

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BOWMAR ARCHERY LLC., Petitioner,

v.

VETERAN'S INNOVATIVE PRODUCTS, LLC, Patent Owner

Inter Parties Review No.: IPR2024-00401

Patent No.: 8,043,177

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PATENT OWNER'S SUR-REPLY

TABLE OF CONTENTS

I. Liechty II Does Not Anticipate Claims 1-4, 9, 11-12, or 17 (Ground 5).....	4
A. Dr. Kuhn’s “evolving” position on the operation of Liechty II highlights the fallacy that Liechty II implicitly discloses all limitations of Claims 1 and 11. 4	
B. Even if the Board were to adopt Kuhn’s strained reading of Liechty II that the 90-degree angled drawing satisfies the requirement of biasing to the “extended position,” the reference still does not teach the biasing member as the only element operable to hold blade in the extended position.	11
C. Petitioner and Dr. Kuhn continue to ignore the plain teachings of Liechty II in identifying positions of the blades which causes Liechty II to not meet the directional elements of independent claim 11 and claim 4.	12
II. Petitioner’s Arguments that Lint Anticipates, or alternatively renders obvious, claims 1-4, 7, 9, 11-12, 15, or 17 are not persuasive (Grounds 1 and 3).....	14
A. Petitioner’s newly introduced definition of a blade actually supports Patent’s Owner’s definition that requires a sharp edge to cut which further invalidates Petitioner’s position that a barb is the same as a blade.	14
B. Lint requires the shaft to be screwed a certain distance before the spring can bias the barbs to an extended position.	18
C. A POSITA would not add a sharp blade to Lint in combination with Minisini and/or Krieger.	19
III. Vandewater does not anticipate Claims 11-12, 15 or 17 (Ground 2).....	20
A. Petitioner’s Reply should be struck, at least as it pertains to Vandewater, as Petitioner now relies on different embodiments of Vandewater to support its claim for unpatentability.	20
B. Even if the Board were to accept Petitioner’s Reply, Vandewater does not teach “at least one biasing member biasing the first and second blade members towards the extended positions.”	21
IV. Flanagan is not obvious in view of Hendricks (Ground 4)	26
V. Conclusion	26

LIST OF EXHIBITS

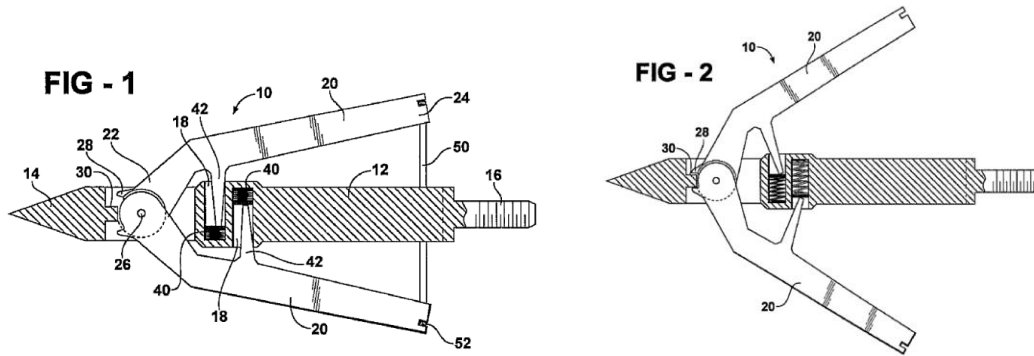
Exhibit Number	Exhibit Title
2017	Dictionary.com – “edge” (last accessed January 28, 2025)
2018	Transcript of the January 16, 2025 Cross Examination of Robert Mizek

I. LIECHTY II DOES NOT ANTICIPATE CLAIMS 1-4, 9, 11-12, OR 17 (GROUND 5)

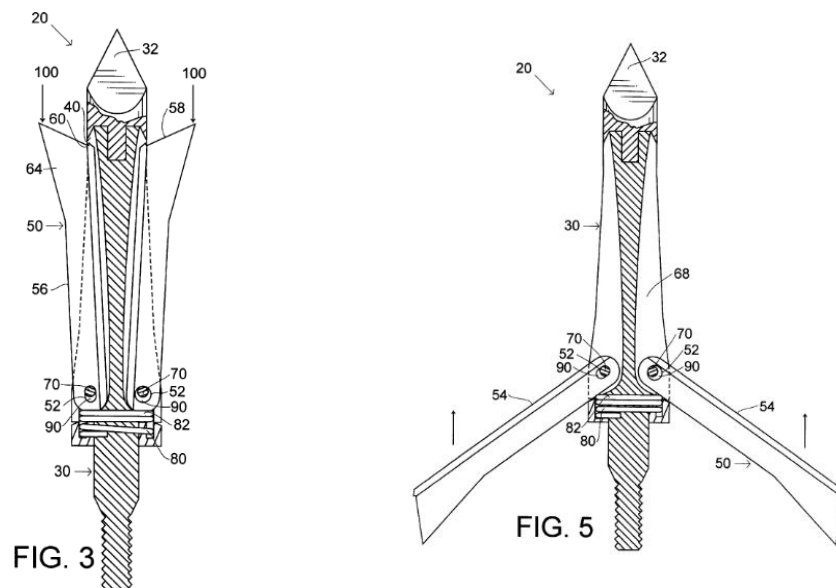
A. Dr. Kuhn’s “evolving” position on the operation of Liechty II highlights the fallacy that Liechty II implicitly discloses all limitations of Claims 1 and 11.

