

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HUNTER'S MANUFACTURING COMPANY, INC. d/b/a
TENPOINT CROSSBOW TECHNOLOGIES,
Petitioner,

v.

RAVIN CROSSBOWS, LLC,
Patent Owner.

IPR2023-00407
Patent 9,354,015 B2

Record of Oral Hearing
Held: April 23, 2024

Before KEN B. BARRETT, PATRICK R. SCANLON, and
ROBERT J. SILVERMAN, *Administrative Patent Judges*.

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P R O C E E D I N G S

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(9:00 a.m.)

JUDGE SILVERMAN: We are here for the oral argument in IPR 2023-00407, Hunter's Manufacturing Company d/b/a Tenpoint Crossbow Technologies, that's the Petitioner, against Ravin Crossbows, LLC, the Patent Owner. I'm Judge Silverman appearing by video. Judge Barrett is in person in the Alexandria, Virginia hearing room, and Judge Scanlon is also appearing by video. Let's start with the parties' appearances. Who's here for Petitioner?

MR. SKERIOTIS: Good morning, Your Honors. My name is John Skeriotis. I am lead counsel. I am with the law firm of Emerson, Thomas & Bennett. I'm here along with my co-counsel, Sergey Vernyuk, representing Hunter's Manufacturing Company, Inc.

JUDGE SILVERMAN: Thank you. Mr. Skeriotis, you will be presenting today, is that right?

MR. SKERIOTIS: Yes, Your Honor, and Mr. Vernyuk may touch on a subject or two if something arises.

JUDGE SILVERMAN: Very good. For Patent Owner, who's here today?

MR. KING: Yes, so for the Patent Owner, Ravin Crossbows, LLC, I am Chris King with the law firm of Foley & Lardner. I'm joined by my colleagues Kadie Jelenchick and Michelle Moran. Each of us, the three of us will be presenting on different topics as we proceed today. We're also joined by Roland Shindler, a representative from the company.

1 JUDGE SILVERMAN: Very good. We set forth the procedure for the
2 oral argument in our recent order, but just to remind everyone of how this
3 will work, Petitioner will have 60 minutes total to present arguments. Patent
4 Owner will also have 60 minutes total. Petitioner will present first and may
5 reserve time for rebuttal. Patent Owner will then have the opportunity to
6 present its response and may also reserve time for surrebuttal. Then the
7 Petitioner will present any rebuttal arguments and the Patent Owner will
8 present any surrebuttal arguments. We have, by the way, received Patent
9 Owner's demonstrative exhibits and we have those on our computers in case
10 you wish to refer to those.

11 For clarity in creating a transcript and to help the judges in following,
12 please when you refer to a demonstrative exhibit or any other exhibit in the
13 record or any other item in the record, please state for the record the slide
14 number, the page number, the exhibit number, et cetera. By the way, this
15 video presentation is available to the public. I don't expect any confidential
16 information to be discussed, but if anything is going to come up, please let
17 us know first and then we will decide how best to proceed. Are there any
18 questions at this point from Petitioner?

19 MR. SKERIOTIS: No, Your Honor.

20 JUDGE SILVERMAN: Patent Owner, do you have any questions?

21 MR. KING: No, Your Honor, we do not.

22 JUDGE SILVERMAN: Very good. Petitioner, you may begin when
23 you're ready. Let us know if you want to reserve any time for rebuttal.

24 MR. SKERIOTIS: Yes, good morning, Your Honors. Again, my name
25 is John Skeriotis. I will reserve about 20 minutes for rebuttal, please.

26 JUDGE SILVERMAN: You may begin whenever you're ready.

1 MR. SKERIOTIS: Thank you very much. I will be referring to parties
2 today as Petitioner or Patent Owner throughout this oral argument. We're all
3 familiar with anticipation, and we have three prior art references which serve
4 as grounds for the invalidation of Claim 1 of the '015 patent. Then we have
5 other grounds that show obviousness of the claimed invention. If we turn to
6 the *Graham v. John Deere* factors, which are applied for establishing a
7 background for determining obviousness under 35 USC 103, we can
8 summarize those as follows.

9 First, it's to determine the scope and content of the prior art. Second,
10 it's to ascertain the differences between the claimed invention and prior art.
11 Third is the level of ordinary skill in the art, and fourth is secondary
12 considerations of non-obviousness. We don't have number four in this
13 proceeding, as Patent Owner has not introduced any evidence of secondary
14 considerations. As to the scope and content of the prior art, sometimes
15 patents and inventions come down to a point of novelty, and that's what we
16 have in this case. You may recall with some of the European and PCT patent
17 practice that they require that all the preamble include all the prior art. If that
18 was done in this case and required by US patent law, we would have
19 everything about a standard crossbow and the way it's described in the '015
20 patent.

21 Then it would say characterized by the point of novelty in this case,
22 the alleged point of novelty, which is a helical power cable take-up journal.
23 That's really what we need to look at and keep in mind today, but there's
24 nothing special in Claim 1 about a crossbow and how it's assembled and
25 how it has limbs and all of the string guide and all of that. What Patent

1 Owner thought was novel at the time they filed was a helical power cable
2 take-up journal, and we see that littered across the prior art.

3 I first would like to go into claim construction and “mounted to.”
4 Claim construction for “mounted to” arises in two elements within Claim 1,
5 and it’s “a first string guide mounted to the first bow limb and rotatable
6 around a first axis.” The next claim element is the same thing except
7 “second string guide,” “second bow limb” and “a second axis.” The claim
8 constructions on this issue differ. Petitioner, we believe it should be
9 connected to either directly or indirectly as a claim construction for
10 “mounted to.” Patent Owner it should stay physically connected to allow
11 only rotation about a fixed axis.

12 At first glance and at first reading of Patent Owner’s claim
13 construction, it actually doesn’t make any sense. It’s redundant. Saying only
14 rotation about a fixed axis when the claim says “rotatable around” an axis is
15 redundant. It doesn’t work. We cited numerous other reasons in our papers
16 as to why Patent Owner’s construction of “mounted to” doesn’t work, and
17 I’m going to touch on some of those. First of all, they introduced this notion
18 of degrees of freedom. Where does that come from? Nowhere. It’s not in the
19 intrinsic evidence. There’s absolutely no evidence that says anywhere,
20 anything, at any time about degrees of freedom.

21 That notion is not only not found and only created from their figures
22 alone, but the notion is actually wrong as an engineering concept. As far as
23 the ’015 patent is concerned, in all three prior art references that we’ve
24 determined by the named first inventor of Pasquale Stanziale. Patent Owner
25 states there are three degrees of freedom in the Stanziale references, but that
26 simply isn’t true. In all Stanziale references, there’s only one degree of

1 freedom, and that's the bow string, because the bow string is what
2 determines where the string guide and the limbs will be.

3 The string guides and limbs cannot act independently. They are slaves
4 to the bow string, so to speak, whose movement determines their movement.
5 So as the bow string moves, so do the string guides and bow limbs. The bow
6 string can act independent of the string guides and limbs. That is true for all
7 of the figures of the '015 patent and the Stanziale prior art. So I'd like to
8 break down "mounted to" and this issue by talking about three things that I
9 believe we need to clarify. I think there's really only one thing in dispute.

10 First of all, the first question is, does "mounted to" include both a
11 direct and indirect connection? Second, does "mounted to" include rotation
12 about an axis? Third, does "mounted to" prohibit the string guide, in relation
13 to the limbs, from any other movement other than a rotation about an axis?
14 Let's break it down. First question, does "mounted to" include both a direct
15 and indirect connection? First of all, the parties agree that the connection
16 between the "string guides" and "bow limbs" is direct or indirect. Patent
17 Owner reluctantly admitted that it can be indirect at the District Court's
18 claim construction hearing, which is a parallel proceeding happening in the
19 Northern District of Ohio.

20 We see that at Exhibit 1036, Page 82, Lines 4 to 7 and Page 87, Lines
21 1 to 5 and Lines 18 to 22. The words direct or indirect of the string guide to
22 the bow limb are correct according to both parties. Patent Owner had to
23 agree to indirect because of Figure 14 in the '936 patent. The '936 patent is a
24 child of the '015 patent and it's part of the patent family, so it's considered
25 intrinsic evidence to the '015 patent. We're reviewing now on the screen

1 Exhibit 1037, Page 12, which is a color-coded rendition of Figure 14A that
2 is part of Dr. Batzer's declaration, our expert.

3 As you can see, the string guide is in green, the bow limb is in red, the
4 mounting bracket is in purple and the axle is brown. There is an indirect
5 connection between the string guide and the limbs. As further support that
6 the connection between the string guide and the bow limb can be indirect,
7 we can turn to the prosecution history of the '015 patent. During the
8 prosecution of the '015 patent, the Examiner rejected Claim 1 based upon
9 Kempf 7,708,001, and he pointed to Figure 1 of Kempf to show that
10 Kempf's first and second string guides were "mounted to" the bow limbs.
11 That's Exhibit 1002, Pages 105 to 106. As you can see from what's on your
12 screen, the string guides are indirectly "mounted to" the bow limbs. There's
13 a bracket there.

