barbs are not blade members with a cutting surface as we have interpreted the term above. Petitioner has failed to explain adequately how Lint discloses first and second blade members as recited in independent claims 1 and 11.

For at least the foregoing reasons, Petitioner has not shown, by a preponderance of the evidence, that claims 1–4, 7, 9, 11, 12, 15, and 17 are anticipated by Lint.

F. Asserted Anticipation by Vandewater

Petitioner argues that claims 11, 12, 15, and 17 are anticipated by Vandewater. Pet. 36–48. In support of its showing, Petitioner relies upon the Kuhn Declaration. *Id.* (citing Ex. 1019). We have reviewed the parties’ briefs and the evidence of record and determine that, for the reasons explained below, Petitioner has failed to show, by a preponderance of the evidence, that these claims are anticipated by Vandewater.

Independent claim 11 recites “at least one biasing member biasing the first and second blade members towards the extended positions.” Ex. 1001, 6:40–41. Petitioner maps Vandewater’s retaining mechanism, including

arrowhead has passed through the animal’s “outer skin” and when the arrowhead is still within the animal. Tr. 23:4–24:3. This position is inconsistent with the express disclosure of Lint as discussed above. *See* Ex. 1002, 2:62–67. It is also an improper new argument presented during the hearing. *See* Patent Trial and Appeal Board Consolidated Trial Practice Guide 86 (Nov. 2019) (*Available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated>).

biasing element 36, to the recited biasing member. Pet. 45–46. Petitioner also appears to map Vandewater’s pivot limiter 317 to the recited biasing element. *Id.* at 46 (reproducing and annotating Vandewater Figure 16).

Patent Owner argues that Vandewater does not disclose a biasing member as recited in claim 11. PO Resp. 29–34. Patent Owner acknowledges that Vandewater discloses a biasing member, but argues that it is used in conjunction with “an engaging element designed to restrict the rotational movement of the singular blade” and “is not relevant until *after* the blades are locked and already in the extended position.” *Id.* at 29–30 (citing Ex. 2008 ¶ 64). Patent Owner notes that Vandewater’s biasing element is expressly disclosed only in its first embodiment, and argues that the biasing element “cannot have anything to do with biasing the blades to an extended position” because this embodiment has a single blade that does not have a retracted position. *Id.* at 30 (citing Ex. 2008 ¶ 65). Similarly, Patent Owner notes that Vandewater discloses the retaining mechanism as being optional with its third embodiment and argues, therefore, “[l]ogically, if the retaining mechanism is optional, yet the blades of the third embodiment move from a retracted to extended position, the retaining mechanism with biasing element has *nothing* to do with biasing the blade member to an extended position.” *Id.* at 31 (citing Ex. 2008 ¶ 66). Rather than using the retaining mechanism, Patent Owner argues that “Vandewater teaches the use of interlocking tabs 222, 322 that lock the blades in the extended position.” *Id.* at 29–30 (citing Ex. 2008 ¶ 64).

Petitioner replies that the biasing force imparted by Vandewater’s biasing element acts to retain the blade in its centered position and impedes

pivotal movement of the blade. Pet. Reply 24–25 (citing Ex. 1003, 1:42–45, 3:63–66, 4:27–41).

Patent Owner replies that “Petitioner fails to address the Patent Owner’s argument that the pivoting, or biasing of the blades of Vandewater, only occur[s] because of the force of the flesh which has nothing to do with the biasing member.” PO Sur-reply 21. Patent Owner notes that Vandewater discloses that it is the forces imparted upon impacting an animal that causes Vandewater’s blades to move from the folded position to the deployed position. *Id.* at 22 (citing Ex. 1003, 7:26–54). Continuing, Patent Owner argues that “the retaining mechanism *holds* the unitary blade in a centered position and has no relevance to biasing a blade member to an extended position.” *Id.* at 23 (citing Ex. 1003, 7:55–8:2).