Dr. Kuhn’s new interpretation of Liechty II substantially contradicts his initial declaration made on January 8, 2024 and related testimony. Simply put, Liechty II does not disclose the “extended position” biased by a biasing member as claimed by Flanagan. Dr. Kuhn’s newly generated drawings of Liechty II (produced in the Reply), contradict Dr. Kuhn’s previous testimony, and ultimately fail to satisfy the necessary claim limitations. Liechty II does not anticipate all elements of claims 1 and 11.

As discussed throughout this proceeding, independent claims 1 and 11 of Flanagan disclose a requirement for each blade member to have a “retracted position” and an “extended position” with a “biasing member biasing . . . the blade members towards the extended positions.” Ex. 1001 at 5:25-40; 6:20-41. Flanagan defines the retracted and extended positions by measuring the distance between the second end of the blade member and the ferrule body with the distance being greater in the extended position. *Id.* Flanagan expressly states the blades as shown in Fig. 1 show the retracted position and the blades in Fig. 2 show the extended position. *Id.* at 2:59-62.



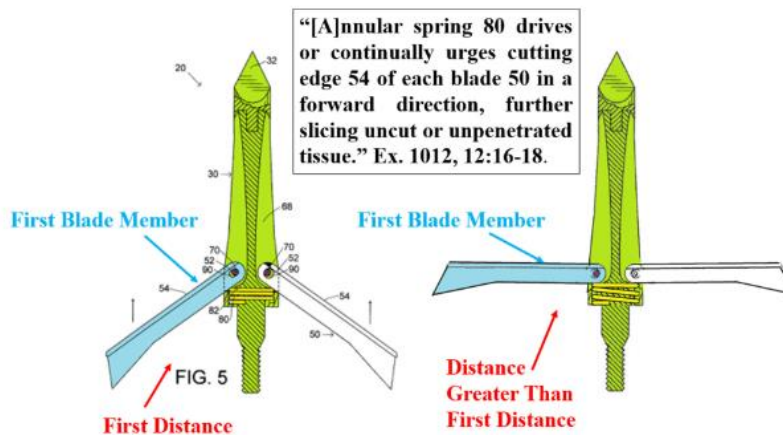
Liechty II does not expressly disclose an “extended position” biased by a biasing member as required by the Flanagan limitations. Instead, Liechty II expressly discloses “selectable blade positions according to this invention are the retracted position and the open position” as shown in the figures below:



Ex. 1012 at 11:44-46, Figs. 3, 5. As expressly disclosed in Liechty II, the biasing member keeps the blades in the retracted position, by “urging” the blades into a notch near the tip of the ferrule. *Id.* at 11:50-12:2. When the wings 64 of the blades 50 contact an animal, the blades 50 are compressed rearward against the spring 80

and are then rotationally driven rearward toward the open (or extended) position along the hinge pin 70. *Id.* at 12:7-14. Once in the open, or extended position, Liechty II discloses the biasing member “urges [the] cutting edge 54 of each blade 50 in a forward direction.” *Id.* at 12:14-18. Liechty II further describes the location of the blades after impact in an animal by stating “[w]hen arrowhead 20 is pulled-out from a target or a game animal blades 50 rotate **from the fully open position** to a non barbing position as clearly shown in FIG. 4, wherein the angle between blade edges 56 of each blade and a point rearward of hinge pins 70 on arrow shaft 18 is greater than ninety degrees.” *Id.* at 12:18-23 (emphasis added). In other words and as described by Liechty II, despite any “urging forward” by the biasing element, the blades remain in the “fully open position” once the arrowhead has completed its penetration.

Liechty II’s express disclosure does not support Petitioner’s position. In an effort to make a square peg fit into a round hole, Petitioner’s expert Dr. Kuhn generated a drawing of Liechty II purporting to show the blades in an “extended position.” To accomplish this, Dr. Kuhn seemingly relies on the implicit disclosure of Liechty II, claiming that while the drawing is not in Liechty II directly, his interpretation of Liechty II supports the drawing. Ex. 1019 at ¶ 195; Ex. 2010 at 122:23-123:11. The drawing on the right as seen below, is not disclosed in Liechty II and is based on Dr. Kuhn’s opinion:



Id. Dr. Kuhn claims the urging forward of the blades by the biasing member creates this “extended position.” *Id.* However, Dr. Kuhn acknowledges this drawing is “exaggerated” and essentially a guess as he concedes the spring biases the blades “up” but doesn’t know how far up the blades will go. Ex. 2010 at 121:13-122:11. However, when asked, “could it be possible that [] spring could rotate those blades all the way back up” Dr. Kuhn’s response was “No.” Ex. 2010 at 122:12-14. Dr. Kuhn went on to state that when the broadhead of Liechty II is passing through an animal, the blades may not even go to the 90-degree position he explicitly depicted in his generated figure but that the viscosity of the tissue and force applied would dictate the movement of the blade. *Id.* at 124:14-23. In other words, if Liechty II was passing through the animal the blades would be in the fully deployed position as shown in Fig. 5, but if going through something less viscous or a “void stomach” the blades could get to the 90-degree angle of his modified drawing. *Id.*

Patent Owner's expert, Mr. Wayne Willkomm, disagreed with Dr. Kuhn's position, notably stating that *at best*, Dr. Kuhn's drawing shows a transition point of the blades moving from open position to the closed position. Ex 2008 at ¶ 123. In other words there is not an "extended position" as shown by Dr. Kuhn with the blades at a 90 degree angle, but instead, a transition from the open position to the closed position. *Id.*

After Mr. Willkomm's report criticizing Dr. Kuhn's interpretation of biasing member of Liechty II, Dr. Kuhn generated new drawings of Liechty II that were not provided in the Petition or Dr. Kuhn's initial declaration and are not expressly shown in Liechty II. Petitioner disclosed these exhibits for the first time in the deposition of Mr. Willkomm; Patent Owner timely objected to them. Ex. 1034 at 26:9-42:21 (objecting to Exs. 1022-1024). One set of Dr. Kuhn's newly generated drawings allegedly depict movement of the Liechty II blades as a result of the biasing element which depicts the blades "moving from the 'fully open position' . . . to the 'fully closed position.'" Ex. 1046 at ¶¶ 10-11; Ex 1023. In reviewing these new exhibits, on the fly and without time to analyze as they were not part of the Petition or Dr. Kuhn's expert report, Mr. Willkomm acknowledged the blades may move back to the closed position contingent upon the medium in which the blades are passing through. *See, e.g.*, Ex. 1034 at 34:4-7 ("When the resistance of the medium through which it's traveling is less than the spring force, then the blades

will then move forward toward the closed position.”). Nevertheless, Mr. Willkomm never backed off or changed his position that the biasing member of Liechty II, at best, biases the blades towards the closed, or retracted position. *Id.* at 30:16-25; 31:12-15; 35:7-13; 36:4-7; 36:14-16; 38:12-14. For Petitioner to suggest Mr. Willkomm agreed that the 90-degree image generated by Dr. Kuhn shows an “extended position” is simply untrue; instead, Mr. Willkomm always stated the biasing member, at best, biased the blades of Liechty II to a closed position depending on the medium the broadhead is traveling through.

At some point during this proceeding, Dr. Kuhn radically changed his position. At the Petition stage and as acknowledged in his deposition, he believed the 90-degree angle image he generated was “exaggerated,” he didn’t know how much the blade would be biased by the spring, and that the biasing member could not move the blade from the open position back to the closed position. Ex. 2010 at 121:13-122:11; 122:12-14. In a surprising change of stance, Dr. Kuhn declares under penalty of perjury that the biasing member is capable of biasing the blade of Liechty II from the “fully open position back to a fully closed position.” Ex. 1046 at ¶ 11. At no point does Dr. Kuhn explain why he changed his opinion or how the implicit disclosure of Liechty II now justified his new drawing and new position.

It is important for the Board to understand Liechty II discloses the opposite of Flanagan in that the biasing member biases the blades to a closed position.

Liechty II never discloses the “intermediate” position Dr. Kuhn relies on to establish an “extended position.” Further, Dr. Kuhn’s “implicit disclosure” for support of his generated drawings, all of them, is mere conjecture unsupported by the plain language of Liechty II:

“[w]hen arrowhead 20 is pulled-out from a target or a game animal blades 50 rotate **from the fully open position** to a non barbing position as clearly shown in FIG. 4, wherein the angle between blade edges 56 of each blade and a point rearward of hinge pins 70 on arrow shaft 18 is greater than ninety degrees.”

Ex. 1012 at 12:18-23 (emphasis added). Despite Petitioner’s assertion that the blades move up from the biasing element, the express language of Liechty II 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.

Petitioner’s reliance on *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.* is misplaced. The evidence shows the biasing element of Liechty II, if anything, biases the blades to a closed, or retracted position, which is opposite of Flanagan. Further, you have experts disagreeing as to the scope of the implicit disclosure, Petitioner’s expert radically changing his meaning of the implicit disclosure during the course of this proceeding, and the plain language of Liechty II refutes the speculative implicit disclosure of a 90-degree “extended position” in response to the biasing element. There is simply not substantial evidence that Liechty II meets the claim limitation of a biasing member biasing the blade member

to an extended position at all, let alone “sometimes.” *See IXI IP, LLC v. Samsung Elecs. Co.*, 903 F.3d 1257, 1262 (Fed. Cir. 2018) (“Where two different conclusions may be warranted based on the evidence of record, the Board’s decision to favor one conclusion over the other is the type of decision that must be sustained by this court as supported by substantial evidence.”).