14 That's the first issue. Can it be direct or indirect, and I submit to you
15 that it can and that both parties agree. As to the second issue to "mounted
16 to," does it include rotation about an axis? The answer is yes, but not
17 because of any claim construction of "mounted to," but because Claim 1
18 explicitly states that it's rotatable around a first axis or second axis where it
19 says a string guide "mounted to" the bow limb and rotatable around an axis.
20 That was yes. Finally, as to the third issue, does "mounted to" prohibit any
21 kind of movement other than rotation about an axis? This is the big one. The
22 answer is no, it does not. To do so would rewrite the claim to include a
23 limitation that's not bound in the intrinsic evidence and attempt to import a
24 presumed limitation from the drawings.

25 Patent Owner's limitation is saying just look at the figures and all the
26 figures only show rotation about an axis, so any other movement between

1 the string guide and the bow limbs would be according to them improper.
2 However, that's the cardinal sin of claim construction, and that is namely,
3 importing a limitation from the drawings into the claims. Let me give you a
4 quick analogy. Let's say you have a chair and the chair is able to turn all the
5 way around on a pivot. In other words, it rotates about an axis. That would
6 mean a limitation of rotating about an axis is shown in all the drawings.

7 However, the chair also reclines. Does that now mean that the claim
8 no longer reads on the chair because the drawings only show the chair
9 rotating and not reclining, thereby prohibiting the chair from reclining? No,
10 of course not. It's still within the scope of the claim. And then let's not
11 forget that this claim, Claim 1 of the '015 patent, has comprising language,
12 so that means it's an open-ended claim. As long as the recited limitations are
13 met, it doesn't matter if there are other aspects. In the Stanziale references
14 that we'll go through, they are "mounted" to allow rotation about a first axis,
15 and that's not disputed. The fact that they allow other movements is
16 irrelevant, just like reclining, as that does not remove them from being
17 within the scope of the claim.

18 I'd like to turn to "mounted to," to show also why Patent Owner's
19 claim construction simply doesn't work. We'll turn to a related family patent
20 for scope mount. We'll turn to Exhibit 1028, which is the '073 patent, and
21 we'll turn to Claim 31, but we'll take a look at one of the figures. Claim 31
22 says an optical scope "mounted to" a scope mount. That's Claim 31. Well,
23 Patent Owner's claim construction doesn't work because it would require
24 the scope mount to allow only rotation about a fixed axis for the scope, but
25 the scope doesn't rotate on any scope mount. That's a conflict in the intrinsic
26 evidence for their claim construction of "mounted to."

1 For that reason as well, Patent Owner’s claim construction cannot be
2 correct as a matter of law. But Petitioner’s claim construction is proper
3 because the optical scope is connected to the scope mount directly. Here’s
4 where we are in summation with respect to claim construction for “mounted
5 to.” The parties agree that “mounted to can be direct or indirect mounting.
6 The only issue that remains is” whether or not other movement between the
7 string guide and the bow limbs is prohibited by the claim. That’s the sole
8 claim construction issue.

9 JUDGE K. BARRETT: Counselor?

10 MR. SKERIOTIS: Yes?

11 JUDGE K. BARRETT: I foresee a potential other issue, and I think
12 District Court did, too, is what is the bounds of indirectly if we would want
13 to adopt your construction?

14 MR. SKERIOTIS: Yes, so thank you very much. The District Court
15 put forth some—we were never saying that there are no bounds. We were
16 being asked to answer one question and that was, basically in our minds,
17 does it allow for indirect connection, and the answer is yes. We never said
18 it’s limitless. I think what we’re doing is, we’re conflating a question of fact
19 with a question of law. In other words, “mounted to” is a direct and indirect
20 mounting. If that’s what the claim construction should be, that’s the way it
21 is. Now when we go to apply it, that’s a question of fact. So now we take a
22 look at the prior art, we take a look at any potential, in the District Court,
23 infringing device, and you say does that infringe?

24 If it’s too far attenuated, you can potentially say that’s too far, it’s not
25 a direct mount. But also with respect to this issue, the District Court actually
26 gave an example, and they said what about the trigger being “mounted to”

1 the bow limbs? First of all, if that were the case, we would have something
2 in a prosecution history. We would have something in the patent that said
3 hey, the string guide is “mounted to” the limbs, but we don’t have that. If we
4 did, we’d have more support for whatever issue would be before us. That
5 issue is not before us. Attenuation from one end to the other is not before us,
6 and that’s why I think what we need to do is we need to deal with the issues
7 that are before us.

8 The issues before us prove that “mounted to” is direct or indirect.
9 Anything beyond that is not before us, so all we need to talk about—yes?

10 JUDGE SILVERMAN: If I may, Counsel, this is Judge Silverman,
11 the question of how attenuated a connection would be permissible under
12 your claim construction, you said it’s a factual matter, but isn’t that really
13 the perspective of a POSITA? Isn’t that really part of the claim construction?

14 MR. SKERIOTIS: Well, I submit to you this. What if the
15 Specification actually said that the string guide is mounted directly or
16 indirectly to the bow limbs? What do we do with that? We would sit down
17 and say we can’t change it because that’s the lexicography or that’s the plain
18 and ordinary meaning of “mounted to,” and that’s what’s within the patent.
19 We’d be faced with the same situation that we are today.

20 JUDGE SILVERMAN: Well, I mean, I don’t know that that really
21 helps us because I don’t think that that, stating directly or indirectly, changes
22 things because I think it’s manifest from the patent document itself that an
23 indirect connection is permissible because the string guide is on an axle
24 which is attached to the limb. The question is, can the string guide be
25 attached to an axle which is attached to a lever which is attached to a rod

1 which is, in turn, attached to the limb? How many connections are
2 permissible? That's the role of claim construction.

3 MR. SKERIOTIS: Yeah, so I would submit to you that I think the
4 District Court would've been satisfied if it said direct or indirect connection
5 within a reasonable number of parts. That's what I would say. Because she
6 was looking, Judge Lioi was looking for something that had some balance to
7 it, and I think if we had something along those lines she would've been
8 amenable to that. Then that would give some background to that, as well. I
9 did want to point to the fact that what we're dealing with is a functional
10 relationship. We talk about the string guide and the bow limbs. There's a
11 functional relationship between the two.

12 The string guide, as the bow string is pulled, pulls the limbs together.
13 They all act as a slave, I said earlier, to the bow string. That's the other point
14 to make with respect to "mounted to." It's not an ethereal concept that hey,
15 what about the trigger "mounted to" the bow limbs? Well, the trigger and the
16 bow limbs are not operable together as one. There's no functional
17 relationship between the two, and I think that is what really also goes into
18 "mounted to." How to expressly characterize that, I think it goes towards the
19 issues that again, we have before us. It's whether or not a string guide is
20 "mounted to" the bow limbs. Is that question answered by direct or indirect
21 within a reasonable number of parts? I probably think it is.

22 JUDGE SILVERMAN: What about proximity of the parts that are
23 allegedly one "mounted to" the other? For example, you could say that
24 there's the functional relationship between the arrow and the limb, but I
25 don't know if you would feel comfortable saying that the arrow was
26 "mounted to" the limb.

1 MR. SKERIOTIS: Yes, we would not feel comfortable—again, that
2 would down in our opinion to a mapping issue for a question of fact as to
3 whether or not that element is met after the claim construction is set forth.

4 JUDGE SILVERMAN: You can go ahead, thank you.

5 MR. SKERIOTIS: Thank you. I did also want to know—we didn't get
6 a chance to talk about the Court's claim construction order because it
7 happened after our reply. I want to just touch on that to say that the Court
8 actually stated that Patent Owner's claim construction was not proper during
9 the hearing. In the IPR, in this IPR, Patent Owner is stating that it is
10 physically connected to allow only rotation about a fixed axis, whereas the
11 Court, they claimed the claim construction amounted to should be "mounted
12 to," to allow only rotation about a fixed axis.

13 The Court said replacing "mounted to" with "mounted to, to allow
14 only rotation about a fixed axis" does not assist the jury in determining the
15 meaning of the claim term. Accordingly, Ravin's proposed construction
16 must fail. That's on Page 7 of the Claim Construction Order. Interesting to
17 know, I just wanted to note that the District Court did not state that our claim
18 construction of "mounted to" was wrong. They just stated that it wasn't
19 helpful to the jury.

20 I'd like to turn now to Grounds 1 and 2, and I'll go through them in
21 order, and that is Stanziale '302, Exhibit 1007. Ground 1 is for anticipation
22 and Ground 2 is for obviousness. In summary, the Patent Owner cites two
23 reasons Stanziale '302 is not anticipatory or obvious. First it goes to the
24 string guides as being not "mounted to" the bow limbs, and they use their
25 construction of "mounted to," to get there. Let's take a look at Exhibit 1007,
26 Figure 2 of Stanziale '302. We have the string guide 50 via triangular piece

1 40 and limb 10. The string guide 50 via triangular piece 40 is “mounted to”
2 limb 10 and it’s mounted indirectly.

3 The second reason Patent Owner argues that Stanziale ’302 does not
4 anticipate or is not obvious over is allegedly the helical power cables are not
5 displaced “away from” the first and second axis of rotation. First, let’s note
6 the most important thing here and that Patent Owner admits that Stanziale
7 discloses a helical power cable take-up journal. That’s not the issue. The
8 issue is simply the direction of winding, either towards or “away from” the
9 drawstring journal, and that’s it, nothing else. Patent Owner points to Figure
10 3 to show Stanziale’s helical power cable take-up journal wraps towards the
11 bow string journal.