We agree with Patent Owner. Vandewater discloses that “[a]rrowhead 310 may be substantially similar to arrowhead 210” and that arrowhead 210 may include a retaining member “such as a biasing element with a ball bearing or a spring wheel in accordance with retaining mechanisms disclosed herein.” Ex. 1003, 7:55–58, 8:47–49. Vandewater explains that,

[i]f a retaining mechanism is employed, first blade 212 and second blade 213 may each comprise a notched portion of a rear edge (not shown) to create a rear edge substantially similar to those described above when in the deployed position. The retaining mechanism may retain the blades in their folded or aligned positions to provide a straighter flight, and/or the retaining mechanism may *retain the blades in a centered position when in their deployed position.*

Id. at 7:58–66 (emphasis added). Although Vandewater discloses the use of a retaining mechanism to maintain first and second blades 312, 313 in a

centered position while deployed, Petitioner does not explain adequately how such a retaining mechanism biases the blade members towards the extended position, as recited in claim 11.

Nor does the retaining mechanism act to return the unitary blade to the centered position after pivoting. Rather, Vandewater discloses that it is the unbalanced forces imparted by the animal's body acting on the respective sides of the blade that cause the unitary blade to return to the centered position. *See* Ex. 1003, 5:34–38 (“Once past the bone or cartilage or object, the blade may pivot back toward its center position *as the other wing then encounters a greater resistance than the first blade wing* (which was pivoted to be generally along the arrowhead after impact with the bone or the like.” (emphasis added)).

We further agree that Petitioner does not explain adequately how Vandewater's pivot-limiter 317 acts as a biasing member. *See* Pet. 46 (reproducing and annotating Vandewater Figure 16 to add a “Retaining Mechanism With Biasing Element” label to Vandewater's pivot-limiter); PO Resp. 32. As discussed above, Vandewater's pivot-limiter retains the blades in the folded position (Ex. 1003, 10:36–40), locks the blades together to form a unitary blade (*id.* at 10:60–62), and limits the rotation of the unitary blade (*id.* at 18–21). Petitioner's annotation of Vandewater Figure 16 does not explain adequately how the pivot-limiter acts as a biasing member as recited in claim 11.

For at least the foregoing reasons, Petitioner has not shown, by a preponderance of the evidence, that claims 11, 12, 15, and 17 are anticipated by Vandewater.

G. Asserted Obviousness Based on Lint, Minisini, and Krieger

Petitioner argues that claims 1–4, 7, 9, 11, 12, 15, and 17 would have been obvious in view of “Lint alone or Lint in view of either Minisini or Krieger.” Pet. 48–58. In support of its showing, Petitioner relies upon the Kuhn Declaration. *Id.* (citing Ex. 1019). We have reviewed the parties’ briefs and the evidence of record and determine that, for the reasons explained below, Petitioner has failed to show, by a preponderance of the evidence, that these claims would have been obvious.

Petitioner relies on its arguments advanced for the anticipation challenge based on Lint and provides additional arguments regarding the blade member recitations. Pet. 48–53. Petitioner advances two alternative arguments for the blade member recitations, which we discuss in turn below. But we first discuss Patent Owner’s contentions regarding Petitioner’s witness, Dr. Kuhn. *See* PO Resp. 22.

1. Petitioner’s Witness, Dr. Kuhn

Patent Owner argues that “Dr. Kuhn’s obviousness-based arguments are all improper as he considered them in view of his own extensive experience and not the experience of [an ordinarily skilled artisan].” PO Resp. 22 (citing Ex. 2010, 62:4–17).

Petitioner does not address Patent Owner’s arguments. *See generally* Pet. Reply.

We are not persuaded by Patent Owner’s arguments to discount the testimony of Dr. Kuhn. Dr. Kuhn states that the opinions presented in his initial declaration are made from the perspective of a person having ordinary skill in the art:

When I offer an opinion or explanation below about the teachings of the prior art and/or the claims of the ‘177 patent, I am explaining how the issue would have been viewed by a [person having ordinary skill in the art] in the 2008 timeframe, even if I do not say so specifically in each case.

Ex. 1019 ¶ 21; *see also id.* ¶ 2 (“I have been asked to offer opinions as an expert regarding invalidity of claims 1-4, 7, 9, 11, 12, 15, and 17 of the ‘177 patent from the perspective of a person having ordinary skill in the art . . .”). We note that Dr. Kuhn makes a similar statement regarding his second declaration. *See* Ex. 1046 ¶ 2. Dr. Kuhn’s statement during his deposition that he used his experience, which he asserts to be greater than the level of ordinary skill, in considering the issues and drafting his first declaration does not persuade us that his opinions in his declarations are from a perspective other than that of an ordinarily skilled artisan.