B. Even if the Board were to adopt Kuhn’s strained reading of Liechty II that the 90-degree angled drawing satisfies the requirement of biasing to the “extended position,” the reference still does not teach the biasing member as the only element operable to hold blade in the extended position.

Petitioner and its expert mislead the Board in discussing the testimony of Patent Owner’s expert Wayne Willkomm as it relates to the holding of Liechty II’s blade member in the 90-degree angle as shown in Dr. Kuhn’s generated drawing. Petitioner suggests the extended position as taught by Flanagan can be a fleeting moment of time and ignores the plain language of the claim that requires “the biasing member being the only element operable to hold the blade members in the extended positions.” Ex. 1001 at 5:40-42. Mr. Willkomm, despite insinuations from Petitioner, expressly testified the biasing member of claim 1 to be “operable and holding it in [the extended position.] And it’s the only one.” Ex. 1034 at 90:17-21. Mr. Willkomm stated numerous times during the deposition that the only way the blade would not be in the closed position, is if there was another force, *i.e.*, the tissue, acting against

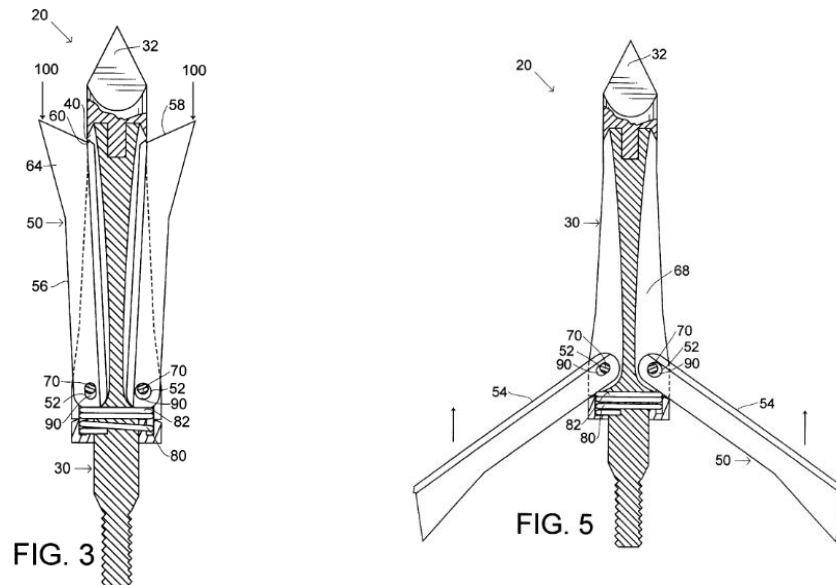
the force of the spring. *Id.* at 30:16-25; 31:12-15; 35:7-13; 36:4-7; 36:14-16; 38:12-14.

Petitioner and Dr. Kuhn seek to read out the “hold” language of the claim by suggesting the mere movement of the blade to the 90-degree angle satisfies the limitation. Alternatively, Petitioner and Dr. Kuhn, in the Reply, ignore the application of the force from the animal that is necessary to “hold” the blade in the 90-degree extended position. This contradicts Dr. Kuhn’s testimony in which he recognized this second element, the force from the animal, when he testified the alleged movement of the blade from the open position to the closed position is a “balancing act” between the biasing member and the force of the tissue while going through the animal. Ex. 2010 at 125:5-13. To hold the blade in the extended position, requires a second element, as acknowledged, by Dr. Kuhn. As a result, Liechty II does not anticipate independent claim 1 due to the requirement of “the biasing member being the only element operable to hold the blade members in the extended positions.” Ex. 1001 at 5:40-42.

C. Petitioner and Dr. Kuhn continue to ignore the plain teachings of Liechty II in identifying positions of the blades which causes Liechty II to not meet the directional elements of independent claim 11 and claim 4.

Claims 4 and 11 of Flanagan expressly disclose directionality of the blades with a forward end and rearward end defined in relation to the ferrule. Ex. 1001 at

6:13-42. Liechty II also discloses directionality in relation to its blades. As shown below, the blade of Liechty II is pivotably connected at the rearward end as shown in FIG. 3 which is the retracted, or “in flight” position.



Ex. 1012 at 11:40-49; Figs. 3, 5. Liechty II teaches

When arrow 16 having blades 50 in the retracted position, as shown in FIG. 1, is shot and impacts an animal or an object, and begins initial penetration, as shown in FIG. 3, 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**.

Id. at 12:2-7 (emphasis added). Liechty II clearly defines direction within its disclosure and there is simply no reasonable argument to state the blades of Liechty II are pivotably mounted at the “forward end” as required by claims 4 and 11.

II. PETITIONER’S ARGUMENTS THAT LINT ANTICIPATES, OR ALTERNATIVELY RENDERS OBVIOUS, CLAIMS 1-4, 7, 9, 11-12, 15, OR 17 ARE NOT PERSUASIVE (GROUNDS 1 AND 3)

A. Petitioner’s newly introduced definition of a blade actually supports Patent’s Owner’s definition that requires a sharp edge to cut which further invalidates Petitioner’s position that a barb is the same as a blade.