12 We pointed to Figure 5, because it shows an empty groove at the top
13 of the helical power cable take-up journal, which means when caught, it
14 wraps away. Stanziale actually discloses both wrapping towards and away
15 from the drawstring journal, but this isn’t complex. Either you go “away
16 from” or toward the planes of rotation. If I’m a POSITA, I have two choices,
17 which way do I go? I try both. Even their alleged expert, Mr. Teater,
18 admitted it would be wise to go in either direction, as I asked him that in his
19 deposition. That’s Exhibit 1034 at Page 213, Lines 11 to 21.

20 This evidence, along with the other evidence that we pointed to in the
21 record, should be dispositive on this issue. But even if that’s not enough, we
22 have the obvious to try rationale per KSR. It basically says when you have to
23 make a choice and your choice is limited to, in this case two choices and you
24 have to make one, both of those choices will be obvious. So Your Honors in
25 your Institution Decision stated that Petitioner did not clearly set forth the
26 predicate, the design need, for the KSR obvious to try rationale. The initial

1 predicate is that you have a helical power cable take-up journal that is
2 coaxial with the bow string journal so that the power cable must wrap.

3 That's your predicate. That's your design need, a helical power cable
4 take-up journal that must wrap. The need to wrap a power cable onto the
5 helical journal is what you need to do, and you have to do that in some
6 direction because you have to make a choice. The choice from there is which
7 way do you go? Since you only have two choices and you must choose one,
8 then per KSR, it would be obvious to try.

9 JUDGE SILVERMAN: If I may, Counsel, this is Judge Silverman
10 again, isn't one of the predicates from KSR that the choices that you have
11 before you must both be workable and at least equally good?

12 MR. SKERIOTIS: Yes.

13 JUDGE SILVERMAN: Where's the predicate finding for that?

14 MR. SKERIOTIS: Because he discloses both in the application and
15 doing either one would not affect the design at all. That's stated, by the way,
16 in Dr. Batzer's declaration, as well. He went through wrapping it upwards or
17 into or away from.

18 JUDGE SILVERMAN: And part of your predicate is that in Figure 5,
19 I think, the Stanziale '302, that shows wrapping "away from" the string
20 guide?

21 MR. SKERIOTIS: Yes, once it's cocked because there's an empty
22 groove, it will wrap upward, into—or I'm sorry, away from as per the claim
23 language.

24 JUDGE SILVERMAN: Was that point about Figure 5 in your opening
25 Petition?

1 MR. SKERIOTIS: I don't know if it was in the opening Petition or
2 not, Your Honor, as I stand here. I'll take a look at that and explain that on
3 rebuttal.

4 JUDGE SILVERMAN: That's no problem, thank you. I didn't mean
5 to interrupt, go ahead.

6 MR. SKERIOTIS: No, you're good. I'd like to next turn to Grounds 3
7 and 4, which is Stanziale '062, Exhibit 1011. Again, it's anticipation and
8 obviousness. Patent Owner puts forth again the same two arguments,
9 basically a Stanziale '302, which is Grounds 1 and 2, here for Stanziale
10 '062. First, they talk about the string guide is not "mounted to" the bow limb
11 and they use again their construction of "mounted to." I've already gone
12 over the issue of claim construction, but as far as the string guides being
13 "mounted to" the bow limbs, we're going to turn to Figure 18 of Exhibit
14 1011.

15 We have the string guide 145, 146 and 147. The drawstring journal is
16 145, the power cable journal is 146, and the pivot axle that connects them is
17 147. The combination is a string guide and Patent Owner did not challenge
18 that, and the bow limb in 610. The string guide, 145, 146 and 147, is
19 connected to the first bow limb 610 indirectly. It's the same as with
20 Stanziale '302, Patent Owner argues the direction of wrapping the power
21 cables. Again, the most important thing here is that they do not object to
22 Stanziale '302 disclosing a helical power cable take-up journal.

23 Again, that's not the issue. The issue is just simply the direction of
24 winding, nothing else. I've already gone over that, I think, for Ground 1.

25 JUDGE SILVERMAN: You meant Stanziale '062?

26 MR. SKERIOTIS: I'm sorry, yes. What did I say?

1 JUDGE SILVERMAN: '302.

2 MR. SKERIOTIS: Well, I'm saying that—yes, you're right. They
3 admit that Stanziale '062 discloses a helical power cable take-up journal.
4 Yes, thank you, sorry. Turning to Grounds 5 and 6, which is Stanziale '771,
5 same thing as to anticipation and obviousness, but I'm going to go through
6 these separately. As to anticipation, Patent Owner's only argument is the
7 mounting of the string guides to the bow limbs, the same issue we were
8 talking about using their construction of "mounted to." They didn't say
9 anything else was missing under anticipation for Ground 5. If we take a look
10 at Exhibit 1012, Figure 2, the drawstring journal is 145, the power cable is
11 146, the pivot axle connects them as 147. The string guide is 145, 146 and
12 147, and the limbs are 10. You can see that the string guide is "mounted to"
13 the bow limbs indirectly.

14 As to obviousness of '771 raised by the Patent Owner is the away
15 from limitation. However, Patent Owner did not argue this limitation is
16 missing in Ground 5 under anticipation, and I think that's because Stanziale
17 '771 expressly shows the winding away element. We see that clearly when
18 we view Figure 12 of Exhibit 1012, which is Stanziale '771 again. This
19 element is explicitly disclosed. As to why the Patent Owner raised the issue
20 in Ground 6, but not Ground 5, I can only assume it's that they have no other
21 arguments to Ground 6. It seems as though some type of estoppel should
22 apply against Patent Owner's to Ground 6 since it didn't state it was missing
23 in anticipation in Ground 5. That said, Stanziale '771 clearly and
24 unambiguously shows the power cable wrapping away from the drawstring
25 journal.

1 Let's turn to Ground 7, obviousness in light of Darlington and
2 Norkus. This is the first of the grounds that the Board found in Petitioner's
3 favor in granting institution. Again, Patent Owner agrees—or I should say
4 not again—but Patent Owner agrees that all of the elements are found in
5 Darlington and Norkus, so this is simply an issue of motivation to combine
6 Darlington with Norkus. Patent Owner and their expert all concede that
7 Darlington, Norkus and Park, which is Ground 8, teach two very important
8 things, which are motivation to combine the references. One, the desirability
9 of an increased power stroke, and two, the desirability of increasing the
10 power and energy of a crossbow.

11 We can see that in Patent Owner's Response at Pages 45, 53 to 54, 58
12 to 59, and Mr. Teater's deposition transcript of Exhibit 1034, Page 154,
13 Lines 19 to 22, Page 155, Line 16 through Page 156, Line 6. As to
14 implementing the teachings of Darlington with Norkus, Patent Owner's
15 expert agreed that there would be "fundamental benefits" of using Norkus'
16 helical power cable take-up journal with Darlington. That can be found in
17 Exhibit 1034, Page 158, Line 17 through Page 159, Line 11. Patent Owner's
18 issues deal with the using the teachings of Norkus regarding the helical
19 power cable take-up journals from Norkus into Darlington.

20 They go to great lengths to talk about how Darlington wants the
21 power cables to be substantially parallel. First, Darlington actually teaches
22 that the planes of the power cables 28 and 30 are substantially parallel. One
23 need to go no further than Figure 14, which is shown on your screen, of
24 Darlington. Figure 14 discloses power cables that are substantially parallel,
25 but not perfectly parallel with one another. Power cables 28 and 30 extend
26 downward as they approach the center portion of the crossbow. Here's what

1 I did. I took an image of Patent Owner's own crossbows and I used helical
2 power cable take-up journals—I'm sorry, strike that.

3 I took an image of their own crossbows that use helical power cable
4 take-up journals and I asked Mr. Teater about them during his deposition. I
5 showed him what's on your screen, which is Exhibit 1032. Exhibit 1032
6 shows an excerpt of Darlington's Figure 2 showing the string and power
7 cable relationship versus that of Patent Owner's actual crossbow taken from
8 Patent Owner's Exhibit 2007. The top image is that of Patent Owner's actual
9 crossbow. What I used this for is just to prove that using a helical power
10 cable take-up journal still allows the parallel relationship between the power
11 cables and strings.

12 Implementing the teachings of Norkus, to use a helical power cable
13 take-up journal with a motivation of increased power stroke, increased
14 power energy, yields these expected results and keeps with the teachings of
15 Darlington to keep the string and power cables substantially parallel.
16 Turning to Ground 8, Darlington and Park, Ground 8 was another ground
17 that the Board found in Petitioner's favor in granting institution. Patent
18 Owner agrees again that all of these elements in Claim 1 of the '015 patent
19 are found in Darlington or Park. So this is simply the same issue as Ground
20 7, an issue of motivation to combine Darlington with Park. Park teaches
21 numerous helical power cable take-up journals, so the arguments I just made
22 regarding the combination of Darlington with Norkus similarly apply for
23 Darlington and Park. Remember, Patent Owner and their expert all concede
24 that Park teaches the two motivations I described earlier to combine the
25 references.

1 Turning to Grounds 9, 10 and 11, I'm going to lump those three
2 together because we argued obviousness of Kempf '871 in view of Norkus,
3 in view of Park and then in view of Stanziale. Three separate grounds. For
4 these grounds, Patent Owner disputes that Kempf '871 has a "drawstring
5 journal" or a "power cable take-up journal." After the preliminary response,
6 I actually thought Patent Owner would not continue with this argument. We
7 were very pointed about the merits of this argument. Nevertheless, let's turn
8 to Figures 1 and 10 of Kempf '871. Let's focus on cam 36 and string 48.