2. Petitioner’s First Alternative Argument

Petitioner argues that an ordinarily skilled artisan “would understand that the barbs in Lint encompassed both sharp and non-sharp edges” because “[t]he use of sharp edges on expandable barbs, or blade members, has been a well-known technique for decades.” Pet. 49 (citing Ex. 1019 ¶¶ 114–119). According to Petitioner, “[t]he use of a sharp edge on Lint’s barbs was a simple matter of design choice from a limited number of options in order to optimize the design.” *Id.* (citing Ex. 1019 ¶¶ 118–119). Petitioner argues that any differences “between the disclosure of Lint and the ‘first blade member’” are “insufficient to render the claims non-obvious.” *Id.* at 50 (citing Ex. 1019 ¶¶ 118, 162–163).

Patent Owner argues that it would not be logical to “[a]dd[] a blade to the nondeployed barbs of Lint” because “[t]he ‘177 [p]atent uses blade

members to cut, [and] Lint conversely uses barbs to retain.” PO Resp. 48 (citing Ex. 2008 ¶ 91).

A claimed modification to the prior art may be an obvious design choice if the claimed structure performs the same function as in the prior art and it presents no novel or unexpected result over the prior art. *See In re Kuhle*, 526 F.2d 553, 555 (CCPA 1975) (finding that the use of the claimed feature “would be an obvious matter of design choice” when it “solves no stated problem” and “presents no novel or unexpected result” over the disclosed alternatives); *Ex parte Maeda*, Appeal No. 2010-009814, at 6–7 (PTAB Oct. 23, 2012) (informative) (“‘design choice’ may be appropriate where the applicant fails to set forth any reasons why the differences between the claimed invention and the prior art would result in a different function or give unexpected results” (citing *In re Chu*, 66 F.3d 292, 298–99 (Fed. Cir. 1995))).

The ’177 patent explains that the purpose of the recited blade members is to maximize the cutting surface of the arrowhead through an animal’s soft flesh to increase the likelihood of a successful kill and minimize undue suffering of the animal. Ex. 1001, 1:26–30, 4:8–10, 4:21–24. The purpose of Lint’s barbs, on the other hand, is to resist removal of the arrow from an animal. Ex. 1002, 2:67–70. Indeed, Lint discloses that only when the arrowhead has “completely penetrated the flesh of an animal” does the spring urge the barbs into the extended position. *Id.*

Thus, contrary to the conclusory assertions of Petitioner and Petitioner’s witness, Dr. Kuhn (*see* Pet. 49–51; Ex. 1019 ¶ 119), the recited blade members and Lint’s barbs perform vastly different functions. Neither

Petitioner nor Dr. Kuhn explains adequately how the proposed modification to Lint's barbs would be a mere matter of design choice.

For at least the foregoing reasons, Petitioner's first alternative argument to modify Lint's barbs to be blades is unpersuasive.

3. Petitioner's Second Alternative Argument

Petitioner argues that Minisini discloses an arrowhead including a ferrule with a barb having a sharpened outer surface, and Krieger discloses an arrowhead with wings that are sharpened to reduce air friction. Pet. 51 (citing Ex. 1005, 2:10–12, 2:27–29, 2:31–34; Ex. 1006, 1:1–2, 2:10–12). Petitioner argues that it would have been obvious to an ordinarily skilled artisan “to simply add a sharp edge as taught by either Minisini or Krieger to the first blade member disclosed in Lint” because “[t]he use of sharp edges on expandable barbs, or blade members, has been a well-known technique for decades.” *Id.* at 52 (citing Ex. 1019 ¶¶ 114–118, 162–163). Petitioner argues that an ordinarily skilled artisan “would know that sharp edges facilitate cutting flesh, improve the flight characteristics of broadheads, and better allow the broadhead to penetrate a target.” *Id.* at 51 (citing Ex. 1019 ¶¶ 114–116). According to Petitioner, the proposed combination merely combines known elements “making no change to their respective functions.” *Id.* at 52 (citing Ex. 1019 ¶¶ 118–119, 162–163).