At the Petition stage, Petitioner did not provide an express definition of blade in its Petition but acknowledged that any term not expressly defined in its “Claim Interpretation” section “should be construed according to their ordinary and customary meaning at the time of the invention to a PHOSITA.” Petition at 19. Petitioner’s initial expert, Dr. Kuhn, provided some guidance as to his interpretation of the definition of blade by stating in his initial declaration that the “plain and ordinary meaning of ‘blade’ does not inherently require a sharp edge” and that “blades on broadhead could be either sharp or blunt.” Ex. 1019 at ¶ 114. Dr. Kuhn repeatedly interchanged the term blade for barb in his declaration, testified that barbs are synonyms with blades, and that blades may have a cutting edge but don’t have to. Ex. 1019 at ¶¶ 62, 68, 113; Ex. 2010 at 70:10-73:12; 78:19-79:10; 81:13-20; 82:2-83:15; 88:18-25. Ultimately, Dr. Kuhn failed to articulate any practical definition of the term blade (or barb) despite throwing out terms like “edge,” “lethal cutting surface,” the need for “velocity or speed,” need for “pressure.” *Id.* at 80:13-88:25.

In contrast, Patent Owner expressly stated a POSITA would understand the plain and ordinary meaning of a blade member to have “a cutting edge or flat sharp part.” Patent Owner Response at 20; Ex. 2008 at ¶ 53. In support for this plain and ordinary meaning, Patent Owner relied on a dictionary definition of blade meaning “the flat sharp part of a weapon or tool that is used for cutting.” Ex. 2006; Ex. 2008 at ¶ 53. Patent Owner further cited the specification of Flanagan as an example that the plain and ordinary meaning of blade requires a cutting edge or flat sharp part. Patent Owner’s Response at 20.

In Petitioner’s Reply, Petitioner for the first time proffers a definition for the term “blade” to mean “a tool or device with an edge.” Reply at 26. Petitioner relies on a new declaration from Dr. Kuhn and a new expert Robert Mizek. Ex. 1046 at ¶ 96; Ex. 1047 at ¶ 16. Notably, Mr. Mizek, seemingly agreeing with Patent Owner, concedes “the term ‘blade’ does not have a specialized meaning in the archery industry.” Ex. 1047 at ¶ 16. Neither of Petitioner’s expert define “edge” but Dr. Kuhn states a blade may have a “sharp edge or a dull edge” and similarly Mr. Mizek states a blade may be “sharp, dull, or blunt.” 1046 at ¶ 98; Ex. 1047 at ¶ 19. Ironically, one definition of the term edge means “the thin, sharp side of the blade of a cutting instrument or weapon.” Ex. 2017, Definition of Edge, <https://www.dictionary.com/browse/edge> (last accessed January 28, 2025). Thus, Petitioner’s experts use of “edge,” despite their flawed interpretation, actually

supports Patent Owner’s definition that requires the blade to be sharp. Notably, Mr. Mizek ultimately conceded the “function of the blade” is “to *cut* target material, flesh, organs, whatever.” Ex. 2018, Cross Examination of Robert Mizek, at 33:18-23 (emphases added). Dr. Kuhn, seemingly never agreed with the function of a blade to cut despite the basic definition and admission that Flanagan teaches cutting and slicing with the blade member. Ex. 1019 at ¶ 114.

Petitioner’s experts fail to properly interpret “blade” because they do not want to utilize the default definition of blade that requires a cutting edge or flat sharp part. Instead, both experts utilize an unworkable and untenable position that a blade may or may not be sharp and that a blade may or may not be used for cutting. This position renders the term useless for all practical purposes. Instead, Petitioner’s experts fail to realize the term blade may be modified, to mean a dull or blunt blade, but that does not change the ordinary meaning of blade. For example, Mr. Mizek relies on several patents that expressly use modifiers to change or alter the term “blade.” For example, in the Kosab patent, the inventor expressly discloses one embodiment of a blade should be *blunt* so it can *stun* prey rather than *cut*. Ex. 1010 at 5:10-50. In the Cartwright patent, the inventor expressly discloses “[t]he blades are preferably dull, not sharp.” Ex. 1039 at 3:14-15. These patents use modifiers because the references are modifying the default definition of the term blade to suit the purpose of the patent.

The default and ordinary meaning of blade is supported by Flanagan itself as Flanagan does not define blade. However, Flanagan discloses changing the blade position to “increase the amount of flesh cut by the blade member.” Ex. 1001 at 1:5-10. Flanagan relies on the plain and ordinary meaning of blade to have a sharp flat part or cutting edge in order to cut the tissue. Petitioner and its experts use mental gymnastics to suggest default definition of blade simply means a dull or sharp edge but offers no background or support for such a definition and ignores the plain meaning of edge that refers to “the thin, sharp side of the blade of a cutting instrument or weapon.” Ex. 2017.