9 Patent Owner says string 48 does not reside within a string groove on
10 cam 36. Figure 1 shows a crossbow that's uncocked. Figure 10 shows the
11 crossbow cocked. The bow string 48 has to reside within a groove of the
12 cam as it rotates from one position in Figure 1 to Figure 10. It simply isn't
13 floating on the top of the cam. Every single crossbow ever made, and every
14 single compound bow ever made have 100% of the time always had a
15 groove for the bow string and power cable. There has never been a string or
16 power cable in a cam or a roller that did not sit in a groove, ever. That would
17 be something novel and historic, namely to have a bow string or power cable
18 float along the outer rim of a cam and not be in a groove.

19 In fact, I probed Mr. Teater during his deposition, and he admitted he
20 has never seen any cam in the history of crossbows and compound bows,
21 that did not have a groove for a power cable. That's Exhibit 1034, Page 223,
22 Line 1 to Page 224, Line 9. He hasn't seen that, as no one else has in the
23 world, because it simply cannot exist. Let's move to the motivation of the
24 combined Kempf '871 with Norkus, '871 with Park and '871 with Stanziale
25 '302. Patent Owner only spent two paragraphs on each of the motivations
26 combined in the Response brief. Patent Owner agrees that Norkus, Park and

1 Stanziale '302 provide the following, “overlapping teachings regarding ‘the
2 desirability of increasing a crossbow’s draw length or power stroke which
3 increases its potential power and thus speed.’”

4 But they simply assert that this is insufficient motivation, and that’s at
5 their Response on Page 66. Well, those are proper motivations, among
6 others, to combine Kempf with Norkus, Park and Stanziale. Those are
7 exactly the reason why a POSITA would be motivated to use a helical power
8 cable take-up journal. Interestingly, Patent Owner has never, ever given a
9 reason as to why a helical power cable take-up journal would be used if it’s
10 not to increase the power stroke, the draw length, and to increase the speed
11 of the arrow because there are no other reasons. That’s exactly the reasons
12 why you use a helical power cable take-up journal.

13 Ground 12, the last of the grounds, is obviousness of Islas combined
14 with Darlington and Park. While the Institution Decision did not explicitly
15 state that Ground 12 was a reason for granting institution in the conclusion, I
16 believe this also should have been listed as a ground for instituting the IPR.
17 Nevertheless, we turn to Patent Owner’s Response, and they try to attack
18 Islas based upon a “reverse draw” versus a reverse limb orientation. But
19 Petitioner was not altering the limbs. We were merely flipping Islas’ cams
20 over such that the draw string is at the down-range side rather than the up-
21 range side of the string guide.

22 Patent Owner talks about reversing the limbs in their Response on
23 Pages 72 and 73, but they misunderstood our argument. Then they addressed
24 it in their Surreply, stating that there would be interference between the
25 power cable and string. We have two points to make on that. First, their
26 alleged expert, Mr. Teater, agreed that there would not be any interference

1 with having two power cables in a “reverse draw configuration” similar to
2 Islas, as Petitioner sets forth. That should be dispositive, and that’s on
3 Exhibit 1035, Page 346, Line 17 to Page 347, Line 6.

4 Second, the claim only requires one power cable. Islas specifically
5 discloses that a single power cable is a part of his invention when he states
6 his invention can use “either a single power cord cam groove or more
7 preferably a pair of generally identical power cord cam grooves positioned
8 axially above or below the bow string cam groove.” That’s in Exhibit 1015,
9 Paragraph 6. I’ve already touched on our motivations to combine based upon
10 Darlington and Park, so they equally apply here as to Islas and they are fully
11 addressed in the record.

12 That concludes the issue of grounds. I would like now to turn to Mr.
13 Teater as a POSITA and/or his credibility. First of all, the Trial Practice
14 Guide says that to move to disqualify an expert, a party needs to file a
15 motion to exclude, and it’s based on the Federal Rules of Evidence. To
16 challenge the weight of the testimony, the Trial Practice Guide says we need
17 to address that basically in our Reply, so that’s what we did. That’s why we
18 did both. Mr. Jonathan Teater has been proffered as Patent Owner’s expert.
19 First, I’m not here to try to degrade anyone personally. That said, he is being
20 put forth as an alleged expert and his qualification and his credibility are
21 issues.

22 With that in mind, Mr. Teater is not a POSITA and/or his credibility is
23 highly suspect, such that he should either be disqualified or, at the very least,
24 his credibility should be given little to no weight. Let me tell you why. First
25 of all, when I say credibility, I want to make sure that we’re clear on what
26 that means. That means truthfulness, competence, reliability and

1 believability and trying to how much weight to give his testimony. I deposed
2 Mr. Teater. He has never been proffered an expert before in his life and this
3 was his first time. Credibility issues were surprising to me.

4 I asked him how much time he had in this IPR up to the point of the
5 deposition. He said he had 40 hours total. That seemed incredibly low and
6 raised an eyebrow with me, because that included everything he had done up
7 to that point. But I figured there was some explanation, so I went into it a
8 little further and it just got worse. His declaration is 151 pages long. I asked
9 him just how much of it did you draft yourself, just trying to get a sense of
10 what happened. He said he drafted 95% of it, not including the drawings. So
11 let's think about that for a minute. If that's all he did, 151 pages in 40 hours,
12 if he spent the entire time drafting only that without any review whatsoever,
13 that would take him 16 minutes per page to draft something he's never
14 drafted before in his entire life.

15 In addition to drafting his declaration, he obviously had to review the
16 Petition, 12 grounds of invalidity, all the prior art, Mr. Batzer's declaration,
17 and he allegedly did all of that stuff in 40 hours. I'm sorry, that's just not
18 believable, so that goes to the believability prong of his credibility, but let's
19 get more substance than that. I asked him to admit that helical power cable
20 take-up journals were known before 2013, which is the date of filing of the
21 '015 patent. He wouldn't admit that. You've seen the overwhelming
22 evidence introduced in the record as to helical power cable take-up journals.

23 In fact, for numerous grounds, Patent Owner themselves haven't
24 argued that the prior art in Norkus, Stanziale, Park, et cetera, disclose helical
25 power cable take-up journals. So he's against everyone, including Patent
26 Owner. Not admitting that the helical power cable take-up journals were

1 known in the prior art before the filing of the '015 patent is simply not
2 credible. You can find that at Exhibit 1034, Page 81, Line 11 through Page
3 82, Line 22 and Page 92, Line 15 through Page 93, Line 15. Let's turn to his
4 background. He admitted that his educational background does nothing to
5 help him in this case as a POSA, aside from some classes in statistics.

6 He did test crossbows in the past, so I expected him to be very
7 familiar with these basic things related to a crossbow, and more particularly,
8 to crossbow testing. But by all measures, he failed in knowing basic
9 concepts that he should have known from his prior years of testing. For
10 example, he testified that units of measurement for kinetic energy are mass
11 and velocity, when the correct answer is Joules. I asked him to tell me what
12 are the units just for energy and he answered Newtons, but the correct
13 answer is Joules. I asked him what is the measurement for efficiency and he
14 said foot pounds or foot pound per inches, but efficiency is always unitless.

15 JUDGE K. BARRETT: Counsel, you've probably noticed you're into
16 your rebuttal time?

17 MR. SKERIOTIS: Yeah, that's fine.

18 JUDGE K. BARRETT: That's fine.

19 MR. SKERIOTIS: Thank you so much. I'm almost done. Thank you,
20 though. He opined a lot about degrees of freedom when it comes to claim
21 construction for "mounted to," so I asked him what was the most amount of
22 degrees of freedom possible, generally speaking, and he said five. The
23 correct answer is six. He said he could measure stress with string gauges.
24 That's not accurate. A string gauge can measure deformation, not stress. As
25 to strain, he used that in his declaration so I asked him about it. I asked him

1 for the units or the differences between engineering strain and natural strain,
2 and he had no idea.

3 These are fundamental technical aspects that a POSITA in this case
4 should know, and they should be readily familiar with this. He should be,
5 given his knowledge of testing of crossbows that would measure all those
6 things I talked about earlier. This seriously undermines his competence as a
7 POSA in this case. Then in a bizarre sequence during his deposition, he
8 testified that some crossbows had static limbs. In other words, they don't
9 move. As we discussed it, he then stated there was okay, "almost no
10 movement." The idea that limbs don't move in relation to a crossbow is
11 simply not true. They can't be static.

12 They always move and then they expel, because they're absorbing and
13 increasing the energy as they're being cocked, and then they expel that
14 energy in a pretty violent way if you ever look at them underneath a slow-
15 motion video. So every limb moves in every single crossbow that's ever
16 been made. Why would he state that, seriously causing to question his basic
17 understanding of how a crossbow works. Summarily, all of the above and
18 the other things that we pointed to in the record show that Mr. Teater should
19 not be determined to be a POSITA or, at the very least, his credibility should
20 be given little to no weight.