Patent Owner argues that “there is no reason for why [an ordinarily skilled artisan] would add a cutting edge to the outside edge of the barb disclosed in Lint” because “the barbs of Lint are retracted as they penetrate the quarry and do not deploy until the broadhead has passed through the quarry.” PO Resp. 49 (citing Ex. 2008 ¶ 88). Patent Owner argues that “adding a blade to the outer edge of Lint and deploying the barbs during

penetration would frustrate the purpose of a barb” because the resulting arrowhead would “inflict more damage” and “generate[] a bigger hole,” so there would be “less intact flesh for the barb to grab onto to help maintain the quarry on the arrow.” *Id.* at 50 (citing Ex. 2008 90); *see also* PO Sur-reply 19–20 (presenting similar arguments). Patent Owner argues that “adding a cutting edge to the barb of Lint would negatively affect the strength of the barb,” “reduce[] the structural integrity of the barb,” and “provide no benefit yet add manufacturing costs, increase[] manufacturing time, and increase[] risk to quality control for no measurable value.” PO Resp. 50–51 (citing Ex. 2008 ¶¶ 89, 98, 105–106).

We are not persuaded by Petitioner’s arguments that it would have been obvious to provide sharp edges on Lint’s barbs. Lint discloses that, “when the arrowhead 10 penetrates the flesh of an animal, *the initial impact on the outer portions 21 of the barbs 19 causes the barbs to be retracted into the slots 18* against the bias of the spring 24,” and only “[a]fter the arrowhead 10 has completely penetrated the flesh of an animal, the spring 24 forces the barbs 19 outwardly so as to retain the arrowhead within the animal.” Ex. 1002, 2:62–67 (emphasis added). As the barbs are retracted while the arrowhead is penetrating the animal, it is not clear why providing sharp outer surfaces to the barbs would facilitate cutting flesh or better allow Lint’s arrowhead to penetrate a target as asserted by Petitioner. As neither Petitioner nor Dr. Kuhn provides an explanation or citations to a teaching reference to support these asserted rationales for modifying Lint’s barbs, Petitioner’s rationales appear to be based on hindsight. *See* Pet. 51–52; Ex. 1019 ¶ 118; Ex. 1001, 1:26–30, 4:8–10, 4:21–24.

Nor are we persuaded by Petitioner's rationale that modifying Lint's barbs to have sharp edges would improve the flight characteristics of Lint's arrowhead. Petitioner provides no support for its assertion. *See* Pet. 51. Dr. Kuhn merely cites to a single sentence in Krieger, but fails to explain how that teaching regarding Krieger's relatively large wings is applicable to Lint's relatively small barbs. *See* Ex. 1019 ¶ 116 (quoting Ex. 1006, 2:10–12).

Finally, we strongly disagree with Petitioner's characterization of the testimony of Patent Owner's witness, Mr. Willkomm. Regarding his declaration testimony that adding a cutting edge to Lint's barbs would negatively affect their strength (*see* Ex. 2008 ¶ 98), Petitioner argues that "Mr. Willkomm . . . admitted during his deposition that his assumption is not supported by any evidence." Pet. Reply 35 (citing Ex. 1034, 59:8–18). We see no such admission. Rather, Mr. Willkomm merely stated that he did not remember if Lint described the material out of which its arrowhead is formed. *See* Ex. 1034, 59:8–18

For at least the foregoing reasons, Petitioner's second alternative argument to modify Lint's barbs to be blades is unpersuasive.

4. Conclusion

For at least the foregoing reasons, Petitioner has not shown, by a preponderance of the evidence, that claims 1–4, 7, 9, 11, 12, 15, and 17 would have been obvious in view of "Lint alone or Lint in view of either Minisini or Krieger."

H. Asserted Obviousness Based on Hendricks

Petitioner argues that claims 11, 12, 15, and 17 would have been obvious in view of “Hendricks alone or Hendricks in combination with the knowledge of [an ordinarily skilled artisan].” Pet. 58–72. In support of its showing, Petitioner relies upon the Kuhn Declaration. *Id.* (citing Ex. 1019). We have reviewed the parties’ briefs and the evidence of record and determine that, for the reasons explained below, Petitioner has failed to show, by a preponderance of the evidence, that these claims would have been obvious.