The real reason for Petitioner and its expert’s mental gymnastics is to transform the expressly identified barb structural element of Lint into a blade. While this topic has already been addressed in Patent Owner’s response, Mr. Mizek fails to provide any support that contradicts Patent Owner’s position. In fact, Mr. Mizek agrees that a “function of a barb could be to retain.” Ex. 2018 at 34:1. Mr. Mizek also agrees that “not all blades are barbs” and that “not all barbs are blades” which contradicts Petitioner’s other expert Dr. Kuhn who claimed the terms were synonyms. *Compare* Ex. 2018 at 33:4-7 with Ex. 1010 at 80:13-18.

Patent Owner agrees that a singular structural element may function as a blade if it has a sharp edge for cutting and may be a barb if it is structurally capable of retaining. Petitioner misleads the Board in citing Mr. Willkomm in this regard as

Petitioner fails to recognize the nuance of a structural element having multiple functions. That does not mean blade and barb are synonyms as Dr. Kuhn claims, but instead, the structural elements may have the function of a barb and a blade.¹

As stated in Patent Owner's response, the barb of Lint is not a blade. The barb of Lint does not satisfy the structural definition of blade, that it is sharp, or the functional definition of intention to cut. It does not meet Petitioner's definition of a blade nor does it meet Patent Owner's definition of a blade. The barb of Lint is not sharp, does not have an edge, does not cut, and is not even deployed with the broadhead passes through an animal. Lint does not satisfy the limitations of any of the Flanagan claims.

B. Lint requires the shaft to be screwed a certain distance before the spring can bias the barbs to an extended position.

Petitioner claims Mr. Willkomm agreed that the spring in Lint is the only element operable to bias the barbs to an extended position. This position is at odds with Lint and misleads the Board as to Mr. Willkomm's testimony. In Mr. Willkomm's declaration, he expressly states how the shaft is screwed upwards to the tip which forces the barbs into the retracted position as shown in Fig. 3. Ex. 2008 at

¹ Petitioner's attorney had a lengthy exchange with Mr. Willkomm regarding whether the blades of Flanagan are barbs. Ultimately, Mr. Willkomm acknowledged the blade members extend back at an angle like a barb but do not have a sharp point indicative of most barbs. To suggest Mr. Willkomm agreed that Flanagan's blades are barbs is incorrect. Ex. 1034 at 135:3-9.

¶ 85; Ex. 1002 at Fig. 3. In other words, if the shaft is not in the correct orientation, the barbs cannot move to the extended position. In the deposition of Mr. Willkomm, the discussion never referenced Fig. 3 of Lint or paragraph 85 of his declaration (Ex. 1034 at 44:25-59:18), Mr. Willkomm acknowledged it had been “days ago” since he last reviewed Lint (Ex. 1034 at 50:7-9), but did acknowledge that how the shaft was screwed into the ferrule directly affected the ability of the barbs to move (Ex. 1034 at 56:18-25). In other words, there is nothing in Mr. Willkomm’s deposition that contradicted his position in his declaration. Simply put, the position of the arrow shaft and the spring operate to hold the barbs in the extended position which means Lint does not satisfy claim 1 of Flanagan.

C. A POSITA would not add a sharp blade to Lint in combination with Minisini and/or Krieger.

The Petitioner does not grasp two crucial reasons as to why a POSITA would not add a sharp edge to the barb of Lint. First, Lint expressly teaches retracting the barbs as it passes through the animal. Ex. 1002 at 2:64-70. Thus, it would make no sense to put a blade on a structural element that is intended to retract as it passes through the animal. Second, the purpose of a barb is to retain. *Id.*; Ex. 2008 at ¶ 89. Petitioner’s new expert, Mr. Mizek, concedes this point. Ex. 2018 at 34:1 (“function of a barb could be to retain.”). In order to retain, the barb has to grasp onto flesh and if the flesh is cut through a wide hole, for example, a wide hole made by blades cutting, there is less flesh for the barb to be retained. Ex. 2008 at ¶ 90. That would

defeat the purpose of a barb. Petitioner failed to depose Mr. Willkomm on either of these issues and failed to address these issues in its reply. Other than hindsight bias, and using the Flanagan claims as a roadmap, there is no reason to switch the barbs of Lint to blades.

III. VANDEWATER DOES NOT ANTICIPATE CLAIMS 11-12, 15 OR 17 (GROUND 2)

A. Petitioner’s Reply should be struck, at least as it pertains to Vandewater, as Petitioner now relies on different embodiments of Vandewater to support its claim for unpatentability.

In Patent Owner’s response, Patent Owner provided the evidence that the fourth embodiment of Vandewater, characterized by FIGS 15-20, is not prior art because it was first disclosed after the priority date of Flanagan. *See* Petition at 37-47 (relying on FIG. 16 for its invalidity position). The Board, in instituting the IPR, expressly cited to Petitioner’s reliance “on Vandewater’s embodiment of arrowhead 310 as shown in Figures 15–20 of Vandewater.” Institution Decision at 8. *Petitioner fails to address this argument concerning the fourth embodiment.* Instead, Petitioner’s reply quietly removes all reference to the fourth embodiment of Vandewater and substitutes figures from the first, second, and third embodiments. Petitioner’s expert makes the same change. This is an admission that the fourth embodiment of Vandewater is not prior art and cannot be considered. 37 C.F.R. § 42.23(a) (“Any material fact not specifically denied may be considered admitted.”).