21 One last thing about his CV. On paper, Mr. Teater does look qualified.
22 When I reviewed his CV, I expected him to be credible and to be a POSITA,
23 but then after his deposition I realized he wasn't. Either he does not qualify
24 as an expert or his testimony is unreliable, because he doesn't actually know
25 what he's talking about in this technical field. So because of his
26 unreliability, his testimony is not helpful to the Board, the factfinder. Any of

1 those are reasons to exclude his testimony or give it virtually no weight
2 under Federal Rule of Evidence 702. Thank you very much. I believe I
3 reserved about 16 minutes? Thank you.

4 MR. KING: Thank you, Your Honors. We'll get our laptop hooked up
5 here and begin.

6 JUDGE K. BARRETT: While that's going on, do you know how
7 much time you'd like to reserve?

8 MR. KING: Yes, we'll reserve 15 minutes for the sur-rebuttal, please.
9 Thank you, Your Honors. Again, Chris King on behalf of the Patent Owner.
10 We'll begin with Slide 4. I want to go straight to—I think we can jump
11 straight to the issue that Mr. Skeriotis identified as to what the bounds
12 should be with the claim term “mounted to” as it relates to indirect mounting
13 of the string guide to the bow limb. What Patent Owner has done in the
14 proposed definition of “physically connected to, to allow only rotation about
15 a fixed axis” is not redundant with the recitation of the claim itself of
16 “rotatable” about an axis, but is meant to provide the bounds on the scope of
17 what indirect connection is, in fact, allowed.

18 That's because, if we turn to Slide 7, you can see that consistently in
19 the intrinsic evidence in the patent that the string guide, in relation to the
20 bow limb, is connected and is only able to rotate about that single axis. The
21 Petitioner's proposed construction, which refuses to put any bounds on the
22 scope of indirect connection, leaves the POSITA with no information as to
23 the scope of what's being claimed, essentially reading that term entirely out
24 of Claim 1. That, of course, is untenable because, as we've discussed in our
25 papers and already here this morning, a crossbow is a precision instrument
26 and the relationship between these two components is important.

1 The Patent Owner’s proposal provides a frame of reference to
2 understand when the string guide is or isn’t “mounted to” the bow limb, as
3 opposed to Petitioner’s position that “indirectly” is apparently without
4 bound, as admitted to by their expert, which we can see with reference to
5 Slide 8, in which Dr. Batzer testified—and you’ll see on our slide we’ve
6 mocked this up—that a decal stuck to the stock of the crossbow is
7 “indirectly” “mounted to” every other component of the crossbow. As
8 opposed to that entirely unbounded definition, what the Petitioner has done
9 has looked to the extrinsic evidence, has looked to the testimony of our
10 expert to establish that a POSITA would understand “mounted to” would
11 encompass both connections, but only insofar as the only relative movement,
12 what we’ve called the degree of freedom between the bow limb and the
13 string guide, is rotation.

14 The introduction of any other degree of freedom—and this is, again,
15 in the context of string guide relative to bow limb—means that the string
16 guide is no longer “mounted to” that bow limb. Rotation only, any other
17 movement we have now outside the bounds of the indirect connection
18 contemplated by the term “mounted to,” based on review of the intrinsic
19 record of the ’015 patent.

20 JUDGE SILVERMAN: Counsel, if I may, this is Judge Silverman.
21 The problem, though, is that if the intent was to claim a connection that only
22 allows rotation. There are ways to claim that, but the drafter chose a
23 different term, “mounted to,” which in common parlance has a certain
24 broader meaning. I’m skeptical that we can take the example that’s in the
25 patent and say that is the only permissible type of connection that it would
26 be “mounted to.”

1 MR. KING: No, we know—and thank you, Your Honor. We know
2 there needs to be some bound on indirect mounting, right? Judge Silverman,
3 I believe you yourself addressed earlier, if there's an axle, there's a bearing,
4 there's fasteners. There's all kinds of intervening components between the
5 string guide and the limb. They're not welded to each other and directly
6 connected that way. So to put bounds on that broad conventional meaning of
7 “mounted to” in the common parlance, we need to look what a POSITA
8 would've realized upon reviewing the '015 patent, and it's consistent of
9 every time “mounted to” is used with respect to the relationship between the
10 string guide and the limb, they're physically connected to one another such
11 that the string guide always moves with the bow limb but for the fact that it
12 rotates.

13 From our perspective, not redundant to that existing claim language
14 that's reciting the first axis with the conventions of claim drafting so that it
15 can be claimed, but there to put bounds on how much indirect connection is
16 allowed between the bow limb and the string guide. Honestly, reasonable or
17 some number of components, that's not in the record, either, and there needs
18 to be some bounds for the POSITA to understand it. We know that's the
19 intrinsic record and what somebody skilled in the art of crossbows would
20 understand. I do believe that's clear based on both the patent itself and then
21 our expert testimony.

22 JUDGE SILVERMAN: But the way you framed it is that the only
23 way something could be “mounted to” something else is that it may permit
24 rotation, but every other element, no matter how many intervening elements
25 there are, have to be fixed relative to each other, right?

26 MR. KING: Yeah, and I think that's what's in the record.

1 JUDGE SILVERMAN: That's what's in it if --

2 (Simultaneous speaking)

3 MR. KING: Yeah.

4 JUDGE SILVERMAN: It's in the disclosed embodiment. I believe
5 there are other types of—well, for example, the intrinsic record includes the
6 prior art that's cited and the Islas reference that's actually used in the
7 Petition was cited in the prosecution of the '015 patent. That talks about a
8 sliding “mounted” connection. There are various ways that “mounting” does
9 not have to be only rotation. It does not have to be only fixed. The question
10 is, in view of all that intrinsic material how does a POSITA understand?

11 MR. KING: I think it comes down to the core functionality of that
12 string guide or the cam or different names in both the patent and prior art.
13 The cam must rotate in order to be a cam, in order to be a string guide. It
14 also needs to be “mounted to” the limb so that it moves with the limb. I think
15 the Patent Owner's proposed definition of “mounted to” is reflecting that.
16 It's more words than “mounted to,” of course it is, but these definitions of
17 basic broad concepts are some of the most complicated and I believe our
18 proposal is fully supported by the record.

19 I think honestly, particularly in view of—and maybe now's the right
20 time to turn to the Stanziale references that are disclosed in Grounds 1
21 through 6. I think it becomes particularly clear in comparison, if we can go
22 to Slide 14, that there is this intervening lever in each and every one of the
23 three Stanziale references that we've shown in green between the pulley in
24 blue and what Stanziale calls the elastic member or limb in 10. The pulley is
25 now free to move in what we call more than one degree of freedom, and not
26 in an absolute sense, but relative to that limb. It's able to rotate still, but

1 because of that intervening lever, it is able to move in both the X and Y axis,
2 as we've annotated it.

3 Of course, X and Y, the move together. It's a dynamic system. It's a
4 two-bar linkage, but the overall perspective as we think about it with
5 "mounted to" is that the string guide is now able to move relative to that bow
6 limb in additional directions and therefore is no longer "mounted to" it.

7 JUDGE SILVERMAN: They're actually—you can look and you can
8 conceptualize this and say well, all the motions of the string guide relative to
9 the limb are a type of rotation. One has a lever involved, but they're both a
10 rotation.

11 MR. KING: Well, I think it's fair that the lever rotates relative to the
12 limb, but the string guide itself as it moves through the plane that you can
13 see in the figures is moving in that—

14 JUDGE SILVERMAN: But it's just an eccentric rotation and you've
15 got eccentric rotation in the Specification, right?

16 MR. KING: I don't think so. If you're looking at the pivot and where
17 the axle is, if you're plotting that on an X and Y axis, it ends up in different
18 locations on both axes between the released and the drawn position. So
19 yes—

20 JUDGE SILVERMAN: I'm just saying you combine two rotations,
21 one more eccentric than the other. You can conceptualize that as saying
22 there are two types of rotations involved.

23 MR. KING: I still think about it as the movement of the axis of
24 rotation in two different, translating in two directions.

25 JUDGE SILVERMAN: I understand. I understand what you're
26 saying.

1 MR. KING: Yeah, I think we're on the same page. In any event, as we
2 interpret "mounted to," which we believe is the correct interpretation,
3 Stanziale '302 as shown here is not "mounted to." The pulley is not
4 "mounted to" the elastic member and therefore does not anticipate Claim 1.
5 Michelle, if you can go to Slide 26. I think we can move through this
6 relatively quickly because Stanziale three references, but largely the same
7 structure of always that intervening lever, here called auxiliary arms and
8 noted with reference number 620. But again, as we see it providing those
9 additional degrees of freedom between the elastic limb and the string guide,
10 and also therefore not "mounted to" and unable to anticipate.

11 Same holding true for the third Stanziale reference, which is on Slide
12 32. You'll again see a lever in green placed between the elastic member and
13 the pulley, introducing that additional motion. Again, we believe it does not
14 anticipate Claim 1. As relates to the obviousness grounds in view of the
15 three Stanziale references, which are Grounds 2, 4 and 6, we believe it's
16 lacking and not anticipated. The Petitioner doesn't offer any arguments as to
17 why it would be obvious to modify any of the references to "mount" the
18 string guide to the bow limb, and therefore we believe also not obvious in
19 view of those three references.