Independent claim 11 recites a broadhead having first and second blade members. Ex. 1001, 6:13–14, 6:20–39. Petitioner maps Hendricks’s barb 26 to the recited first blade member and argues that it would have been obvious to add another barb to Hendricks’s weapon head. Pet. 61 (reproducing and annotating Hendricks Figure 3 to add a “First Blade Member” label to Hendricks’s barb 26), 63–66.

Patent Owner argues that “Petitioner fails to explain how Hendricks’[s] disclosure of a single ‘barb’ satisfies the claimed element of a blade member.” PO Resp. 53. Patent Owner argues that “Hendricks clearly uses the commonly understood meaning of the term barb.” *Id.* at 54 (citing Ex. 1013, 1:26–27; Ex. 2008 ¶ 109). According to Patent Owner, “the barb of Hendricks does not have a cutting edge,” “[t]here is nothing in the Hendricks specification that would support disclosure of such a cutting edge,” and “[Figure] 2 . . . clearly shows a barb (numeral 26) having a blunt front edge.” *Id.*

Petitioner does not respond to Patent Owner’s arguments. *See* Pet. Reply 36.

We agree with Patent Owner. As Patent Owner correctly notes, Hendricks discloses that its weapon head “has particular application to underwater spears which are utilized to catch game fish.” Ex. 1013, 1:26–28. Hendricks discloses that body section 12 of its weapon head includes barb 26, which is initially held in a closed position by catch 38. *Id.* at 2:7–9, 2:65–3:1, Fig. 1. When the weapon head penetrates a fish, the fish body pivots the catch to release the barb, and resilient member 36 urges the barb to the open position. *Id.* at 3:1–6. Petitioner does not identify, nor has our review revealed, any disclosure that Hendricks’s barbs are sharp or otherwise provide a cutting surface. Petitioner has also not advanced any argument as to why we should interpret Hendricks’s barbs to be blade members; instead, Petitioner merely refers to Hendricks’s barb as a blade member. *See* Pet. 60–61. We agree with Patent Owner’s interpretation that Hendricks’s barb functions to retain the weapon head within the fish in a similar manner as disclosed by Minisini, as discussed above. *See* PO Resp. 54; Ex. 1013, 1:35–38 (explaining that the barb must be closed to withdraw the head from the target.)

For at least the foregoing reasons, Petitioner has not shown, by a preponderance of the evidence, that claims 11, 12, 15, and 17 would have been obvious in view of “Hendricks alone or Hendricks in combination with the knowledge of [an ordinarily skilled artisan].”

I. Asserted Anticipation by Liechty

Petitioner argues that claims 1–4, 9, 11, 12, and 17 are anticipated by Liechty. Pet. 73–86. In support of its showing, Petitioner relies upon the Kuhn Declaration. *Id.* (citing Ex. 1019). We have reviewed the parties’

briefs and the evidence of record and determine that, for the reasons explained below, Petitioner has failed to show, by a preponderance of the evidence, that these claims are anticipated by Liechty.

Independent claims 1 and 11 recite first and second blade members movable between “a retracted position” wherein a second or rearward end of the blade members “is spaced from the ferrule body at a first distance” and “an extended position” wherein the second or rearward end “is spaced from the ferrule body by a distance which is greater than the first distance.” Ex. 1001, 5:25–38, 6:20–39. Petitioner maps Liechty’s blades 50 to the recited blades. Pet. 75, 77. Petitioner maps the position of Liechty’s blades as illustrated in Figure 5 to the recited retracted position and a position of the blades intermediate the positions illustrated in Figures 5 and 2 to the recited extended position. *Id.* at 76 (presenting an annotated version of Liechty Figure 5 and a modified and annotated version of Liechty Figure 5), 78 (same). Petitioner maps the area between the blades and stem 34 in Figure 5 to the recited first distance and the area between the blades and stem in the modified version of Figure 5 to the recited distance greater than the first distance. *Id.*

Patent Owner argues that Petitioner’s mapping of the recited extended position is flawed, as Liechty discloses that its spring biases the blades to the closed position and Liechty’s Figure 5 illustrates the blades in the extended position. PO Resp. 61–64 (citing Ex. 2008 ¶¶ 121–122; Ex. 2010, 115:21–116:4, 121:2–7; 121:23–122:11).