Furthermore, Petitioner's new reliance solely on the first, second, and third embodiments constitutes new argument and new evidence which is strictly prohibited. 37 C.F.R. § 42.23(b). Petitioner's reply, at least in regards to Vandewater, should be refused. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369–70 (Fed. Cir. 2016) (affirming Board's refusal to accept reply brief as petitioner argued a new rationale for obviousness).

B. Even if the Board were to accept Petitioner's Reply, Vandewater does not teach "at least one biasing member biasing the first and second blade members towards the extended positions."

Petitioner fails to address the Patent Owner's argument that the pivoting, or biasing of the blades of Vandewater, only occur because of the force of the flesh which has nothing to do with the biasing member. As an initial matter, it is important to recognize that the first and second embodiments of Vandewater do not have two blade members but disclose a singular blade. Only the third and fourth embodiments (which the fourth embodiment is not prior art) satisfy Flanagan's fundamental claim requirement of two blade members. Petitioner recognizes this limitation as Petitioner now relies on the third embodiment of Vandewater to satisfy the two-blade member limitation. Reply at 17 (citing blade members 212 and 213 of the third embodiment to satisfy Flanagan claim limitations of two blade members). Importantly, Petitioner, and its expert, fail to understand how Vandewater deploys its blades, how the blades form a unitary blade, how the unitary blade pivots, the function of the biasing

element, and most importantly the realization that the biasing elements is *optional* and not necessary for the unitary blade to pivot. As a result, it is necessary to include the plain language of Vandewater here so there is no more confusion:

First blade 212 and second blade 213 may overlap in a folded or centered or aligned position (FIG. 10) and may shift to a deployed position (FIG. 11), wherein first blade 212 and second blade 213 may interlock to hold or lock the blades in the deployed position.

Thus, while arrowhead 210 is in flight, first blade 212 and second blade 213 may be in a ***folded position*** (FIG. 7) to minimize the frontal area of the blades, thereby reducing wind drag and the potential for accuracy-degrading aerodynamic imperfections and helping the arrowhead fly like a field point, *i.e.* an arrowhead with no affixed blades. Upon impact with an object such as an animal, first blade 212 and second blade 213, responding to forces exerted on first opening lever 224 and second opening lever 225, respectively, pivot to a deployed position (FIG. 8), thereby forming a broad cutting blade for promoting an increased rate of bleeding and a more humane kill. *Further, when in the deployed position, the interlocked blades may pivot about pivot point 234 relative to the arrowhead body, such as in a similar manner as described above.*

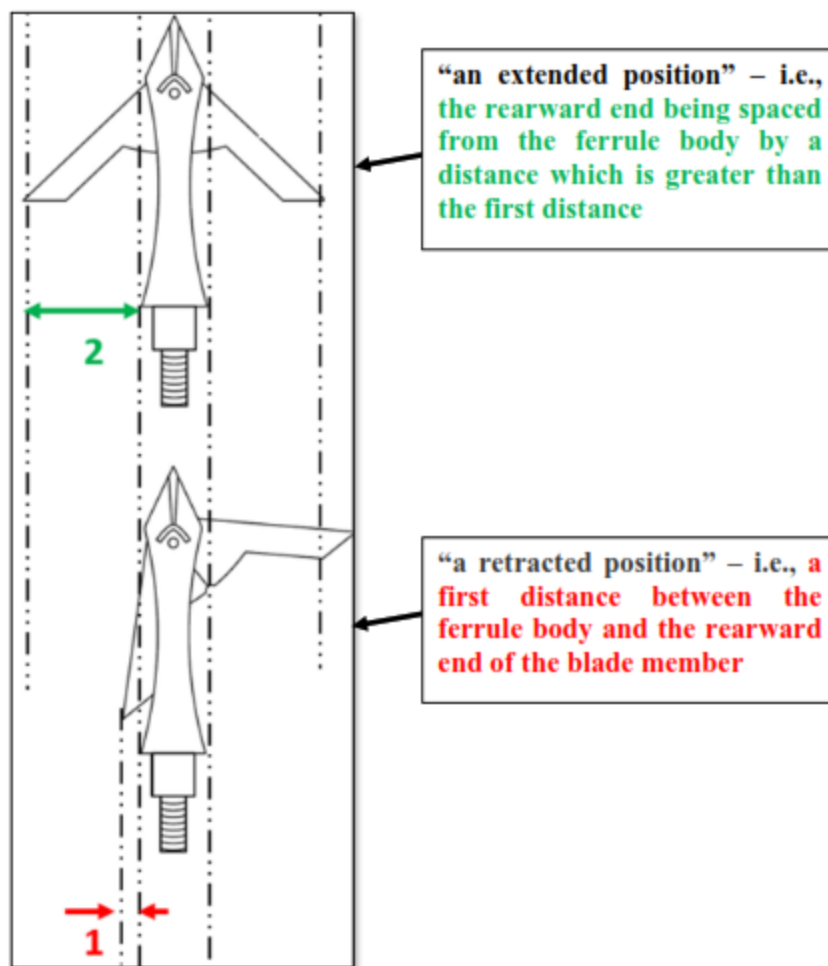
Ex. 1003 at 7:26:54. In other words, the blades start in a folded or retracted position, and are moved to the deployed, or extended position, by hitting the flesh of the animal and moving the opening levers 224, 225. Nothing in Vandewater states the movement from retracted position to extended position is caused by a biasing element. Once deployed, the blade may simply move about the pivot point

depending on flesh that the blade encounters. Vandewater goes on to disclose an “optional” biasing element in stating:

***Optionally, a retaining mechanism** (not shown in FIGS. 7-12) may also be utilized with arrowhead 210, *such as a biasing element* with a ball bearing or a spring wheel in accordance with retaining mechanisms disclosed herein. *If 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. *Thus, such a retaining mechanism could act to retain the blades in a centered deployed position until one blade encounters a material harder than the other blade encounters, as described in detail above.**

Id. at 7:55-8:2 (emphasis added). **On its face, Vandewater optionally discloses a retaining mechanism that has nothing to do with an extended or retracted position.** Instead, the retaining mechanism *holds* the unitary blade in a centered position and has no relevance to biasing a blade member to an extended position. In fact, once the retaining mechanism is disengaged, if it is even employed, “the blade may more freely pivot when the engaging element is withdrawn from the notch.” *Id.* at 1:47-49.

Examination of the drawings in Dr. Kuhn’s reply declaration shown below, highlight the flaw in Petitioner’s argument:



Ex. 1046 at ¶ 82. In the drawing above, Petitioner’s expert claims the blade is moved to an extended position thus satisfying Flanagan’s claim limitation. *Id.* However, the express teaching of Vandewater is that the biasing element is *optional*. Ex. 1003 at 7:55-8:2. Logically, if the retaining element, or biasing member is not included, then the blade of Vandewater is free to rotate along the pivot point as nothing is holding it in a centered position. Thus, the drawing disclosed above could occur with the retaining element present or without the retaining element. Simply put, the retaining

element, or biasing member, is not required, nor does it function, to bias the blades to an extended position because the blade is free to rotate along the pivot point and only rotates to a pivoting position when an external force is applied to one side of the unitary blade over the other. Unlike in Flanagan, where the biasing member actually moves the blade, the biasing member of Vandewater does not move the blade.

Throughout this proceeding, Petitioner and its expert have confused and misled the Board as to the purpose of the retaining element in Vandewater. While Mr. Willkomm acknowledged a retaining mechanism or biasing member may be present as disclosed in Vandewater, he stated the blades of Vandewater only move to the open position as “the opening levers 224 and 225 convert the force of impact with an object such as an animal into pivotal motion of the blade members toward an open position.” Ex. 1034 at 69:11-15. Further, Mr. Willkomm expressly acknowledged that the unitary blade of Vandewater would not pivot back or to another side, unless the opposite side of the unitary blade encounters a greater force. *Id.* at 72:1-8. Petitioner and its expert continually conflate the movement of the unitary blade of Vandewater as being caused by a biasing element instead of the forces of the flesh the blades encounter. This is a fundamental misunderstanding of Vandewater. Ultimately, Vandewater does not teach “at least one biasing member biasing the first and second blade members towards the extended positions.”

IV. FLANAGAN IS NOT OBVIOUS IN VIEW OF HENDRICKS (GROUND 4)

Petitioner's reliance on *In re Abrahamsen* is simplistic and inapplicable to the present case. *In re Abrahamsen*, stands for the proposition that "mere duplication of parts" is "not patentable." 53 F.2d 893 (C.C.P.A. 1931). As discussed by Patent Owner's expert, this is not a "mere duplication of parts" for a variety of reasons including 1) Hendricks teaches use of a barb, not a blade, to retain within the target; 2) the lack of any intent to cut with the barb in Hendricks; and 3) the complexity of broadhead design in which addition or subtraction of an element affects performance of the remaining elements. Ex. 2008 at ¶¶ 111-13. Petitioner implies duplication of parts is easy for broadheads, but that is simply not the case. Finally, Petitioner failed to establish any motivation to add a second barb to Hendricks. Flanagan is not obvious in view of Hendricks.

V. CONCLUSION

Petitioner has failed to meet its burden by showing any claims of Flanagan are invalid under 35 U.S.C. § 102 or § 103.

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CERTIFICATE OF WORD COUNT

The undersigned certifies that the foregoing PATENT OWNER'S SUR-REPLY complies with the type-volume limitation in 37 C.F.R. § 42.24(c)(4). According to the word count tool in Microsoft Word, the brief contains 5,464 words, excluding the parts of the document that are exempted by 37 C.F.R. § 42.24(a).

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The undersigned certifies that a true and correct copy of the foregoing **PATENT OWNER’S SUR-REPLY** is being served on counsel of record by filing this document through the Patent Trial and Appeal Case Tracking System (P-TACTS), with a copy served via electronic mail to the following email address, as authorized in the Petition:

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