20 Also I do want to note that I believe the arguments that we heard from
21 Petitioner as relates to the child patent '073, the Kempf reference and others
22 in the prior art I believe were put forth in the struck supplement and are
23 currently subject to a motion to exclude, as well as the arguments related to
24 the *KSR* predicate as it relates to the obvious-to-try rationale I believe are
25 new arguments today and are present in the record. At this time I'm going to

1 hand things off to Kadie Jelenchick to present on grounds. Thank you, Your
2 Honors.

3 MS. JELENCHICK: Good morning, Your Honors. Kadie Jelenchick
4 on behalf of Patent Owner. I'm going to talk a little bit this morning about
5 Grounds 7 and 8, and by extension, Ground 12, which is simply Ground 8
6 plus Islas. In each of these proposed obviousness combinations, the
7 fundamental issue is the lack of combination and why a POSITA would not
8 combine the prior art in the way that Petitioner contends. Darlington, the key
9 primary reference that Petitioner relies on, has no apparent disadvantages.
10 Instead, Darlington speaks to increased power stroke, improved accuracy,
11 improved cam synchronization and better arrow flight, all of which are
12 predicated on Darlington's express disclosure—if you go to Slide 35—that
13 the bow string and the power cable arrangement must remain substantially
14 parallel to each other throughout the entire cycle, from release through
15 cocked.

16 Darlington secures the advantages over the prior art by relying on that
17 substantial parallelism between the power cable and the bow string at rest
18 and when the power cables are wrapped on the cams. We heard today from
19 Mr. Skeriotis about a single reference within Darlington in the particular
20 shoot over configuration where Darlington acknowledges that it's possible to
21 have a slight deflection between the power cable and the bow string. But that
22 slight deflection that Darlington discloses, that he acknowledges
23 compromises the accuracy of his unit, is limited to a particular situation.
24 That particular situation is in dealing with hybrid cams.

25 A particular hybrid cam that only has two cables, not the three-cable
26 system that Darlington is otherwise talking about in terms of utilization of

1 the reverse-draw configuration that lends itself to that increased power
2 stroke. Solely focusing on the shoot over configuration to somehow
3 substantiate that Darlington doesn't teach away from using helical power
4 cable take-up journals doesn't say anything about why Darlington adopted
5 that slight deflection between the power cables and the bow string.
6 Darlington itself says that using that configuration, using that shoot over
7 configuration is for the purposes of enhancing cam synchronization.

8 In none of Petitioner's submissions, the Petition or in the Reply, have
9 we heard anything about why or how helical power cable take-up journals
10 influence, impact, detract from, compromise synchronization of cams. All
11 we've heard about from Petitioner is that Darlington would be combined
12 with Park or Norkus simply because a POSITA would know that a more
13 powerful bow is desirable. But everybody here knows that that's not enough.
14 We need to look at Darlington's teachings in totality and understand exactly
15 how those teachings maybe compromised or benefitted from the proposed
16 combinations.

17 If we go to Slide 46, we haven't heard anything from Petitioner that
18 explains how a POSITA would weigh the benefits lost or gained by the
19 contemplated combination bows. Darlington explains at length the
20 advantages in accuracy, both in terms of a shoot through configuration, as
21 well as the shoot over configuration, highlighting why a POSITA would be
22 focused on accuracy. Mr. Teater, as a person of more than ordinary skill in
23 the art, explains exactly why accuracy is so important at Paragraphs 132
24 through 144 of his declaration. While increased power stroke may be
25 desirable by some, it's not the sole reason somebody would design a

1 crossbow. Even Darlington himself acknowledges that the increased power
2 stroke is a consequence of the utilization of the “reverse draw” functionality.

3 We have not heard anything from the Petitioner as to how utilization
4 of that “reverse draw” otherwise impacts enhancing the power stroke
5 through utilization of the “reverse draw,” impacts accuracy or any of the
6 other identified advantages within the Darlington reference other than
7 pointing to the idea that a POSITA may want a more powerful crossbow.
8 We don’t know anything about what it is that would make these combination
9 bows, why a POSITA would be motivated to make these combination bows.
10 Simply saying it’s faster, it’s more powerful says nothing about how the
11 combination would impact the other stated features of Darlington.

12 JUDGE SILVERMAN: Counselor, can I jump in for a second? This is
13 Judge Silverman. What is your understanding about what substantially
14 parallel means and achieves in Darlington? As far as I can tell, all that
15 substantially parallel from my—

16 JUDGE K. BARRETT: Just hold tight a second. Judge Silverman,
17 you froze up there. Judge Silverman, you froze up. Could you please repeat
18 your question? Hold one second.

19 JUDGE SILVERMAN: Hello?

20 JUDGE K. BARRETT: We can hear you now.

21 JUDGE SILVERMAN: I could hear everything the whole time, so I
22 apologize. My question, Counsel, was what is the meaning of substantially
23 parallel in Darlington? It appears to me to mean simply providing sufficient
24 space for an arrow to pass through among the various cables and strings.

25 MS. JELENCHICK: Yes, it certainly means that, but I think more
26 importantly, in Paragraph 46, Darlington states expressly that when the bow

1 string 32 is drawn back to cock the crossbow 10, the first power cable 28,
2 the second power cable 30, and the bow string remain substantially parallel
3 to each other, just as in the relaxed position.

4 JUDGE SILVERMAN: Right.

5 MS. JELENCHICK: Then it goes on further to explain that that
6 configuration through the entirety of the draw cycle eliminates the torque on
7 the first axle assembly and the second axle assembly such that the twisting
8 forces are neutralized to enhance accuracy. It's substantially—

9 JUDGE SILVERMAN: If I may, I'm not so sure that the benefits of
10 avoiding torque flow from the substantial parallelism of the cables. And
11 because the first power cable is anchored at the top, first cam 24 and second
12 cam 26, these are what provide the torque balancing. I don't see the
13 connection there between those two conditions, the substantially parallel and
14 the torque, at least in Paragraph 46.

15 MS. JELENCHICK: Sure, in Paragraph 46 it does talk about that
16 attachment point that's going to contribute to the minimization of torque.
17 However, because Darlington is calling for that shoot through configuration,
18 which is depicted in Slide 38, which represents very clearly a parallelism
19 between the power cables which are the red and green that sandwich that
20 bow string, which is blue, and 46 makes clear that that substantial parallel
21 structure needs to be maintained through the entirety of that draw cycle.
22 Looking specifically at the language that Darlington uses, remains
23 substantially parallel to each other just as in the relaxed position.

24 He differentiates that, that shoot through configuration and that
25 remaining substantially parallel with the shoot over configuration where he
26 acknowledges that a deflection may be slight, again identifying that that

1 slight deflection is going to impact torque and the twisting on the limbs.
2 However, focusing on the entire draw cycle, if you interject helical power
3 cable take-up journal that Petitioner advances, whether that's Norkus or
4 Park, that's not a slight deflection. That is a dramatic interjection of angles
5 that are going to fundamentally eliminate the ability for the power cable and
6 the bow string configurations to remain substantially parallel or to remain
7 with a slight deflection over that entire draw cycle.

8 Again, thinking about—

9 JUDGE SILVERMAN: It depends on how far that cable is being
10 deflected when it winds around the helical member. Darlington at least says
11 substantially parallel. It doesn't define mathematically, rigidly,
12 geometrically parallel.

13 MS. JELENCHICK: Right.

14 JUDGE SILVERMAN: I'm just saying there's some ambiguity there,
15 it seems to me.

16 MS. JELENCHICK: Right, but I think fundamental to this idea of
17 Darlington's acknowledgement of a slight deflection, it's focusing on a
18 hybrid cam scenario and that's not anywhere in Petitioner's proposed
19 combination bows in terms of how that hybrid cam and that slight deflection
20 is going to be accommodated by the addition of a Norkus or a Park type of
21 power cable take-up. We heard nothing about it. There's no explanation as
22 to why that slight deflection that Darlington acknowledges may exist for the
23 purposes of cam synchronization, how that relates in anyway whatsoever
24 about increasing power stroke.

25 One final comment on Grounds 7 and 8 and the combination. We
26 heard from Mr. Skeriotis this morning about Exhibit 1032, which is subject

1 to the motion to strike. Fundamentally, this was an exhibit that they had not
2 relied on in their Petition, in their Reply or otherwise, which is why we
3 asked for it to be excluded. But we heard today for the first time why they
4 want that exhibit. They want that exhibit to highlight violation of the
5 cardinal rule of obviousness, using hindsight to drive to the combination
6 bow that they're advancing. If you look at—and that's exactly what Mr.
7 Batzer, Petitioner's expert, did in substantiating his basis for saying that he's
8 confident that Darlington in combination with Norkus or Park would work
9 because Ravin did it. That's exactly what Exhibit 1032 tries to depict in
10 terms of the operability of deviating from that substantially parallel
11 structure.

12 One other final comment on Petitioner's remarks vis-à-vis Mr. Teater.
13 Mr. Teater is absolutely a POSITA. He's a technical person who has at least
14 some experience working in the field of archery, reviewing crossbows and
15 engineering related to bows and crossbows. While he may not have the
16 academic credentials that Mr. Batzer has, he certainly has numerous years of
17 experience in the field of archery, unlike Dr. Batzer who, more than 90% of
18 his income comes from expert work across various and sundry subject
19 matters, which you can see in Exhibit 22 or Exhibit 1030 at Page 78, Lines 1
20 through 22.