Petitioner replies that as Liechty’s blades move from the position shown in Figure 5 to the position shown in Figure 2, the blades move from a

“retracted position” to an “extended position” as recited in the independent claims. Pet. Reply 5–11.

Patent Owner replies that Petitioner maps the recited extended position to a transition point rather than an extended position. PO Sur-reply 8 (citing Ex. 2008 ¶ 123). Patent Owner argues that “the express language of [Liechty] indicates the blades remain at the fully open position and that only the force from a removal, not a biasing force, moves the blades back to a closed position.” *Id.* at 10 (citing Ex. 1012, 12:18–23).

Patent Owner also argues that Liechty does not disclose a blade member “having a forward end pivotally interconnected with the ferrule body” as recited in claim 11. PO Resp. 59–60 (citing Ex. 1012, Fig. 3; Ex. 2008 ¶¶ 117–120); *see also id.* at 64–65 (citing Ex. 2008 ¶ 124) (presenting similar arguments); Pet. Sur-reply 12–13 (presenting similar arguments). Petitioner does not respond to these arguments. *See generally* Pet. Reply.

We are not persuaded by Petitioner’s mapping of the recited retracted and extended blade positions. *See* Pet. 75–76, 78. Liechty discloses that the position illustrated in Figure 5 is the “fully open position” (Ex. 1012, 8:53–56), but Petitioner maps this position to the recited retracted position (Pet. 76 (reproducing and annotating Liechty Figure 5 to add a “First Distance” label), 78 (same)). Petitioner fails to explain adequately how Liechty’s fully open position qualifies as a retracted position.

We are also not persuaded by Petitioner’s mapping of the recited first distance. *See* Pet. 76, 78. Claims 1 and 11 each recite “a ferrule having a rearward end configured for attachment to the shaft and an opposite forward end with a ferrule body extending therebetween.” Ex. 1001, 5:22–24,

6:15–17. Petitioner maps Liechty’s stem 34 to the recited rearward end, tip 32 to the recited forward end, and body 30 between the tip and blades 50 to the recited body. Pet. 74 (reproducing and annotating Liechty Figure 5). However, in mapping the recited fist distance, Petitioner identifies a space between Liechty’s blades and stem/rearward end. *Id.* at 76, 78. Petitioner fails to explain adequately how a distance between Liechty’s blades and ferrule rearward end qualifies as the recited first distance between the blades and ferrule body. In other words, Petitioner’s mapping of the recited distances is incompatible with its mapping of the ferrule body. *Compare id.* at 74 (mapping arrowhead body 30 to the recited ferrule body and the end of the body with stem 34 to the recited rearward end), *with id.* at 76 (mapping the end of the body with stem 34 to the recited ferrule body), 78 (same).

For the same reasons, Petitioner fails to explain adequately how Liechty discloses “at least one biasing member biasing the first and second blade members *towards the extended positions*” as recited in independent claims 1 and 11. Ex. 1001, 5:39–40, 6:40–41 (emphasis added). Petitioner maps Liechty’s annular spring 80 to the recited biasing member and notes that the spring “drives or continually urges cutting edge 54 of each blade 50 in a forward direction.” Pet. 78–79 (quoting Ex. 1012, 12:16–18). However, Liechty discloses the arrowhead position with the blades in the forward arrangement as “the retracted position.” *See, e.g.,* Ex. 1012, 8:39–42, Fig. 2. Thus, Petitioner fails to explain adequately how Liechty discloses a “biasing member biasing the first and second blade members towards the extended positions.”

Finally, we agree that Petitioner does not explain adequately how Liechty discloses a blade member “having a forward end pivotally

interconnected with the ferrule body” as recited in claim 11. *See* PO Resp. 59–60. Liechty discloses that the *rearward* ends of blades 50 are pivotably connected to body 30 via hinge pins 70. Ex. 1012, 10:30–35, Figs. 2–15. Petitioner does not explain adequately why we should consider the rearward end of Liechty’s blades to correspond to the recited blade member forward ends.

For at least the foregoing reasons, Petitioner has not shown, by a preponderance of the evidence, that claims 1–4, 9, 11, 12, and 17 are anticipated by Liechty.

III. PATENT OWNER’S MOTION TO EXCLUDE

Patent Owner filed a Motion to Exclude Exhibits 1022–1026, 1035–1037, 1038–1039, 1042–1045, 1047–1049, and portions of Dr. Kuhn’s second declaration (Ex. 1046) discussing the same. Paper 25 (“Mot.”). Petitioner opposed the Motion. Paper 27 (“Opp.”).

The party moving to exclude evidence bears the burden of proof to establish that it is entitled to the relief requested—namely, that the material sought to be excluded is inadmissible under the Federal Rules of Evidence. *See* 37 C.F.R. §§ 42.20(c), 42.62(a). For the reasons discussed below, Patent Owner’s Motion to Exclude is *dismissed*.

Patent Owner argues that we should exclude Exhibits 1022–1026 and 1035–1037, which Petitioner submitted with its Reply, asserting that these exhibits constitute new evidence Petitioner uses to support its assertion that Liechty’s spring 80 biases the blades from a fully open position to a fully closed position. Mot. 3–5. Patent Owner argues that these exhibits are manipulations of the asserted reference’s figures that illustrate Dr. Kuhn’s

interpretation, but those interpretations are not disclosed or taught in the references. *Id.* at 4–5. Patent Owner argues that Dr. Kuhn fails to disclose the underlying facts or data used to create these exhibits. *Id.* at 5. Patent Owner argues that there is no reason Petitioner could not have included these exhibits with its Petition. *Id.* For the same reasons, Patent Owner argues that we should exclude paragraphs 9–12, 21–25, 29–32, 36, 42, 44–48, 53, 55–59, and 77 of Dr. Kuhn’s second declaration. *Id.*

Patent Owner further argues that Petitioner introduced Exhibits 1028–1031, 1038, 1039, 1042–1045, and 1047–1049 with its Reply to improperly bolster its argument that Lint’s barb is a blade. Mot. 5–6. Patent Owner argues that Petitioner could have submitted these exhibits with its Petition. *Id.* at 6. For the same reasons, Patent Owner argues that we should exclude paragraphs 98, a, b, 102, 104, 105, and 123 of Dr. Kuhn’s second declaration. *Id.*

Petitioner replies that the Exhibits and testimony cited by Patent Owner properly respond to arguments Patent Owner advanced in its Reply and elaborate on issues raised in the Petition. Opp. 4–8, 12–14. Petitioner argues that Patent Owner’s arguments are directed to the weight to be accorded the evidence, which is improper for motion to exclude. *Id.* at 9, 11–12. Petitioner argues that Dr. Kuhn may “rely on logic, judgment, and common sense” and, in any event, Dr. Kuhn set forth the factual basis for his understanding of how the arrowheads disclosed in the asserted references operate. *Id.* at 10–11.

We do not rely on the materials Patent Owner seeks to exclude in making our conclusions in this proceeding. Even if we were to rely on such materials, we would still find that Petitioner has failed to show, by a

preponderance of the evidence, that any of the challenged claims is unpatentable. Accordingly, we *dismiss* as moot Patent Owner’s Motion to Exclude.

IV. CONCLUSION⁷

Based on the evidence presented with the Petition, the evidence introduced during the trial, and the parties’ respective arguments, Petitioner has failed to show, by a preponderance of the evidence, that claims 1–4, 7, 9, 11, 12, 15, and 17 of the ’177 patent are unpatentable. In summary,

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–4, 7, 9, 11, 12, 15, 17	102(b)	Lint		1–4, 7, 9, 11, 12, 15, 17
11, 12, 15, 17	102(e)	Vandewater		11, 12, 15, 17
1–4, 7, 9, 11, 12, 15, 17	103(a)	Lint, Minisini, Krieger		1–4, 7, 9, 11, 12, 15, 17
11, 12, 15, 17	103(a)	Hendricks		11, 12, 15, 17

⁷ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. §§ 42.8(a)(3), (b)(2).

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–4, 9, 11, 12, 17	102(b)	Liechty		1–4, 9, 11, 12, 17
Overall Outcome				1–4, 7, 9, 11, 12, 15, 17

V. ORDER

Accordingly, it is

ORDERED that claims 1–4, 7, 9, 11, 12, 15, and 17 of the '177 patent have not been shown to be unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude is *dismissed*; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2024-00401
Patent 8,043,177 B2

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