21 Mr. Teater works outside of the litigation sphere, and as he explains in
22 his declaration, during the critical period of the priority date for the '015
23 patent across the span of 2007 through 2021, Mr. Teater was working as an
24 outdoor writer, testing hundreds of crossbows for manufacturers, including
25 the Petitioner. Petitioner's criticism of Mr. Teater's credentials or his
26 inability to recall on the fly particular measurement units really is belied by

1 the fact that they themselves have hired him and have relied on his opinions
2 in the past to test their very own crossbows.

3 The one final comment I will make as it relates to Ground 12, Ground
4 12 is simply a rehash of Ground 8 with the addition of the Islas reference,
5 which as you pointed out, Judge Silverman, was before the Patent Office
6 during prosecution. The addition of Islas doesn't do anything more than
7 what Darlington and Park could've done on their own. Petitioner is
8 advocating for modifying a forward-draw crossbow like Islas to somehow
9 justify the increased power stroke that results from a "reverse-draw"
10 configuration. Darlington already has a "reverse-draw" configuration, and as
11 I said at the outset, Darlington identifies a host of advantages why any
12 POSITA would introduce Islas, which is a fundamentally different
13 configuration that any POSITA would know cannot be simply retooled by
14 flipping the limbs around, especially in the particular configuration of Islas,
15 which discloses that there's going to be contact between the power cable and
16 the bow string when you make such a flip.

17 Any POSITA, as Mr. Teater explains in his declaration, is going to
18 appreciate that simply flipping the limbs doesn't make it a "reverse-draw"
19 configuration. It may in principle, but in practicality, it's not going to work
20 as illustrated by the figures that were included in Patent Owner's submission
21 and as are reflected in Slide 55 and 56 of our demonstratives.

22 JUDGE SILVERMAN: If I may, Counsel, it doesn't seem to me that
23 Petitioner is advocating that simply rearranging the pieces of the references
24 achieves something like what's claimed. It seems to me that, like in any
25 obviousness analysis, Petitioner is saying that one can obtain the various
26 concepts from the prior references and put them together in a way that a

1 POSITA would be able to in order to show that claim subject matter is
2 obvious.

3 MS. JELENCHICK: Well, I don't disagree that Petitioner is saying a
4 POSITA could put together a crossbow of the type that's claimed in Claim 1
5 of the '015 patent. But the fundamental problem with Grounds 7, 8 and 12 is
6 that a POSITA would not be motivated to do so. There's no analysis, there's
7 no weighing of the benefits or the losses by that proposed combination. All
8 we've heard about is increased power stroke. We haven't heard anything
9 about how a POSITA would understand the impact on accuracy, the
10 compromise to synchronization, how it may impact arrow flight, among
11 other issues. We have heard nothing—

12 JUDGE SILVERMAN: But isn't increased power a positive thing for
13 a crossbow manufacturer?

14 MS. JELENCHICK: Increased power could be.

15 JUDGE SILVERMAN: Notwithstanding other factors that might be
16 affected, if you can increase the power stroke that would be a positive thing
17 generally, or at least to some builders.

18 MS. JELENCHICK: It could be, but again, focusing on Darlington's
19 disclosure of the increased power stroke, Darlington cites specifically to the
20 "reverse draw configuration" as providing that increased power stroke. So a
21 POSITA—

22 JUDGE SILVERMAN: No, if I may, I don't think the Petitioner is
23 arguing that—Petitioner is arguing that the bow limb would modify
24 Darlington and the helical take-up, and that would provide some even
25 further increased power. Obviously, Darlington says, the reference itself
26 says it does wonderful things. That doesn't mean that a POSITA would be

1 able to look at that and say I think I could make it better. That's how I
2 understand Petitioner's position.

3 MS. JELENCHICK: Sure, but the interjection of helical power cable
4 take-up journals is going to have some impact on the overall system, and we
5 haven't heard anything about how a POSITA would analyze that impact.
6 There's one sentence in Mr. Batzer's declaration in support of Petitioner's
7 Reply that talks about the idea that there are a myriad of crossbows in the
8 industry, but that power stroke is important. But that doesn't say anything
9 about at the relevant time in 2013 what a POSITA would've been motivated
10 to do based on the perceived efficiencies to accuracy, cam synchronization,
11 arrow flight, et cetera.

12 It may be the case that a particular user will prioritize power stroke,
13 but the case law requires a balancing, a weighing of the impact that the
14 proposed combination would have. We haven't seen that in the Petition, we
15 haven't seen it in the Reply, and we certainly didn't hear about it today from
16 Petitioner. I will pass with my remaining time to Ms. Moran, who's going to
17 cover the remaining grounds for obviousness.

18 MS. MORAN: Good morning, Your Honors. Michelle Moran for
19 Patent Owner. I will be addressing Grounds 9, 10 and 11, which uses Kempf
20 '871 as its base and then modifies the Norkus, Park and Stanziale '302.
21 Petitioner from the starting gate has not provided the type of particular
22 identification of where in Kempf '871 certain elements of Claim 1 of the
23 '015 patent exist. While Kempf '871 discloses its pulley that has an inner
24 take-up and an outer take-up journal, it's silent as to what the structure
25 would be on the cam. Petitioner, in its Petition, provided very cursory

1 descriptions and said that there are two and then left it at that. It didn't really
2 point it out.

3 Upon seeing Patent Owner's Response, as well as the Board's
4 Institution Decision, Petitioner made an attempt to supplement their
5 argument in response to the lack thereof of any disclosure of the second
6 string guide take-up journal and the second power cable journal. The request
7 to supplement was denied by the Board in Paper 32. Yet again in their
8 Reply, they bring back the same arguments for Kempf '871 disclosing these
9 two missing limitations. In addition, they provide some annotated drawings
10 from Kempf '871 that we have responded to in our Sur-reply, again
11 questioning where is the second power cable journal.

12 Going back to their burden, this information should have been
13 disclosed originally in their Petition, and this late disclosure fails to meet the
14 requirements under 35 USC 312(a)(3), which requires them to put that in
15 their Petition. To add this argument later seems to follow that. Additionally,
16 we heard this morning from Petitioner's counsel, Mr. Skeriotis, that
17 everyone knows that there would be these journals. Be that as it may, that's
18 not the argument they made in their Petition. They just said that they were
19 there. It is our position that Kempf '871 does not disclose the second power
20 cable take-up journal.

21 Another new argument we heard this morning, they pulled out I think
22 it was Figure 10 from Kempf, showing that look, when it's in the drawn
23 position, it must be somewhere. We haven't had a chance to really address
24 that argument, but if you look at the pulley, who's to say that the draw string
25 wasn't spooling off the pulley and the power cable was going on the pulley,
26 as well, and they were just attachment points on the cam. We don't really

1 know. Kempf is not particularly robust in its disclosure on either of those
2 things. Lastly, the additional argument they have made in their Reply was
3 this must be inherent, but their inherency argument didn't really address why
4 this limitation must necessarily be present.

5 It is our position that it does not necessarily need to be present
6 because Kempf '871 discloses what it does. It has journals on the pulley and
7 we're not sure what was on the cam. As to their argument that in Kempf
8 '001 there was a cam with these journals disclosed, that was not in their
9 Petition. The only instance of Kempf '001 was in the prosecution history. It
10 was not used for this argument. I don't think I have anything else on that.

11 JUDGE K. BARRETT: Thank you. I have you down for about 20
12 minutes remaining.

13 MS. MORAN: Thank you.

14 MR. VERNYUK: Good morning, Your Honors, Sergey Vernyuk for
15 Petitioner. I will just address, if it's okay with you, just the notion about this
16 information should've been in the Petition and it was wrong, et cetera, et
17 cetera. From the Federal Circuit, the *Genzyme Therapeutic Products v.*
18 *Biomarin Pharmaceutical* case, we all know the introduction of new
19 evidence is expected in the development of a trial. It is not as if it's just the
20 Petition and nothing else can be said afterwards. Just last year, the
21 *Rembrandt Diagnostics v. Alere, Incorporated* case in Federal Circuit gives
22 more contours or description of what an IPR reply should include, and it
23 must be responsive to the Patent Owner's response or the Institution
24 Decision, or both responses.

25 So it does need to respond to the things that went before from the
26 other side. If in the Petition we said whatever it is that we said, and then in

1 our Reply, according to Patent Owner I guess we're prohibited from
2 addressing any of the arguments they made because that would allegedly be
3 new and should've been in the Petition. Under that standard, we may as well
4 not give a reply because we can't say anything. The discussion of Kempf
5 and the journals that we've heard, as my colleague explained earlier, every
6 cam that's been used in a bow has had journals.

7 This argument was so, I don't know, maybe borderline frivolous. We
8 didn't think there was a need to even address that there was a journal on the
9 cam. Ravin did not—Patent Owner did not invent journals on cams. They
10 existed before this '015 patent was applied for. In the Kempf '871 patent, the
11 pulley expressly calls out those components. We agree that the cam doesn't
12 expressly call in mod, but it does show the string guides somehow connected
13 to the cam, and every cam known to man so far on crossbows has had those
14 journals, so it is inherently there. In the embodiment in Kempf '871, it says
15 you can have two cams. The strings and the cables would remain the same,
16 just the one pulled, which admittedly had those journals, both journals would
17 be replaced with a cam that just doesn't happen to have callouts pointing to
18 them.

19 Those cables have to go somewhere, and every POSA would know
20 they would go on a cam. It's just not something that we thought should have
21 been anticipatorily addressed from the get-go.

22 JUDGE SILVERMAN: If I may, Counsel, and well, let me go back to
23 the Kempf '871. I think Patent Owner raises a point in Figure 1 of Kempf
24 '871, it's a little bit obscure as to whether the cam element 36 includes what
25 the patent calls a "power cable take-up journal." It's a little obscure to me
26 how that cabling in that embodiment in Figure 1 operates. I think there's a

1 point to be made that I don't see where a power cable take-up journal exists
2 on the cam 36, which is on the right-hand side of Figure 1 in Kempf '871.

3 MR. VERNYUK: Sure. If you look at Figure 3 of Kempf '871, the
4 dashed line around the inside, the horseshoe shape, that's the journal, the
5 groove for the power cable.

6 JUDGE SILVERMAN: I'm not sure about that. It doesn't seem to
7 align with what I'm seeing in Figure 1. I don't see anything called out about
8 that in Figure 3.

9 MR. VERNYUK: Yes, so we—

10 JUDGE SILVERMAN: I see the structure there, but I don't know
11 what it is, if it's just a design element or has some strengthening use or
12 something else. It's not clear to me what's happening here.

13 MR. VERNYUK: Sure, I understand, but any POSA looking at this
14 would say this is a cam. I see a bow string and a power cable attached to it. I
15 know that's how all the crossbows that I'm familiar with that have a bow
16 string and a power cable, they have these two strings attached in grooves on
17 them. When I look at Figure 3, I acknowledge, I as a POSA, the POSA
18 would say I don't see a callout, but I understand that that's how they all are
19 connected. When I look at other prior art around this area, for example
20 Kempf '001, the same applicant, he expressly calls it out. But I as a POSA
21 would not need an express callout. I would know that that needs to be there
22 because how else am I going to put the power cable on there?

23 JUDGE K. BARRETT: Do you have testimony on that?

24 JUDGE SILVERMAN: I, I--

25 MR. VERNYUK: Yes, in the Reply, Dr. Batzer's declaration.

1 JUDGE SILVERMAN: I understand the point you're making, but I
2 also understand the point that Patent Owner has that there's some ambiguity
3 in what is actually taught in that figure--

4 MR. VERNYUK: Sure.

5 JUDGE SILVERMAN: --and how a person would understand it.

6 MR. VERNYUK: Sure. Just one last comment on the Motion to
7 Submit Supplemental Information. We submitted it in a timely manner. We
8 understand that based on the Board's decision that it was denied, but it was
9 denied without prejudice to submitting it through other means, i.e., such as a
10 Reply. In fact, on the claim construction issues, the Board denied it saying
11 that those invitations in the Institution Decision were addressed directly
12 through the normal briefing process. The only other normal briefing process
13 would be the Reply, so while we understand the Motion to Supplement was
14 denied, we think that the Reply is the proper place for the arguments that we
15 made there. Thank you.

16 MR. SKERIOTIS: Well, I get to close it out. I want to make four
17 points and I'm done, and I'll be probably less than the time allotted left.
18 Your Honor Silverman, you asked about Figure 5 in the '302 patent and I
19 told you I would talk about that reply. It's found in Paper 31, which is our
20 Reply, on Page 13. I do want to talk about "mounted to" and finish up with
21 that. Two points to make about "mounted to." The exact same claim
22 construction that we're putting forth in this case was also adopted in two
23 other cases, which we cited. That's the *Delta v. MacroAir* case, as well as
24 the *Douglas Dynamics v. Buyers Products* case.

25 In both of those cases, "mounted to" included a direct and indirect
26 attachment, and they suffered from the same issues that we have today, how

1 far attenuated. But the court didn't go into that because it seems to me the
2 problem you're struggling with would occur in every single basically case
3 where you have a variety of more than one part. That would mean that the
4 claim construction for "mounted to" can never just mean direct or indirect
5 and be done, but that's exactly what happened in those two cases. Those two
6 cases did deal with more than just something small. There were several,
7 many parts in between, but they found "mounted to," to be that way because
8 of the intrinsic evidence. I submit to you that that is still the proper claim
9 construction in this case.

10 But any issue regarding "mounted to" and claim construction I submit
11 to you is the, the way we do it here in patent law, is the issue of the Patent
12 Owner's own fault. We're struggling to find a claim construction for
13 "mounted to," and we find that it's boundless on indirect. So be it. That's the
14 Patent Owner's fault. If you want to go that far and say that's indefinite,
15 that's on the Patent Owner. That's not on us. We've deemed to determine
16 this as a matter of law and whatever it comes out from the intrinsic evidence,
17 we're bound by. That's the way we need to review these things.

18 Finally, I want to just take a step back. If I had all these prior art
19 references before me and I'm a person who understands the generic basic
20 concept of a crossbow, now I've got Stanziale, I've got Norkus, I've got
21 Park and I've got Darlington. I know they teach me that if I want to increase
22 a power stroke or I want to increase the speed or velocity of my arrow firing
23 through so I can hit a deer faster, quicker, with more aim and more precision
24 because it's going faster, they tell me to use a helical power cable take-up
25 journal. From there, those teachings, I can modify my crossbow to include
26 the helical power cable take-up journal onto my cams and therefore, listen to

1 what they say, be taught what they taught me, and come out with this exact
2 '015 patent Claim 1.

3 Thank you very much. I yield the rest of my time.

4 JUDGE K. BARRETT: Thank you.

5 MR. KING: Thank you, Your Honors. Chris King again for the Patent
6 Owner. Let's dive right back into "mounted to" because I think we all know
7 that this is an important as Your Honors are going to evaluate the rest of the
8 IPR. I don't believe the other cases are convincing for exactly the reasons
9 Petitioner noted. We're tied to the intrinsic record of this case, so how
10 "mounted to" was interpreted in others that are not faced with that same
11 intrinsic record, I don't find convincing. I do believe that the scope of the
12 claim term string guide "mounted to" the bow limb is clear when viewed
13 through the lens of the intrinsic record, whereas this attempt to make it
14 boundless is not. It means nothing to a POSITA.

15 We have to put ourselves in the shoes of that person and look at the
16 claim language how they would've understood it in view of the patent itself
17 and the rest of its intrinsic evidence. We believe our proposal is the correct
18 way to put some bounds on the scope of indirect connection that is allowed
19 by the phrase "mounted to." I do want to touch briefly on motivation to
20 combine as it relates to Kempf and the other references. What we still
21 haven't heard, and I do think it's important and a key part of a proper
22 obviousness analysis, is not only weighing the teachings of benefits of
23 different pieces of prior art, but also to understand what the trade-offs are
24 and again, through the frame of reference of that POSITA, understand what
25 they would've been motivated to do, particularly as it relates to accuracy and
26 cam synchronization as described in that Darlington reference.

1 Because while getting the arrow to the deer faster due to the increased
2 power stroke is important, so is the accuracy of hitting the deer in the first
3 place. We can have a very powerful crossbow with very bad accuracy.
4 Darlington does weigh the pros and cons of each, particularly when
5 describing that shoot over configuration with substantially parallel as
6 opposed to the shoot through, where the cables stay almost exactly parallel,
7 or at least as much as we can get it in a manufactured product. What
8 Petitioner has failed to do is even acknowledge what those possible
9 downsides are. How is accuracy adversely affected by the torque on the
10 axles in that substantially parallel, slight deflection, shoot over
11 configuration?

12 What happens to the cam synchronization advantages that are taught
13 with that hybrid cam system that would be replaced with the helical power
14 take-up journal in the proposed combination. I think it's important that that
15 frame of reference of the POSITA and understand how those downsides of
16 the proposed changes might impact the desirability of even more power
17 stroke. With that, I'm going to ask Ms. Moran to present.

18 JUDGE K. BARRETT: We do have the demonstratives. If it's just as
19 easy, you can call out the slide number.

20 MS. MORAN: Okay, we'll just do that.

21 JUDGE K. BARRETT: Either way, it's your presentation.

22 MS. MORAN: We're good. I just wanted to respond quickly to
23 Petitioner's counsel regarding the propriety of augmenting argument in
24 evidence in your Reply that should have been in your opening Petition. It's
25 true that yes, a Reply should be addressing what is in Patent Owner's
26 response or the Institution Decision. However, the Petitioner still has this

1 basic requirement that they take care to identify where limitations are
2 located in the prior art references that they are putting forth in their Petition.
3 When something is just simply missing, it cannot be that a Reply is used to
4 backfill when they haven't met their original obligation.

5 The other—let's start with the demonstratives. If you'd look at Page
6 51 of the deck, we annotated to show in blue what the power cable, where
7 the upper one is attached to the cam 36. The next page, we superimposed
8 Figure 3, which Petitioner had identified as showing a groove that they are
9 claiming would be a "power cable take-up journal," but as you can see in the
10 annotated figure to the right, where the lower power cable feeds into the cam
11 is quite a distance from the structure that they posit would be that "power
12 cable take-up journal." I agree with Judge Silverman, it is somewhat
13 ambiguous, so I just wanted to draw that to your attention.

14 JUDGE K. BARRETT: Are you concluding?

15 MS. MORAN: We're concluding, thank you.

16 JUDGE K. BARRETT: Thank you. We'll take the case under
17 advisement, and let's go off the record.

18 (Whereupon, the above-entitled matter went off the record at
19 10:45 a.m.)

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